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# Bandura's Social Learning Theory

## BIOGRAPHICAL INTRODUCTION

The pioneering learning theorists usually developed their concepts by experimenting with animals in physical settings. They watched how animals ran through mazes, solved puzzle boxes, and learned to press levers in Skinner boxes. These situations were not social; there were no other animals present. Skinnerians and others then showed how the same principles apply to human learning in social contexts. Just as rats learn to press levers to get food, people learn to interact with others to obtain social rewards.

In the 1960s, however, Albert Bandura argued that our learning in social situations goes beyond anything Skinner and most learning theorists described. In social settings, Bandura said, we learn a great deal through imitation, and imitation involves cognitive processes. We acquire considerable information just by observing models, mentally coding what we see.

In the 1970s Bandura refined his ideas on observational learning and demonstrated the powerful effects models have on our behavior. Beginning in the 1980s he turned more attention to the ways our efforts are influenced by our beliefs in our capacities—our self-efficacy beliefs. Bandura's lifetime of work occupies a central place in modern psychology.

Bandura was born in 1925 in the tiny town of Mundare in the province of Alberta, Canada. His parents had emigrated to Mundare from Eastern Europe as teenagers and had converted a homestead into a farm, which they struggled to maintain against storms and droughts. As a boy Bandura pitched in when he could. Although his parents had no schooling, they valued education and instilled this value in Bandura. After attending a high school with only 20 students, Bandura enrolled in the University of British Columbia, working afternoons in a woodwork plant to help pay the cost (Bandura, 2006; Evans, 1989).

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Bandura enrolled in his first psychology class almost by chance. He was commuting to the college with a group of engineering and premed students who took early morning classes, and Bandura had a gap in his schedule. So he signed up for the psychology course and immediately became fascinated by the topic. He majored in it; and after earning his bachelor's degree, he entered the clinical psychology graduate program at the University of Iowa. While he was there he became impressed by the work of Robert Sears and other pioneers of social learning theory, and Bandura began thinking seri¬ously about the role of models in shaping our lives (Bandura, 2006; Evans, 1989; Zimmerman & Schunk, 2003).

Soon after graduate school, Bandura joined the faculty of Stanford Uni¬versity, where he has been ever since. In 1974 he was elected president of the American Psychological Association. Bandura didn't just serve as a titular head; he actively organized the members to fight federal budget cuts to psy¬chological services. Over the years, Bandura has received numerous honors and awards. Former students speak fondly of his wry humor and praise him for the demanding but helpful mentorship he provided (Zimmerman & Schunk, 2003).

## BASIC CONCEPTS

### Observational Learning

In Skinner's theory, learning often appears to be a gradual process in which organisms must act to learn. Organisms emit responses, which are gradually shaped by their consequences. Bandura (1962), however, argues that in social situations we often learn much more rapidly simply by observing the behav¬ior of others. When, for example, children learn new songs or play house just like their parents, they often reproduce long sequences of new behavior imme¬diately. They appear to acquire large segments of new behavior all at once, through observation alone.

The power of observational learning is well documented in the anthro¬pological literature (Bandura & Walters, 1963, chap. 2; Honigmann, 1967, p. 180). In one Guatemalan subculture, girls learn to weave almost exclusively by watching models. The teacher demonstrates the operations of the textile machine while the girl simply observes. Then, when the girl feels ready, she takes over, and she usually operates it skillfully on her very first try. She demonstrates, in Bandura's (1965a) term, no-trial learning; she acquires new behavior all at once, entirely through observation. She does not need to fumble through any tedious process of trial-and-error learning with differential
reinforcement for each small response.

When new behavior is acquired through observation alone, the learn¬ing appears to be cognitive. When the Guatemalan girl watches her teacher

and then imitates her perfectly without any practice, she must rely on some inner representation of the behavior that guides her own performance. Bandura, unlike Skinner, believes learning theory must include internal cog¬nitive variables.

Observation also teaches us the probable consequences of new behavior; we notice what happens when others try it. Bandura calls this process vicarious reinforcement. Vicarious reinforcement is also a cognitive process; we formu¬late expectations about the outcomes of our own behavior without any direct action on our part.

We learn from models of many kinds—not only from live models but also from symbolic models, such as those we see on television or read about in books. Another form of symbolic modeling is verbal instruction, as when an instructor describes for us the actions for driving a car. In this case the teacher's
verbal descriptions, together with a demonstration, usually teach us most of what we need to know. This is fortunate, for if we had to learn to drive exclu¬sively from the consequences of our own actions, few of us would survive the process (Bandura, 1962, pp. 214, 241).

Let us now look more closely at the observational learning process, which Bandura divides into four subprocesses.

## The Four Components of Observational Learning

1. Attentions! Processes. First of all, we cannot imitate a model unless we pay attention to the model. Models often attract our attention because they are distinctive, or because they possess the trappings of success, prestige, power, and other winsome qualities (Bandura, 1971, p. 17). Television is par¬ticularly successful at presenting models with engaging characteristics and exerts a powerful influence on our lives (Bandura, 1977, p. 25). Attention is also
governed by the psychological characteristics of observers, such as their inter¬ests, but less is known about such variables (p. 25).

