

On Translating Beliefs Into Action: Theories of Ability and Their Application in an Instructional Setting

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Some individuals (instructors) taught a card trick to two other individuals (pupils). Prior to teaching the card trick, instructors acquired a theory about the nature of ability. Some instructors learned that ability is produced by factors extrinsic to the pupil, such as thorough instruction (extrinsic theory); others learned that ability emerges spontaneously from the natural development of pupils' intrinsic capabilities (intrinsic theory). In addition, instructors were led to believe that one of the pupils possessed high ability (high ability label) and the other possessed low ability (low ability label). When instructors operated with the extrinsic theory, they adopted teaching strategies that caused pupils to provide behavioral confirmation for their initial beliefs: pupils labeled as having high ability outperformed those labeled as having low ability. By contrast, when instructors operated with the intrinsic theory, they adopted teaching strategies that caused pupils to provide behavioral disconfirmation for their initial beliefs: pupils labeled as having low ability outperformed those labeled as having high ability. Whether pupils had behaviorally confirmed or disconfirmed the instructors' initial beliefs, instructors always asserted that pupils labeled as having high ability outperformed those labeled as having low ability. Moreover, pupils labeled as having high ability asserted that instructors had more confidence in their ability than pupils labeled as having low ability. Theoretical and social implications of these findings are discussed.

When individuals encounter other persons, they often possess some preconceived beliefs about them. During their interactions with these persons, individuals may use their beliefs as guides to behavior. Their behaviors, in turn, may elicit behaviors from their interaction partners that confirm and validate their initial beliefs. In this way, individuals' initial

beliefs about their interaction partners may channel social interaction in ways that cause their interaction partners to provide behavioral confirmation for their initial beliefs.

In one investigation of behavioral confirmation processes, Snyder, Tanke, and Berscheid (1977) had one male and one female college student get acquainted after the male had been led to believe that his female interaction partner was either attractive or unattractive. In anticipation of the interactions, males formed images of their specific interaction partners that reflected general stereotypes about physical attractiveness: Females labeled as attractive were judged to be relatively more sociable, poised, and socially adept than those labeled as unattractive. Males translated these images into interaction strategies in which they behaved quite differently toward females they believed to be attractive and unattractive. These differences in interaction style, in turn, elicited behaviors from females that

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confirmed the males' stereotypes. Females labeled as attractive came to behave in a relatively more sociable, likeable, and friendly manner than those labeled as unattractive. Thus, males' initial beliefs about females initiated a chain of events that caused females to provide behavioral confirmation for the males' initial beliefs.

Behavioral confirmation processes may be quite general phenomena with important long-term consequences. Even when asked to assess the accuracy of beliefs about their interaction partners, individuals use social interaction as an opportunity to preferentially solicit behavioral evidence that would tend to confirm these beliefs. These interaction strategies, in turn, cause their interaction partners to provide behavioral confirmation for these beliefs (Snyder & Swann, 1978b). Moreover, the behavioral confirmation process may sometimes produce long-lasting effects. Snyder and Swann (1978a) observed successive interactions between one individual and two other persons. Within the first interaction context, behavioral confirmation occurred: Individuals who were labeled as hostile came to behave in a relatively more hostile manner than individuals who were labeled as non-hostile. When these individuals regarded their behaviors within this initial interaction context as reflections of their true dispositions, their levels of hostility persevered into subsequent interactions with other persons who had no prior knowledge of them. This research on behavioral confirmation processes, together with earlier research on the self-fulfilling consequences of interpersonal beliefs (e.g., Jones & Panitch, 1971; Kelley & Stahelski, 1970; Kuhlman & Wimberley, 1976; Miller & Holmes, 1975; Rosenthal, 1974; Rosenthal & Jacobson, 1968; Word, Zanna, & Cooper, 1974; Zanna & Pack, 1975), suggests that there may well be a pervasive tendency for social labels and beliefs to create their own behavioral and social realities.

