

# A Social-Cognitive Approach to Motivation and Personality

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Past work has documented and described major patterns of adaptive and maladaptive behavior: the mastery-oriented and the helpless patterns. In this article, we present a research-based model that accounts for these patterns in terms of underlying psychological processes. The model specifies how individuals' implicit theories orient them toward particular goals and how these goals set up the different patterns. Indeed, we show how each feature (cognitive, affective, and behavioral) of the adaptive and maladaptive patterns can be seen to follow directly from different goals. We then examine the generality of the model and use it to illuminate phenomena in a wide variety of domains. Finally, we place the model in its broadest context and examine its implications for our understanding of motivational and personality processes.

The task for investigators of motivation and personality is to identify major patterns of behavior and link them to underlying psychological processes. In this article we (a) describe a research-based model that accounts for major patterns of behavior, (b) examine the generality of this model—its utility for understanding domains beyond the ones in which it was originally developed, and (c) explore the broader implications of the model for motivational and personality processes.

Toward this end, we begin by describing two major patterns of cognition-affect-behavior that we identified in our early work: the maladaptive "helpless" response and the more adaptive "mastery-oriented" response (Diener & Dweck, 1978, 1980; Dweck, 1975; Dweck & Reppucci, 1973).<sup>1</sup> The helpless pattern, as will be seen, is characterized by an avoidance of challenge and a deterioration of performance in the face of obstacles. The mastery-oriented pattern, in contrast, involves the seeking of challenging tasks and the maintenance of effective striving under failure.

Most interesting, our research with children has demonstrated that those who avoid challenge and show impairment in the face of difficulty are initially equal in ability to those who seek challenge and show persistence. Indeed some of the brightest, most skilled individuals exhibit the maladaptive pattern. Thus it cannot be said that it is simply those with weak skills or histories of failure who (appropriately) avoid difficult tasks or whose skills prove fragile in the face of difficulty. The puzzle, then, was why individuals of equal ability would show such marked performance differences in response to challenge. Even more puzzling was the fact that those most concerned with their

ability, as the helpless children seemed to be, behaved in ways that impaired its functioning and limited its growth.

Our efforts to explain this phenomenon led us to the more general conceptualization of *goals* (Dweck & Elliott, 1983). We proposed that the goals individuals are pursuing create the framework within which they interpret and react to events. Specifically, in the domain of intellectual achievement, we identified two classes of goals: *performance* goals (in which individuals are concerned with gaining favorable judgments of their competence) and *learning* goals (in which individuals are concerned with increasing their competence). We then tested and supported the hypothesis that these different goals foster the different response patterns—that a focus on performance goals (competence judgments) creates a vulnerability to the helpless pattern, whereas the pursuit of learning goals (competence enhancement) in the same situation promotes the mastery-oriented pattern (Elliott & Dweck, in press; Farrell & Dweck, 1985; Leggett & Dweck, 1986).

The question that remained, however, was why individuals in the same situation would pursue such different goals. This led us to the more general conceptualization of individuals' *implicit theories*. Here, we tested the hypothesis that different theories about oneself, by generating different concerns, would orient individuals toward the different goals. Specifically, we showed that conceiving of one's intelligence as a fixed entity was associated with adopting the performance goal of documenting that entity, whereas conceiving of intelligence as a malleable quality was associated with the learning goal of developing that quality (Bandura & Dweck, 1985<sup>2</sup>; Dweck, Tenney, & Dinces, 1982; Leggett, 1985). Thus we will present a model in which individu-

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<sup>1</sup> The term *helpless* was adapted from the animal work of Seligman, Maier, and Solomon (1971). At the time of our initial work (Dweck & Reppucci, 1973), only animal work on helplessness had been conducted. See the section on control formulations (The Attributional Approach) for a discussion of how our current approach differs from other approaches to human helplessness.

<sup>2</sup> This study has been cited in previous works as M. Bandura & Dweck (1981, unpublished manuscript). It was the first of our studies on implicit theories of intelligence.

als' goals set up their pattern of responding, and these goals, in turn, are fostered by individuals' self-conceptions.

The model represents an approach to motivation in that it is built around goals and goal-oriented behavior. At the same time, it represents an approach to personality in that it identifies individual differences in beliefs and values that appear to generate individual differences in behavior. The model may also be said to represent a social-cognitive approach to motivation and personality in that it (a) seeks to illuminate specific, moment-to-moment psychological mediators of behavior and (b) assigns a central role to interpretive processes in the generation of affect and the mediation of behavior.

Having arrived at this more general conceptualization, we asked a number of questions about the range of phenomena that the model could potentially explain. In this article we examine the degree to which the model can be used to organize and illuminate a variety of phenomena beyond those it was developed to explain, to generate new hypotheses about personality-motivational phenomena, and to shed light on more general issues in the study of personality and motivation.