2. Retention Processes. Because we frequently imitate models some time after we have observed them, we must have some way of remembering

their actions in symbolic form. Bandura (1965a; 1971, p. 17) thinks of symbolic processes in terms of stimulus contiguity, associations among stimuli that occur together. Suppose, for example, we watch a man use a new tool, a drill. He shows us how to fasten the bit, plug it in, and so on. Later, the sight of the drill alone arouses many associated images, and these guide our actions.

In the example, the stimuli are all visual. However, we usually remember events, Bandura (1971, p. 18) says, by associating them with verbal codes. When we watch a motorist take a new route, we connect the route with words (e.g., "Route 1, then Exit 12 . . ."). Later, when we try to drive the route ourselves, the verbal codes help us follow it.





Young children, under the age of 5 years or so, are not yet accustomed to thinking in words and probably must rely quite heavily on visual images. This limits their ability to imitate. We therefore can improve on their imitations by directing them to use verbal codes—that is, by asking them to give verbal descriptions of a model's behavior while they are watching it (Bandura, 1971, p. 19; Coates & Hartup, 1969).

On many memory tasks, young children display a striking disregard for their own capacities and limitations. For example, Vygotsky (1931b, p. 71) found that young children approach tasks, no matter how simple or difficult, with the same unbridled enthusiasm. They act as if they can remember anything. In contemporary terms, they lack metacognitive awareness; they do not yet observe and assess their own cognitive skills. Between the ages of about 5 and 10 years, children gradually learn to evaluate their memory capacities and learn when to use memory aids such as verbal rehearsals (repeating something to themselves over and over to remember it better). Bandura (1986, p. 89) summarizes experimental evidence that suggests models can help children learn to use verbal rehearsal and other techniques.

3. Motor Reproduction Processes. To reproduce behavior accurately, the person must have the necessary motor skills. For example, a boy might watch his father use a saw but find he cannot imitate very well because he lacks the physical strength and agility. From observation alone, he picks up a new pattern of responses (e.g., how to set up the wood and where to place the saw) but no new physical abilities (e.g., cutting with power). The latter come only with physical growth and practice (Bandura, 1977, p. 27).

4. Reinforcement and Motivational Processes. Bandura, like cogni¬
tive learning theorists before him (Tolman, 1948), distinguishes between the
acquisition and the performance of new responses. We can observe a model, and
thereby acquire new knowledge, but we may or may not perform the responses.
A boy might hear his neighbor use some profane language, and thereby learn
some new words, but the boy might not reproduce them himself.

Performances are governed by reinforcement and motivational variables;
we will actually imitate another if we are likely to gain a reward. In part, it
is
our past history of direct reinforcements that matters. If, in our example, the
boy has himself received respect and admiration for swearing, he is likely to
imitate his neighbor. If, however, he has been punished for swearing, he prob¬
ably will hesitate to imitate his neighbor.

Performances also are influenced by vicarious reinforcements, the conse¬
quences one sees accrue to the model. If the boy sees his neighbor admired for
swearing, the boy is likely to imitate him. If he sees the neighbor punished,
he
is less likely to do so (Bandura, 1971, p. 46; 1977, pp. 117-124).

Performances, finally, are partly governed by self-reinforcements, the eval¬
uations we make of our own behavior. We will discuss this process in a later
section.





Conclusion. To imitate a model successfully, then, we must (1) attend
to the model, (2) have some way of retaining what we have seen in symbolic
form, and (3) have the necessary motor skills to reproduce the behavior. If
these conditions are met, we probably know how to imitate the model. Still,
we might not do so. Our actual performances are governed by (4) reinforce¬
ment contingencies, many of which are of a vicarious sort.

In reality, these four components are not totally separate. Reinforce¬
ment processes, in particular, influence what we attend to. For example, we
often attend to powerful, competent, prestigious models because we have
found that imitating them, rather than inferior models, leads to more posi¬
tive consequences.

## SOCIALIZATION STUDIES

Bandura's four-part model gives a fine-grained analysis of imitative learning.

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.

Socialization is an inclusive process that influences almost every kind of behavior, even technical skills. Many American teenage boys, for example, feel they will not fit into their social group unless they learn to drive a car.
Automobile driving, however, is not something required by all cultures, and there are classes of social behavior that have broader relevance. All cultures seem to try to teach their members when it is acceptable to express aggression. It also is likely that all cultures try to teach people certain modes of coopera¬
tion, sharing, and helping. Aggression and cooperative behavior, then, are "targets" of socialization in all cultures (Hetherington & Parke, 1977, p. 231).
In the next few sections we sample social learning analyses of some of the target behaviors in the socialization process.

## Aggression

Bandura (1967; Bandura & Walters, 1963) believes that the socialization of aggression, as well as other behavior, is partly a matter of operant condition¬ing. Parents and other socializing agents reward children when they express aggression in socially appropriate ways (e.g., in games or in hunting) and punish children when they express aggression in socially unacceptable ways (e.g., hitting younger children). But socializing agents also teach children a great deal by the kinds of models they present. Children observe aggressive models, notice when they are reinforced, and imitate accordingly. Bandura has examined this process in several experiments, one of which is now considered a classic.