Although the reliability and generality of the behavioral confirmation process may be fairly well documented, the mediators of the process are far from fully understood. For example, consider the first link in the chain of events that make up the behavioral confirmation process: the link between the individu-

al's beliefs about an interaction partner and that individual's choice of interaction strategy. On what basis does the individual decide how to translate general beliefs about the other person into a specific style of self-presentation? It is with this issue of the links between beliefs and interpersonal behavior that we are concerned here.

We suggest that individuals often rely on a "theory" about the nature of the individual attribute or personal characteristic to which a belief refers in deciding how to translate that belief into action. For example, individuals in a supervisory or teaching role may often rely on a theory of ability in formulating their instruction strategies. Some instructors may rely on the classic and widely-held "environmental" theory of ability, which assumes that ability is produced by the careful and thorough instruction of teachers. Central to this theory is the proposition that "what is important in the development of the child is his learning of the cognitive and moral knowledge of the culture and that education's business is the teaching of such information and rules through *direct instruction*" (Kohlberg, 1968, p. 1015, italics ours). This theory of the extrinsic nature of ability has inspired numerous educational programs that endorse a *directive* approach to the teaching process (e.g., Bereiter & Engleman, 1966; Gotkin, 1968). Other instructors may rely on another classic and widely-held theory, the "maturational" theory of ability, which assumes that ability emerges from the natural and spontaneous development of pupils' capabilities. According to this theory, "what is most important in the development of the child is what comes from within him and . . . the pedagogical environment should be one which creates a climate to allow inner 'goods' (abilities and social virtues) to unfold" (Kohlberg, 1968, p. 1014). This theory of the intrinsic nature of ability has inspired a number of educational programs that endorse a *non-directive* approach to the teaching process (e.g., Keister, 1970; Robinson, 1968).

Instructors' theories of ability may interact with their beliefs about pupils when they formulate strategies of instruction. Consider, for example, two hypothetical scenarios. In the first, an instructor who endorses the ex-

trinsic theory of ability learns that one of his pupils has a great deal of natural ability. The instructor plans his teaching strategy as follows: "If this pupil is so talented, then I should do my best to insure that he reaches his full potential. I will give him lots of attention to make sure that he learns the skills he needs." Instructors who operate with this extrinsic theory in teaching tasks that require the acquisition of specific skills will probably generate *behavioral confirmation* for their initial beliefs: Pupils labeled as having high ability will outperform those labeled as having low ability because only they have learned the skills necessary to perform the task. An instructor who endorses the intrinsic theory of ability might handle the same situation in quite different fashion: "If this pupil is so talented, then I should do my best to insure that he reaches his full potential. I will leave him alone and concentrate on the other pupils to make sure that he has opportunity to develop his natural capabilities on his own." Instructors who put this intrinsic theory of ability into practice in teaching tasks that require the acquisition of specific skills may often generate *behavioral disconfirmation* for their initial beliefs: Pupils labeled as having high ability will perform more poorly than those labeled as having low ability because they never learn the skills they need to excel.

But what about instructors' impressions of their pupils after they have interacted with them? Will instructors operating with the intrinsic theory realize that pupils labeled as having low ability have outperformed pupils labeled as having high ability? Will they then revise their beliefs about these pupils? The research literature suggests not. Time and again, researchers have found that individuals readily interpret behavioral evidence as supportive of their existing beliefs, even when the evidence could equally well support an alternative interpretation (Berman & Kenny, 1976; Chapman & Chapman, 1967, 1969; Hamilton & Gifford, 1976; Langer & Abelson, 1974; Rosenhan, 1973; Snyder & Uranowitz, 1978; Zadny & Gerard, 1974). As a consequence of such selective information gathering and processing, instructors may insist that their initial beliefs about their pupils have been confirmed even when these beliefs have

been disconfirmed by the actual performances of their pupils.