In this study (Bandura, 1965b), 4-year-olds individually watched a film in which an adult male model engaged in some moderately novel aggressive behavior. The model laid a Bobo doll 1 on its side, sat on it, and punched it, shouting such things as, "Pow, right in the nose," and "Sockeroo . . . stay down" (pp. 590-591). Each child was assigned to one of three conditions, which meant that each child saw the same film but with different endings.

1. In the aggression-rewarded condition, the model was praised and given treats at the end of the film. A second adult called him a "strong cham¬

pion" and gave him chocolate bars, soft drinks, and the like (p. 591).

2. In the aggression-punished condition, the model was called a "big bully," swatted, and forced to cower away at the end of the film (p. 591).

3. In the third, no-consequences condition, the model received neither rewards nor punishments for his aggressive behavior.

Immediately after the film, each child was escorted into a room with a Bobo doll and other toys. The experimenters observed the child through a one-way mirror to see how often he or she would imitate the aggressive model.

The results indicated that those who had seen the model punished exhibited significantly fewer imitations than did those in the other two groups. Thus vicarious punishment reduced the imitation of aggressive responses. There was no difference between the aggression-rewarded and no-consequences groups. This is often the finding with respect to behavior, such as aggression, that is typically prohibited. The observation that "nothing bad happens this time" prompts imitation just as readily as does vicarious reward (Bandura, 1969, p. 239).

The experiment also had a second, equally important phase. An experimenter came back into the room and told each child that he or she would get juice and a pretty sticker picture for each additional response he or she could reproduce. This incentive completely eliminated the differences among the three groups. Now all the children—including those who had seen the model punished—imitated him to the same extent. Vicarious punishment had only blocked the performance of new responses, not their acquisition. The children in the aggression-punished condition had learned new responses, but had not felt it wise to actually reproduce them until a new incentive was introduced.

One of Bandura's followers, Robert Liebert (Liebert et al., 1977, p. 145), suggests this experiment has implications for aggression in television and movies. Children are frequently exposed to actors who demonstrate clever ways of committing homicides and other crimes. The widespread showing of such films is justified by the fact that the criminals are usually caught in the

'A large inflated rubber doll.

end. But Bandura's work suggests that children probably learn about criminal behavior nonetheless, and only inhibit such behavior until a time when environmental contingencies clearly favor its occurrence.

In the above experiment, children performed newly acquired responses. Models also can influence the performance of previously learned behavior of the same general class. For example, a boy might watch a violent movie and then act roughly toward his sister. He does not actually imitate the behavior he saw in the film, but he feels freer to engage in previously learned behavior of the same kind. In such cases, we say the behavior has been disinhibited. Models may also inhibit previously learned behavior, as when a girl sees a boy punished in class and therefore decides to check her impulse to do something else of a mischievous nature (Bandura & Walters, 1963, p. 72; Liebert et al., 1977, pp. 146-147).

## Gender Roles

During socialization, children are taught to behave in gender-appropriate ways. Societies encourage boys to develop "masculine" traits and girls to develop "feminine" traits.

It is possible, of course, that gender traits are also, in part, genetically linked. Social learning theorists do not deny this possibility. But they believe that more is to be gained from the study of socialization processes and the role of imitation in particular (Bandura & Walters, 1963, pp. 26-29; Mischel, 1970).

In the learning of gender roles, the acquisition/performance distinction is especially important (Mischel, 1970). Children frequently learn, through observation, the behavior of both genders; however, they usually perform only the behavior appropriate to their own gender because this is what they have been reinforced to do. Margaret Mead (1964) told how Eskimo boys are encouraged to practice hunting and building snow houses, whereas the girls are not. So, ordinarily only the boys engage in these activities. But the girls watch the boys, and in emergencies they can execute many of the skills. The girls pick up the skills through observation alone (see Figure 1).

It is also possible, though, for children to become discouraged with respect to opposite-gender activities. If they don't get much opportunity to practice the skills, and aren't reinforced for them, they might stop paying as careful attention to them. Sex-typed social reinforcement, then, might have a negative effect on observation itself (Grusec & Brinker, 1972; Maccoby & Wilson, 1957).

## Prosocial Behavior

Since the 1970s there has been considerable interest in the nature and roots of prosocial behavior—acts of sharing, helping, cooperation, and altruism. Social learning theorists have taken the lead in this area, showing that prosocial





Figure 1

This young girl is imitating her father. After a while she probably will find that she receives more rein¬ forcement for imitating females. However, she still may learn a good deal about "masculine" skills from observation alone.

behavior can be readily influenced by exposure to the appropriate models. In a typical study (Rushton, 1975), 7- to 11-year-old children watched an adult model play a bowling game and donate some of his winnings to a "needy children's fund." Immediately afterward, these children played the game alone, and they themselves made many donations—far more than did a con¬ trol group who had not seen the altruistic model. Furthermore, the children who had observed the model still donated more 2 months later, even when placed in a different room with a different experimenter. Evidently, even a relatively brief exposure to a generous model exerts a fairly permanent effect on children's sharing.

Numerous other experiments have shown that models influence not only children's sharing but also their helpfulness toward others in distress, their cooperativeness, and their concern for the feelings of others (Bryan, 1975; Mussen & Eisenberg-Berg, 1977, pp. 79-90). The experimental findings in this

area also seem supported by more naturalistic studies, in which parental behavior is linked to their children's altruism (DeHart et al., 2004, p. 353; Mussen & Eisenberg-Berg, 1977, pp. 86-90).