To address these issues, we conducted an experiment in which some individuals ("instructors") were asked to teach two other individuals ("pupils"). Prior to the training period, instructors were introduced to one of two theories of the nature of ability. Some instructors were acquainted with the theory that ability is produced by extrinsic factors such as careful and thorough instruction (extrinsic theory). Other instructors were introduced to the theory that ability emerges spontaneously from intrinsic factors such as pupils' unstructured experiences with the task (intrinsic theory). In addition, all instructors were led to believe that one of their pupils was quite gifted (high ability label) and the other was not so gifted (low ability label). We anticipated that instructors operating with the extrinsic theory of ability would use their best teaching method with pupils labeled as having high ability and thereby produce behavioral confirmation for their initial beliefs. By contrast, we expected that instructors operating with the intrinsic theory of ability would use their best teaching method with pupils labeled as having low ability and thereby produce behavioral disconfirmation for their initial beliefs. Furthermore, we anticipated that instructors would assert that pupils labeled as having high ability learned more quickly than those labeled as having low ability within both the extrinsic theory and intrinsic theory conditions.

Method

Overview

Ninety male undergraduates at the University of Minnesota participated in this experiment for extra credit in their introductory psychology course. During each experimental session, one participant (the "instructor") taught a card trick to two other participants (the "pupils"). Before the instruction period, some instructors were introduced to the extrinsic theory of ability; others were introduced to the intrinsic theory of ability. Also prior to the instruction period, all instructors were led to believe that one of the pupils was highly competent and the other was only moderately competent. We examined the effects of these manipulations of theory and belief on instructors' teaching strategies, the ability of pupils to perform a related card trick after the

instruction period, and instructors' and pupils' impressions of one another after the instruction period.

Procedure

Three previously unacquainted students reported to each session of this experiment. At the outset, each participant was assigned randomly to one of three roles: instructor, high ability pupil, or low ability pupil. With the instructor still present, the experimenter asked the two pupils to complete a "background questionnaire" that assessed their grade point averages, tastes in literature and sports, major fields, and career plans. As the pupils began completing their background questionnaires, the experimenter escorted the instructor to the control room. Here he informed the instructor that his task would be to teach the two pupils a card trick.

The card trick. The trick was performed with a deck of four red and four black playing cards. The procedure was to draw the top card from the deck and alternately place it either on the table or at the bottom of the deck and repeat this procedure until all the cards were on the table. The solution was reached if, at the end of this drawing procedure, the cards on the table alternated colors (i.e., red, black, red). Instructors learned that they could use any of three methods to teach the card trick. The first two methods, the "memorization" and "intuitive" methods, were the most simplistic. These methods consisted of simply advising the pupil to try to memorize or intuit the appropriate order of cards. The third method, the "question mark" method, was by far the most complex technique. This method consisted of introducing pupils to a specialized procedure for placing the cards in the correct order. (For a more detailed account of this question mark method, see Katona, 1940.)

The experimenter emphasized that the question mark method was the most effective but also the most time consuming teaching method. Therefore, it was unlikely that one could teach the question mark method to both pupils in the time allotted. When the instructor indicated that he understood the card trick and the three teaching methods, the experimenter excused himself and left to collect the pupils' background questionnaires.

The label manipulation. After a few minutes, the experimenter returned and informed the instructor that he would provide him with the pupils' background questionnaires "to make the training sessions more like a real life situation, in which such information is typically available." The experimenter then gave the instructor two questionnaires (which had been prepared in advance) that were designed to induce him to label one pupil as having high ability and the other as having low ability. The high ability pupil was characterized as a pre-law student with an excellent grade point average; the low ability pupil was portrayed as a sociology major with a mediocre grade point average. To avoid any possible experimenter bias effects, the experimenter did not look at the questionnaires as he withdrew them from a

manila envelope that had been prepared earlier by an experimental assistant. Furthermore, he never learned which label condition each pupil was in until after all the data had been recorded.

Theory manipulation. At this point the experimenter sought to provide instructors with information that would encourage them to develop a theory about the nature of ability. In the extrinsic theory conditions, he delivered a brief communication that emphasized the role of extrinsic factors such as the instructor's teaching in learning the card trick. Since ability to perform the card trick was largely a product of the instructor's teaching, the experimenter explained, pupils learn best when the instructor adopts a "directive" approach to teaching. Thus the more pupils were coaxed, nurtured, and reinforced, the better they would learn the trick. By contrast, in the intrinsic theory conditions, the experimenter emphasized the role of factors intrinsic to the pupil in learning the card trick. Since ability to perform the card trick was typically a function of the extent to which pupils developed their own personal understanding of the trick, the experimenter explained, it was best to take a nondirective approach to teaching and encourage pupils to try to develop a solution to the trick on their own.