Practicing and Preaching. Socializing agents teach children not only by behavioral example but also by preaching virtue and telling children how to behave. Such verbal techniques have been most fully explored in research on prosocial behavior, so a brief review might be in order.

First of all, preaching seems ineffective unless it is forceful. If an adult simply says, "It is nice to share," the child will be far more influenced by what the adult actually does. If the adult shares, so will the child—regardless of whether the adult preaches altruism or greed (Bryan & Walbek, 1970). When, however, the preaching becomes stronger, taking the form of long emotional sermons and commands, it can be effective (Mussen & Eisenberg-Berg, 1977, pp. 151-152).

Commands, however, are coercive and may backfire, as found in a study by G. M. White (1972). In this experiment some children took turns bowling with an adult who told them to share some of their winnings with needy chil¬ dren. Other children were simply given the opportunity to follow an altruistic example. The immediate result was that the children who were ordered to share did so to a greater extent, even when playing alone. In a posttest, however, these children's sharing decreased sharply, and they displayed a greater incidence of stealing, perhaps reflecting their resentment against the coercive technique.

## Self-Regulation

As people become socialized, they depend less on external rewards and punish¬ ments and increasingly regulate their own behavior. That is, they establish their own internal standards and reward and punish themselves in accordance with them. For example, a woman might criticize herself for a moral transgression that no one else is even aware of. She punishes herself because her behavior violated her own standards.

Bandura has been very interested in how people evaluate their own per¬ formances as they strive for success and achievement. Some people set exceed¬ ingly high achievement goals and reward themselves only when they meet them. An artist, for example, might approve of his own work only after he has corrected flaws that others would never detect. Others are satisfied with less perfect work.

How are self-evaluative standards acquired? In part, Bandura believes, they are the product of direct rewards and punishments. For example, parents

might give their daughter approval only when she earns very high grades, and after a while she adopts this high standard as her own.

But Bandura's focus, once again, has been on the influence of models. In several experiments, Bandura and his colleagues (Bandura & Kupers,



1964; Bandura, 1986, pp. 341-342) have shown that children and adults adopt the self-evaluative standards they observe in others. For example, if children watch an adult model reward himself with self-praise and candy treats only when he attains a high score in bowling, the children will adopt high self-evaluative standards when it's their turn to bowl. If, in contrast, the children observe a model who displays low self-evaluative standards (and gives himself treats even when he scores poorly), the children will use low standards too.

In ordinary life, the situation is more complicated because children are exposed to a variety of models (e.g., parents, TV characters, and peers), some of whom exemplify high self-evaluative standards and some of whom do not. Which models will children follow?

Bandura (1986, pp. 342-343) says that children tend to adopt the self-evaluative standards of peers rather than adults because children can more easily achieve the lower standards that peers set. But Bandura also points out that we can do things to get children to adopt higher standards. For example, we can encourage children to associate with high-achieving peers (peers who meet high self-evaluative standards). We can also expose children to models who are rewarded for adhering to high standards. We might read children stories about scientists and athletes who settled for nothing short of excellence and who eventually achieved great success and public acclaim.

People who set high self-evaluative standards are generally hard workers, and hard work produces real accomplishments. At the same time, high goals are difficult to achieve, and people who set high goals are prone to disappointment and depression. Such people, Bandura says, can avoid depression by focusing on subgoals. That is, instead of measuring their progress in terms of distant aims, they should set realistically attainable goals for each day and reward themselves when they achieve them (pp. 354,359-360). Like Locke, Watson, and Skinner before him, Bandura recommends a method of small steps.

## SELF-EFFICACY

When we regulate our own behavior, we engage in self-observation. We evaluate our ongoing performances in terms of our standards and goals. On other occasions, we reflect on our general abilities, reaching conclusions such as, "I'm good at algebra" and "I'm a poor swimmer." Bandura calls such general judgments self-efficacy appraisals (1986, chap. 9). In recent years, self-efficacy has been a central focus of Bandura's work.

Bandura believes that our self-efficacy appraisals exert powerful effects on our levels of motivation. When we believe we are good at tasks, we work on them vigorously and persist with them despite temporary setbacks. When



we doubt our abilities, we work less energetically and are more likely to give up when we encounter difficulties (p. 394).

The importance of perceived self-efficacy was demonstrated in an experiment by Collins (1982, cited in Bandura, 1986, p. 391). Collins divided children into two groups according to their level of ability in mathematics, and he also asked the children about their own opinions of their abilities. Collins then gave all the children some difficult problems. As we would expect, the children in the high-ability group outperformed those in the low-ability group. But perceived self-efficacy also had an effect. Within each ability group, the children who believed they were good at math solved more problems, chose to work on more of the problems they failed, and displayed a more positive attitude toward mathematics.

It is possible, of course, to have too high an estimate of one's abilities. This is especially true when physical injury can result. If we overestimate our ability to ski down a steep slope, we could be seriously hurt. In general, however, Bandura believes it's good to overestimate our capacities and our belief we will succeed. Life is strewn with difficulties—disappointments, setbacks, impediments, inequities. Optimistic self-efficacy is therefore beneficial: "Tenacious strivers believe so strongly in themselves that they are able to exert extraordi¬

nary effort and suffer countless reversals in pursuit of their vision" (Bandura, 1998, p. 57).

## Sources of Self-Efficacy Appraisals

Bandura (1986, pp. 399-408) suggests that self-efficacy appraisals are based on four sources of information.

1. The most influential source of knowledge is actual performance. If we repeatedly succeed at tasks, our sense of efficacy increases. If we repeatedly fail, our sense of efficacy drops. Once we have developed a robust sense of self-efficacy in an area, we are not too troubled by temporary setbacks. We are likely to attribute failures to our lack of effort or to poor tactics and to try again. And if we succeed, our sense of efficacy goes up even higher.

2. Self-efficacy appraisals are also influenced by vicarious experiences. If we see others succeed at a task, we infer that we can do it too. This is especially true if we believe others have roughly the same abilities as we do.

3. Another variable is verbal persuasion —pep talks. When someone convinces us we can perform a task, we usually do better on it. Pep talks cannot, of course, enable us to accomplish tasks that are far too difficult. But outside encouragement can help, largely because success usually depends more on the effort we put into a task than on any inherent ability.





4. Finally, we judge our abilities partly on the basis of physiological cues. For example, we might interpret fatigue or tension as signs that a task is becoming too difficult for us. At the same time, people often react differently to the same bodily cues. One girl, warming up for the 400-meter race, may interpret her anxiety as a sign that she is too tense to do well. Another girl may interpret the same bodily cues as an indication that she is getting "fired up," that her "adrenaline is flowing," and that she is ready to do her best.

Bandura (1994) has sketched out, in a very preliminary way, the development of self-efficacy over the life span. Infants develop a sense of self-efficacy as they explore the environment and get the sense that they can have

some control over it. As children grow, their social world widens. They look to peers as models of self-efficacy and also as sources of social comparison. Teenagers evaluate their efficacy in new areas, including dating. Young adults must evaluate new capacities as workers and parents, and older people reassess their abilities as they adjust to retirement and create a new lifestyle.

Throughout life, a resilient sense of self-efficacy keeps people moving forward with energy and vitality. When self-efficacy is low, people are prone to depression, resignation, and painful self-doubts.

## ABSTRACT MODELING AND PIAGET'S STAGES

In the course of his writing, Bandura has expanded on the meaning of imitation. Ordinarily, Bandura (1971) observes, psychologists think of modeling as a process of exact imitation. Exact imitation occurs, for example, when a child tries to imitate a friend's precise behavior, such as the friend's way of writing the letter L. But children also engage in abstract modeling; they induce the general rules or principles underlying particular behaviors, and they then use these rules to generate entirely new behavior on their own. For example, English-speaking children induce, from all the language they hear, that the rule for forming the plural is to add the s sound, and they then use the rule to generate countless new sentences. Similarly, Bandura says, children induce the kinds of concepts that Piaget has discussed. By observing a model, a child might induce a new moral rule or the principle of conservation.

To some extent, Bandura views abstract modeling in a Piagetian vein. Like Piaget, Bandura sees the child as an active agent; the child induces rules and grasps concepts. But Bandura's emphasis is much more on the way the external environment—especially models—influences the kinds of concepts children learn. Later we review some of the research by Bandura and his colleagues on how models might influence children's conceptual development. But first, let us compare the theories of Piaget and Bandura a bit more thoroughly.



### Bandura and Piaget

Piaget, you will recall, thought that children learn much on their own, from an intrinsic interest in the world. Children are especially curious about stimuli that are moderately novel, that do not quite fit into their existing cognitive

structures. When, for example, our son Tom was 11 months old, he could grasp many things with his hands, so he was surprised to discover one day that he couldn't grasp water. He kept trying and failing, intently studying the way the water responded to his actions. Tom was not motivated by adult approval or any other external reinforcement. He was engrossed in the prob¬ lem itself. And because he was so interested in the problem, he continued to work on it, and over the next several months he invented some ways of hold¬ ing water.

In Piaget's view, then, children construct their own cognitive structures as they work on intrinsically interesting problems. In the process, their think¬
ing undergoes a series of broad transformations called stages. These stages, in turn, indicate the kinds of new problems children will find most interest¬ ing; for they continue to be most curious about events and activities that are just beyond their current level. This principle of moderate discrepancy holds for imitation too; children are spontaneously interested in models whose behavior is slightly more complex than their own (Kohlberg, 1966b; 1969a, p. 434; Kuhn, 1974). This is why we often see children tagging along after somewhat older ones, trying to do the same things. Thus Piagetians do not spend much time examining the modeling influences in a child's life; they study, instead, the child's cognitive behavior at each stage, for the child's stage
determines the kinds of models the child will seek out.

Bandura, in contrast, is much more of an environmentalist. It is appeal¬ ing, he says, to imagine children making their own discoveries and creating their own ideas. In reality, however, children's minds are structured by the environment, by the models and the social training practices the environment provides (Bandura, 1977, p. 183; Bandura & Walters, 1963, p. 44).