The training period and dependent measures. When satisfied that the instructor understood all the instructions, the experimenter left to escort the pupils into separate experimental rooms. Pupils remained separated for the entire experiment to insure that their performances would not influence one another's. The experimenter then advised instructors that they would have a total of 10 minutes to teach both pupils the card trick and that they should allocate time to each pupil as they saw fit. The instruction period then began.

After 10 minutes, the experimenter announced the end of the training period and invited pupils to try to perform a new card trick. This card trick was conceptually similar to the first card trick, so that individuals who had learned a general procedure for performing the first card trick (e.g., the question mark method) were at an advantage in performing this trick. However, this trick was sufficiently different from the first one so that simply having memorized the first trick would not enable individuals to perform it. The procedure was to successively draw the top card from a deck of cards and alternately place the drawn card on the table or at the bottom of the deck until all the cards were on the table. The objective was to order the 13 cards so that at the end of the drawing procedure, they appeared on the table in hierarchical order (i.e., Ace, 2, 3 . . . King). After being shown the trick once, pupils were allowed 5 minutes to generate the solution on their own.

At the end of the testing period, instructors indicated how easily each pupil had "caught on" to the card trick during the training session on 10-point scales ranging from 1 (not at all easily) to 10 (extremely easily). Finally, both pupils and instructors indicated which method the instructor had used to

Table 1
Behavioral Confirmation and Behavioral Disconfirmation

Dependent variable	Extrinsic theory		Intrinsic theory	
	High ability label (<i>n</i> = 15)	Low ability label (<i>n</i> = 15)	High ability label (<i>n</i> = 15)	Low ability label (<i>n</i> = 15)
Instructor's teaching strategy ^a	11.0	4.0	2.0	13.0
Pupils' performances ^b	10.3	7.9	7.0	10.2
Correlation between pupils' performances and instructors' teaching strategy ^c	.59*	.38	.59*	.42
Variance of performance measure	6.51	15.2	7.4	6.3
Variance of strategy measure	.19	.19	.11	.11

^a Higher numbers indicate how many times instructors used the question-mark method within each condition of the experiment. ^b Higher means indicate that pupils placed more cards in the correct order during the test period. ^c Higher correlations indicate that use of the question-mark strategy was associated with superior performances.

* $p < .05$.

teach the card trick, and pupils estimated how confident the instructor had been in their ability to learn the card trick on 10-point scales ranging from 1 (not at all confident) to 10 (extremely confident).

Results

We examined the effects of the theory and label manipulations on the instructors' teaching strategies, the pupils' performance, the instructors' impressions of pupils, and pupils' estimates of the instructor's confidence in them.

The Instructors' Teaching Strategies

We were most interested in discovering when instructors used the question mark method (which they believed to be the most time consuming and effective method) rather than the intuitive or memorization methods. Accordingly, we counted the number of times instructors used the question mark method within each condition of the experiment. We then entered these scores into a 2(Extrinsic-Intrinsic Theory) \times 2(High Ability-Low Ability) analysis of variance.¹ There was a reliable interaction between theory and label, $F(1, 28) = 17.5$, $p < .001$. As can be seen in Row 1 of Table 1, within the extrinsic theory condition, instructors used the question mark method more often to instruct pupils labeled as having high ability rather than low

ability, $F(1, 28) = 5.03$, $p < .05$. By contrast, within the intrinsic theory condition, instructors used the question mark method more often to instruct pupils labeled as having low ability rather than high ability, $F(1, 28) = 12.44$, $p < .005$.

Thus as anticipated, instructors' theories of ability had substantial impact on their teaching strategies. When they operated with the extrinsic theory that ability is produced by good teaching, instructors used their most time-consuming and effective teaching method with those pupils whom they believed to possess high ability. When they operated with the intrinsic theory that ability emerges from the natural development of the pupils' intrinsic capabilities, instructors used their most time consuming and effective teaching method with the pupil they believed to possess low ability.