In some major works (1977,1986,1997), Bandura has softened his envi¬ ronmentalism somewhat. He talks about "reciprocal influences" among indi¬ viduals, their behavior, and the environment. But Bandura is still much more an environmentalist than Piaget, and Bandura continues to raise strong objec¬ tions to Piagetian theory. Specifically, he disagrees with two basic Piagetian tenets.

First, Bandura doubts that children learn much on their own, out of an intrinsic interest in moderately novel events. He says that if children were motivated to figure out everything that is slightly beyond their grasp, they would be learning all the time. But this is not the case. If we want children to learn, we must motivate them and assist them. We must teach them things, administer rewards and punishments, and provide them with appropriate models. After a while, to be sure, children do become self-motivated learn¬ ers. But this does not mean they now learn for learning's sake, because of

their natural curiosity about the world. Rather, they learn to meet their inter¬
nal achievement standards (for example, to master 90% of the material on a test). These internal standards, moreover, are themselves the products of social teaching and modeling influences (Bandura, 1986, pp. 340, 480-488; 1989, pp. 8-9, 34-35).

Bandura (1997, p. 219) acknowledges that intrinsic interest does exist. But he says it occurs after we meet our achievement standards and develop feelings of self-efficacy. For example, after we do well in biology courses, we begin to enjoy the subject matter itself. But intrinsic interest is not primary.

Second, Bandura questions the validity of Piagetian stages. At first the stages seem plausible because children do often master material in sequences. But this is only because people usually solve easier problems before they solve more difficult ones. There is nothing special about Piaget's stage sequences, and they are not as absolute as he claims.

Moreover, the stage concept implies that thinking becomes organized and reorganized into broad unitary structures that underlie children's think¬ ing across a wide range of tasks. For example, the child at the stage of concrete
operations should apply the same logical operations to a wide variety of prob¬ lems. But stages in this sense, Bandura argues, do not exist. Thinking actu¬ ally consists of numerous discrete skills that vary from one cognitive domain to the next. For example, reading, writing, and arithmetic all involve many of their own particular skills and subskills. Piagetian stages, which lump chil¬ dren's thinking into broad categories, tell us little about the particular think¬
ing skills in each area (Bandura, 1986, pp. 484-485).

Bandura argues, then, that Piaget's view of development is false. Chil¬ dren do not primarily learn on their own, nor does their thinking undergo broad stage transformations.

Bandura's opposition to Piaget is long standing, and Bandura and his colleagues have conducted some classic studies that were designed to demonstrate the superiority of their theory. In one, Bandura and McDonald (1963) tried to show that modeling influences can alter Piaget's stages of moral reasoning.

Moral Reasoning. Piaget, you will recall, proposed a two-stage theory

of moral judgment, one aspect of which concerns consequences versus intentions. That is, younger children tend to judge wrongdoing in terms of its consequences, whereas older children base their judgments on the intentions behind the act. For example, a young child is likely to say that a boy who made a large ink spot trying to help his dad is naughtier than one who made a small ink spot when playing around. The young child focuses on the consequences—the amount of damage. The older child, in contrast, usually puts more weight on the underlying motive.

Bandura gave 5- to 11-year-old children 12 such items and found the age shift that Piaget and others (Kohlberg, 1969a) have documented. However,





Bandura emphasized, children of all ages evidenced at least some reasoning of both kinds, suggesting the stages are not rigidly demarcated.

Following this pretest, Bandura tried to show that the children's thinking could be altered by modeling influences. In a key part of the experiment, children individually observed an adult model who was praised for giving responses contrary to their own dominant mode. If, for example, a child had typically judged wrongdoing in terms of intentions, the model always based her judgment on the consequences. An experimenter presented the model with a moral dilemma, praised her when she gave her answer, and gave the child a turn on a new item. Taking turns in this way, the model and child each responded to 12 new items (different from the pretest items).

This training procedure did have a strong effect. Prior to the training, children gave one type of moral response only about 20% of the time; during the treatment, this number increased to an average of about 50%.

The experiment also included an immediate posttest in which the children responded once again to the pretest items. The results indicated that the children persisted with their new mode of responding (about 38% to 53% of the time).

The study, Bandura says, shows that "the so-called developmental stages were readily altered by the provision of adult models" (Bandura & Walters, 1963, p. 209). There seems to be nothing fixed or invariant about them.

Cognitive developmentalists have viewed the study suspiciously. They acknowledge that modeling can influence cognitive stages, but the influence should be small. This is because stages represent broad, deeply rooted cogni-

tive structures. We cannot, in theory, effortlessly get a child to reason in any way we wish. And when we do produce change, it should be primarily in the direction of the stage sequence—one stage forward. Several experiments have, in fact, found that these are the kinds of changes that do occur when Kohlberg's, rather than Piaget's, stages are used (Gardner, 1982, p. 219). This, Kohlberg (1969a) argued, is because his stages represent broader cognitive structures than Piaget's moral stages do, so his are harder to change. However, as Bandura (1986, pp. 494-496) notes, the modeling influences in these studies were brief and weak.

We can see, then, that Bandura's experiment has stirred up a good deal of controversy. He has presented a serious challenge to cognitive stage theory.