¹ Instructors and pupils agreed with one another 100% of the time when asked which training method the instructor used. Although these dichotomous data do not satisfy the normality assumption for the analysis of variance, most relevant empirical investigations have concluded that violations of this assumption pose no major interpretative difficulties (e.g., Cochran, 1947; Pearson, 1931). Also, in this analysis and all subsequent analyses, label was treated as a repeated measures factor, since responses in the high and low ability conditions were dependent (see Winer, 1971, pp. 366, 514-599).

Table 2
Perseveration and Transmission of Beliefs

Dependent variable	Extrinsic theory		Intrinsic theory	
	High ability label	Low ability label	High ability label	Low ability label
Instructors' final impressions of pupils ^a	8.2	7.2	8.0	5.7
Pupils' estimates of instructors' confidence in them ^b	7.3	5.1	6.1	5.7

^a Higher means indicate greater perceived ability. ^b Higher means indicate greater estimate confidence.

The Performance of Pupils

We anticipated that instructors who received the extrinsic theory manipulation would elicit the best performances from pupils labeled as having high ability but that instructors who received the intrinsic theory manipulation would elicit the best performances from pupils labeled as having low ability. This was the case. Analysis of the number of cards pupils placed in the correct order on the second card trick revealed a reliable interaction between theory and label, $F(1, 28) = 14.82, p < .001$. The means are displayed in Table 1, Row 2. Within the extrinsic theory condition, the instructors' beliefs were *behaviorally confirmed*: Pupils labeled as having high ability outperformed pupils labeled as having low ability, $F(1, 28) = 4.71, p < .05$. By contrast, within the intrinsic theory condition, the instructors' beliefs were *behaviorally disconfirmed*: Pupils labeled as having low ability outperformed pupils labeled as having high ability, $F(1, 28) = 9.77, p < .005$.

A major determinant of pupils' performances was apparently the teaching method instructors employed. The point-biserial correlations displayed in Table 1, Row 3 suggest that use of the question mark strategy led to superior performances within all conditions of the experiment.

Instructors' Impressions of Pupils

Were instructors aware of the impact of their teaching strategies on how well pupils grasped the card trick? Apparently not. When asked to estimate how quickly pupils "caught on" to the card trick, instructors within both the extrinsic theory and intrinsic theory con-

ditions estimated that the pupil whom they believed to possess high ability had caught on most quickly, $F(1, 22) = 8.59, p < .008$.² As can be seen in Table 2, Row 1, these judgments were not reliably influenced by the theory manipulation, $F(1, 22) = 2.82, ns$, nor were they affected by the interaction of theory and label, $F(1, 22) = 1.27, ns$.

Thus it appears that instructors' face-to-face encounters with pupils did little to alter their initial beliefs about them. Once formed, instructors' impressions of pupils continued to survive even in the face of the contradictory evidence available to them within the intrinsic theory condition.³

Pupils' Estimates of the Instructor's Confidence in Them

Not only did instructors cling to their initial beliefs about pupils, but somehow they also communicated these impressions to the pupils themselves. When asked to estimate how confident the instructor was of their abil-

² This questionnaire item and the other questionnaire item discussed below were inadvertently omitted from the first six sessions of the experiment. As a result, all analyses of these two items were based on the responses of 24 participants.

³ The reason that instructors were inaccurate in assessing pupils' performances was not because information about pupils' performances was unavailable to them. Within at least some conditions of the experiment, covariation between instructors' impressions and pupils' performances was substantial. Correlations between instructors' impressions and pupils' performances within each condition of the experimenter were: Extrinsic Theory-High Ability, $r = .19$; Extrinsic Theory-Low Ability, $r = .44$; Intrinsic Theory-High Ability, $r = .24$; Intrinsic Theory-Low Ability, $r = -.07$.

ity to learn the card trick, pupils within the high ability condition estimated (although not reliably so) that instructors had expressed more confidence in them than those within the low ability condition, $F(1, 22) = 3.80$, $p < .06$. Neither the theory manipulation, $F < 1$, nor the interaction of theory and label, $F(1, 22) = 1.79$, ns , had a reliable impact on these judgments. Evidently, pupils labeled as having high ability were more likely to leave their interactions feeling that they had left a favorable impression with the instructor than those labeled as having low ability. This pattern emerged even within the intrinsic theory condition, when pupils labeled as having high ability had in reality performed more poorly than those labeled as having low ability.

Discussion

Our research illustrates the powerful impact that instructors' theories of ability and beliefs about their pupils' ability may exert on the nature and impact of their teaching strategies. In this investigation, some individuals ("instructors") taught a card trick to two other individuals ("pupils"). Prior to the training period, instructors were introduced to a theory of ability. Some instructors were acquainted with an extrinsic theory of ability, which assumes that ability is produced by extrinsic factors such as thorough instruction. Other instructors were acquainted with an intrinsic theory of ability, which assumes that ability is produced by the natural development of pupils' inherent capabilities. In addition, all instructors were led to believe that one pupil was very competent and that the other pupil was only moderately competent. Instructors operating with the extrinsic theory of ability used their most effective teaching method with pupils they believed to possess high ability. This instruction strategy produced behavioral confirmation: Pupils labeled as having high ability outperformed those labeled as having low ability. By contrast, instructors operating with the intrinsic theory of ability used their most effective teaching strategy with pupils they believed to possess low ability. This instruction strategy produced behavioral disconfirmation: Pupils labeled as

having low ability outperformed those labeled as having high ability.

Our findings are clearly relevant to educational systems and other instructional contexts in which individuals spend such vast amounts of time during their lives. Nevertheless, as important as these processes may be in such circumstances, they may not be limited to instructional contexts. These processes may operate within a wide range of social situations in which one individual has some preconceived notions about another individual. Consider, for example, an individual who anticipates interaction with a person believed to be cold and hostile. On such occasions, individuals might operate with a "self-protective" theory of social interaction: "I do not want to leave myself open to embarrassment or pain, so I'll be cold and hostile just as she intends to be." To the extent that the interaction partner reciprocates the individual's level of hostility, behavioral confirmation will result.

Just such a behavioral confirmation process has been demonstrated by Snyder and Swann (1978a): Individuals whose interaction partners believed them to be hostile came to display greater levels of hostility than individuals whose interaction partners believed them to be non-hostile. By contrast, individuals operating with a "compensatory" theory of social interaction might handle the situation quite differently: "I want my interaction with her to go smoothly, so I'll try to compensate for her coolness by being especially friendly and talkative." If the interaction partner responds in kind, behavioral disconfirmation will result. This form of behavioral disconfirmation may account for the findings of Bond (1972). In Bond's investigation, women who apparently believed that it was their responsibility to maintain an active conversation interacted with another individual whom they believed to be cool and aloof. These women attempted to compensate for the uncommunicative dispositions of their partners by behaving in an especially warm and friendly manner. Their interaction partners reciprocated their warmth and friendliness, thereby providing behavioral disconfirmation for the initial expectation.

Taken together, these data suggest that theories of ability may be but one member of

a family of theories on which individuals rely in translating their beliefs into action. Further specification and elaboration of these theories will almost certainly provide a firm basis from which to predict when behavioral confirmation will occur and when behavioral disconfirmation will occur.

Whatever the theory that individuals use in moving from beliefs about an individual to a specific interaction strategy, we must emphasize that we do not consider the use of such theories to be inherently irrational or unreasonable, nor do we regard one theory as superior to the other theory. Clearly, just as extrinsic theories of ability may often maximize performance on tasks that require the acquisition of specific skills (for example, penmanship), so too may intrinsic theories of ability work best for tasks that require general knowledge of relationships (for example, first language acquisition). From our perspective, these theories function as operating guidelines that individuals (quite reasonably) utilize in deciding how to translate their abstract labels, preconceived notions, and existing beliefs about other people into specific interaction strategies. Our concern here is *not* with the reasonableness or validity of these theories. Rather, our principal concern is with the interpersonal *consequences* of using theories as guides for translating beliefs into action: behavioral confirmation and behavioral disconfirmation.