Conservation. Social learning theorists have also tried to show that conservation can be altered through modeling. In some key experiments, Rosenthal and Zimmerman (1972; Zimmerman & Rosenthal, 1974) reported that 5- and 6-year-olds gained significant mastery of conservation on a battery of tasks (including liquid, number, and weight) after they observed an adult model demonstrate conservation reasoning. However, the investigators found that 4-year-olds gained conservation skills only to a modest degree.



Rosenthal and Zimmerman's interpretation of the results indicates the way researchers' conclusions reflect their theoretical orientations. The researchers concluded that the modeling produced rapid and substantial change in conservation behavior. Conservation skills, they believe, are probably the product of socialization—of the teachings of adults in the child's culture. Developmentalists would be more skeptical and would point to the weaker results with children who were not ready to benefit from the modeling experience.

## PRACTICAL IMPLICATIONS

Bandura's work should do a good deal to increase our awareness of the importance of models in child rearing and education. Although most parents and teachers are already somewhat aware of the fact that they teach by example, they probably have also overlooked just how influential modeling can be. A case in point is physical punishment. Many parents try to prevent their

children from fighting by spanking them when they fight—only to find, it seems, that their children fight all the more (Bandura & Walters, 1963, p. 129).
The likely explanation is that the parents, by spanking, are inadvertently pro¬viding a good demonstration of how to hurt others (Bandura, 1967). Similarly, whenever we find that we are unable to rid a child of some distressing bit of behavior, we might ask whether we have been inadvertently modeling the behavior ourselves.

Modeling, according to Bandura, takes many forms. The familiar kind is behavioral modeling; we exemplify an activity by performing it. Model¬ing may also be done verbally, as when we give instructions or issue com¬mands. Social learning researchers have evaluated the effectiveness of the various kinds of modeling, and their findings should be of importance to parents and educators. Of particular interest are studies such as G. M. White's (1972), which examined the effects of commanding children to share. At first, the commands seemed to work, but their impact diminished over time, and the commands also produced resentment and rebelliousness. In the long run, we may do better simply to model generosity and helpfulness through our own behavior. Then children can follow our example without feeling forced to do so.

Social learning theorists have also shown that behavior is influenced not only by personal or live models but also by those presented in the mass media. Filmed models, in particular, seem to exert a powerful impact, and one major implication is that television, which many children watch for hours on end, is shaping young lives. Social learning theorists have been especially con¬cerned with the effects that televised violence has on children, and there is substantial evidence that it can, in fact, increase children's aggressiveness in
their daily lives (Anderson & Gentile, 2008; Kirsh, 2006).





The kinds of models presented in the mass media have been of concern to leaders of historically disenfranchised groups. Civil rights leaders and fem¬
inists have pointed out that television and motion pictures have traditionally depicted people of color and women in stereotyped roles, and, by doing so, have restricted people's sense of what they might become in life. Accordingly, activists have tried to get the media to present new kinds of models, such as women and people of color as scientists and environmentalists rather than housewives and criminals. The social learning research suggests that the activists have adopted a good strategy for social change.

Because modeling can have a strong impact on behavior, it has signifi¬ cant promise as a therapeutic device. You might recall that in Mary Cover Jones's (1924) famous experiment, modeling was part of the method used to eliminate Peter's fear of furry objects. Bandura and others have conducted a number of studies that have more systematically shown how modeling can help reduce fears. In one experiment (Bandura, Grusec, & Menlove, 1967), for example, 4-year-olds who were afraid of dogs observed a child calmly play with one, and then the children themselves became less fearful.

Bandura (1986) urges therapists to pay special attention to self-efficacy appraisals when they diagnose and treat their clients. For example, Bandura believes that whatever technique a therapist uses to treat a phobia—whether it is modeling or some other technique—the treatment will work best if it gives the client the sense that he or she has the ability to deal with the feared
stimulus. Similarly, techniques for dealing with pain, such as relaxation or guided imagery, work best when they give clients the feeling they are capable of influencing the amount of pain they feel (pp. 425-445).

Pediatricians have found self-efficacy theory valuable in the treatment of children with asthma. Too often, doctors simply tell parents what to do at home, and then the doctors complain that the parents do not adhere to the plan. Doctors have obtained better results when they pay attention to the par¬ ents' feelings of self-efficacy. Because the parents often feel helpless with respect to their children's asthma, health-care workers model the ways the parents can remove allergens from the home, give the parents positive feed¬ back, and help them believe they can be effective (Hussain-Rizvi, Kunkov, & Crain, 2009).

Bandura (1994) also has called attention to the social conditions that undermine self-efficacy. He observes that standard school practices such as ranking and competitive grading make many children feel inadequate. It would be better if children worked more cooperatively and could judge their work according to their own individual progress (rather than against that of other pupils). Bandura adds that it is important for teachers to feel self-efficacy
as well. When they believe their work will have an effect, their confidence serves as a model for their children.

More broadly, Bandura (1998) is worried about the impersonality of our technological society, and the difficulty any individual has changing it.

Self-efficacy in the modern world, he speculates, must become collective self-efficacy—people working together for change.

## EVALUATION

Bandura's work has changed over the years. Initially, he wanted to show how the Skinnerian model, in which one must act to learn, is inadequate. Learning also includes the observation of models, which is a cognitive process. In this early work, Bandura focused clearly on the power of modeling influences, and he and his colleagues devised a series of brilliant experiments to show just how powerful models can be. In 1977 he wrote.

> One can get people to behave altruistically, to volunteer their services, to delay or to seek gratification, to show affection, to behave punitively, to prefer certain foods or apparel, to converse on particular topics, to be inquisitive or passive, and to engage in most any course of action by having such conduct exemplified, (p. 88)

In more recent years, especially since the mid-1980s, Bandura's theory has become increasingly eclectic and wide ranging. In his recent self-efficacy theory, Bandura considers modeling influences to be less powerful than successful performances (in which the person achieves results through hard work), and Bandura speculates about the broad social context in which self-efficacy develops.

Still, the theme of modeling runs throughout his work, and modeling, together with the general social environmental orientation, has presented a significant challenge to the developmental position. It is therefore useful to more fully consider the reaction of developmentalists to his work.

Developmentalists recognize that environments influence behavior, and often in the ways that Bandura has specified. But developmentalists place a high value on the kinds of growth that emerge from within the child—from the child's inner maturational promptings and spontaneous interests in the world. Bandura has generally minimized the importance of such growth.

Among the developmentalists, it has been the Piagetians who have become most embroiled in debates with Bandura. Piagetians believe that children learn from a spontaneous interest in moderately novel events. Bandura (1986, pp. 480-482) has dismissed this suggestion. Children, he says, really learn in order to obtain reinforcements, such as praise, which they eventually come to administer to themselves. But Bandura's own research may contradict his argument. In several experiments, models perform what he calls "moderately novel" or "relatively unique" behaviors (Bandura, 1962, pp. 250,

252; 1965b, p. 116). Models sock Bobo dolls, march about, knock objects off



shelves, and engage in other zany physical antics. As Kohlberg (1969a, p. 435) pointed out, these behaviors seem intuitively designed to capture the imagination of 4-year-olds, and in several experiments the children readily imitated the behaviors even though there were no reinforcements available (Bandura, 1965b; Bandura & Huston, 1961; Bandura, Ross, & Ross, 1963). Quite possibly, the children reproduced such behaviors because they found them intrinsically interesting. Reinforcement variables, to be sure, can increase or alter imitation, but a spontaneous interest in moderate novelty might also be at work.

Bandura (1986, pp. 480-482) argues that the principle of moderate novelty does not fit with everyday observations. If people learned from their intrinsic interest in moderately novel events, they would be learning all the time; for they are constantly encountering slightly new information. But, Bandura says, people in general are not eager learners. They usually restrict their learning to one or two areas of life, such as their areas of occupational expertise.

Piagetians (e.g., Kamii, 1980) and other developmentalists (e.g., Montessori, 1936b) would agree that people often seem to be fairly apathetic when it comes to learning. But this observation does not prove that humans have no intrinsic interest in the world. Rather, the observation shows that the child's natural curiosity has been stifled.

Children, in the developmental view, begin life full of enthusiasm for learning, and during the first few years they learn a tremendous amount on their own, without adult instruction. Then adults get hold of them, sending them to schools and taking charge of their learning. Adults provide them with modeling influences and teach them what and how to think. Children feel the pressure to please grownups and try to think in the ways the adults prescribe. As a result, children stop pursuing their spontaneous interests and lose the thrill that comes from making their own discoveries.

Bandura says that he, too, believes in self-motivated learning, but of a different kind. People, in Bandura's view, do not learn out of a spontaneous interest in the world, but to achieve their internal goals and standards. Children internalize external standards and make their own positive self-evaluations contingent on the achievement of these standards. For example, a college

student, studying for exams, might only be pleased with herself when she is certain she has mastered enough material to earn straight A's. Bandura (1997, p. 219) says that people enjoy learning for its own sake after they start meeting their internal standards and feeling good about their abilities.

I believe Bandura sheds light on the kind of learning that is dominant in our society today. We do seem to constantly set standards and evaluate our progress and abilities. But such extensive self-evaluation is confining and debilitating. We become so wrapped up in ourselves that we lose touch with the childlike delight in the world itself—in nature, other people, art, and the world as we find it.





Piagetians also believe Bandura overlooks the importance of cognitive structures or stages. Bandura acknowledges that cognitive skills set limits on what children can learn and imitate, but he does not believe these skills belong to broad stage structures. Instead, he believes the cognition consists of a large number of specific, isolated skills.

Bandura's position has its supporters, but the issue is still very unsettled. Piaget's stages, despite certain problems, are important.

In fact, social learning research itself occasionally suggests that the child's general stage is at work. For example, Liebert and his colleagues (1969) found that 14-year-olds, but not 8- or 6-year-olds, could imitate a new grammatical rule. The oldest subjects were able to figure out the rule underlying the model's behavior because they had capacities for abstract thinking that the younger children lacked. They had, it seems, formal operations.

It might be, then, that Bandura underestimates the importance of developmental variables. He certainly seems to overlook the extent to which children learn on their own, from an intrinsic interest in the world. He might also overlook the extent to which modeling is influenced by cognitive stages. Nevertheless, Bandura has significantly broadened learning theory and contributed enormously to our understanding of how environmental factors shape behavior.