But if we, the investigators, were especially attuned to the interpersonal consequences of instructors' theories and beliefs, the instructors themselves were not so attentive to the consequences of their use of theories of ability to translate their beliefs about their pupils into teaching strategies. In this investigation, it simply did not matter whether pupils in reality had provided behavioral confirmation or behavioral disconfirmation for the instructors' initial beliefs: Instructions always left the training sessions believing that their initial beliefs had been confirmed.⁴ Apparently, once instructors formed images of their pupils, their subsequent information processing activities were structured in ways that guaranteed the survival of these images (cf. Zadny & Gerard, 1974). Such selectivity in information processing may guarantee the survival of instruc-

tors' theories of ability as well as their beliefs about pupils. If instructors reasoned that a valid theory of ability is one that accurately predicts pupils' performances, then their subjective impressions of the pupils' performances (i.e., that those labeled as having high ability outperformed those labeled as having low ability) would have lent support to the theory with which they were operating. Therefore, instructors may well have left their interactions convinced that both their theories of ability and their beliefs about pupils offered accurate and valid guides to the nature of social reality.

Of course, it is quite possible that in naturalistic settings, teachers might modify their beliefs about pupils when confronted with the evidence found in standardized tests of academic performance. However, our data suggest that such test performances may themselves be shaped by teachers' initial beliefs. Consequently, it may well be that the evidence on which teachers rely to validate their initial beliefs is in a very real sense a direct consequence of those initial beliefs. Thus the paradox: Although nothing in the behavior of instructors may be inherently unreasonable, their unawareness of the consequences of their actions may often lead them to behave in ways that cause their initially erroneous perceptions to come true. We cannot help but wonder if instructors would not have behaved differently had they known the true consequences of their actions.

The perseveration of teachers' beliefs may have particularly negative implications for pupils believed to possess low ability. Even if instructors adopt teaching strategies that systematically favor students believed to possess low ability and consequently produce

⁴It is true that, since we did not measure instructors' impressions of pupils both before and after the training sessions, we cannot determine whether instructors became more or less extreme in their assessments of pupils' ability during the training sessions. Nevertheless, the important point is that instructors asserted that pupils labeled as having high ability caught on more quickly than those labeled as having low ability even when (in the intrinsic theory condition) those very pupils labeled as having low ability had in reality outperformed those pupils labeled as having high ability.

behavioral disconfirmation, they may later communicate their (still negative) impressions of such students to other teachers. These other teachers may then adopt teaching strategies that produce behavioral confirmation. And what if teachers completely leave the scene after eliciting behavioral disconfirmation from students so that they have no opportunity to communicate their beliefs about a pupil to other teachers? Since the teacher can no longer have a direct influence on the student, will behavioral disconfirmation be lasting under these conditions? Perhaps not, because teachers may already have sown the seeds for an outcome of behavioral confirmation. In this investigation, instructors conveyed their appraisal of pupils to the pupils themselves, just as teachers may often communicate their appraisals of students to them. Students may then internalize their teachers' labels into their basic self-concepts (Snyder & Swann, 1978a; Berman & Burleson, Note 1). When such internalization occurs, students will have "become" the low or high ability individuals their teachers initially believed them to be. As a result, in later performance settings they may manifest their newly acquired self-conceptions by behaving in ways that confirm and validate the teachers' initial expectancies.

The implication of this analysis is clear: If teachers wish to create lasting improvements in the performances of low ability students, it may not be enough for them to simply adopt teaching strategies that favor such students. If teachers fail to revise their evaluations of low ability students or the students themselves fail to modify any negative self-evaluations they may have, such students may later revert to their former performance levels. From this perspective, it becomes easier to understand why so many (often erroneous) social stereotypes and idiosyncratic social perceptions are so resistant to change (cf. Snyder, in press; Swann & Read, Note 2). For even if individuals adopt interaction strategies that produce behavioral disconfirmation, their insensitivity to disconfirmatory information and their tendency to communicate their expectancies to the targets of their beliefs may insure that their beliefs ultimately will receive behavioral confirmation.

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