In these next sections, for clarity, we start with the response patterns and work up to the goals and implicit theories that appear to foster them. We also begin with the domain of intellectual achievement, where the patterns were established and the model has been most extensively researched, and then move to the domain of social interactions, where evidence for the model is growing.

### Maladaptive Versus Adaptive Patterns: Cognitive, Affective, and Behavioral Components

Why are the helpless and the mastery-oriented patterns considered to be maladaptive and adaptive, respectively, and why are they important? The helpless response as a characteristic style can be considered maladaptive because challenge and obstacles are inherent in most important pursuits. Indeed, one might ask, what valued long-term goal (e.g., pertaining to one's work, one's relationships, or one's moral strivings) does not at some point pose risks, throw up barriers, present dilemmas? A response pattern that deters individuals from confronting obstacles or that prevents them from functioning effectively in the face of difficulty must ultimately limit their attainments.

The mastery-oriented pattern involves the seeking of challenging tasks and the generation of effective strategies in the face of obstacles. As a characteristic style, this enjoyment of challenge and willingness to sustain engagement with difficult tasks appears to be an adaptive stance toward valued goals. Of course, individuals need to be able to gauge when tasks *should* be avoided or abandoned (see Janoff-Bulman & Brickman, 1981); nonetheless, the ability to maintain a commitment to valued goals through periods of difficulty must maximize attainments in the long run.

As we have noted, the helpless and the mastery-oriented patterns are two distinct, coherent patterns, with striking differences in the cognitions, affect, and behavior that characterize each. Because these patterns lie at the heart of our model, we shall describe them in some detail. In doing so we draw primarily on a series of studies conducted by Diener and Dweck (1978, 1980), in which the patterns were first extensively analyzed and

in which the cognitive, affective, and behavioral components of the pattern were first conceptualized as interrelated aspects of a continuous process. A brief outline of their basic method will provide a context for the findings. In these studies, participants (late grade-school age children) who were likely to display the helpless or mastery-oriented patterns were identified by their responses to an attributional measure.<sup>3</sup> They worked on a concept formation task, successfully solving the first eight problems, but failing to solve the next four problems (which were somewhat too difficult for children their age to solve in the allotted number of trials). Of interest here were the changes in cognition, affect, and behavior as the subjects went from success to failure.

To capture the timing and the nature of these changes, several procedures were used. First, after the sixth success problem, subjects were requested to verbalize aloud what they were thinking and feeling as they worked on the problems (Diener & Dweck, 1978, Study 2). They were given license to hold forth on any topic they wished—relevant or irrelevant to the task—and they did so at length. Second, the problems were constructed so that children's hypothesis-testing strategies could be continuously monitored, and thus changes in the sophistication of the strategies could be detected (Diener & Dweck, 1978, Studies 1 & 2; 1980). Third, specific measures, such as predictions of future performance, were taken before and after failure (Diener & Dweck, 1980).

All children attained effective problem-solving strategies on the success problems, with training aids being given when necessary. Moreover, there was no difference in the strategy level attained by the helpless and mastery-oriented children on the success problems or in the ease with which they attained that level. (Indeed, whenever any difference emerged, it was the helpless children who appeared slightly more proficient.) In addition, the verbalizations of both groups on the success problems showed them to be equally interested in and engaged with the task. However, with the onset of failure, two distinct patterns rapidly emerged.

First, helpless children quickly began to report negative self-cognitions. Specifically, they began to attribute their failures to personal inadequacy, spontaneously citing deficient intelligence, memory, or problem-solving ability as the reasons for their failure. This was accompanied by a striking absence of any positive prognosis and occurred despite the fact that only moments before, their ability had yielded consistent success.

Second, helpless children began to express pronounced negative affect. Specifically, they reported such things as an aversion to the task, boredom with the problems, or anxiety over their performance—again, despite the fact that shortly before they had been quite pleased with the task and situation.

Third, more than two thirds of the helpless children (but virtually none of the mastery-oriented ones) engaged in task-irrel-

<sup>3</sup> This classification was made on the basis of our earlier research (Dweck, 1975; Dweck & Reppucci, 1973), linking children's performance following failure to their attributions for failure on the Intellectual Achievement Responsibility Scale (Crandall, Katkovsky, & Crandall, 1965). However, our concern here was with revealing the entire pattern of cognition, affect, and behavior over time, and it was an empirical question what role attributions would play in these patterns.

evant verbalizations, usually of diversionary or self-aggrandizing nature. For example, some attempted to alter the rules of the task, some spoke of talents in other domains, and some boasted of unusual wealth and possessions, presumably in an attempt to direct attention away from their present performance and toward more successful endeavors or praiseworthy attributes. Thus, instead of concentrating their resources on attaining success they attempted to bolster their image in other ways.

And finally, also in line with the negative cognitions and negative affect, the helpless children showed marked decrements in performance across the failure trials. Specifically, more than two thirds of them showed a clear decline in the level of their problem-solving strategy under failure and over 60% lapsed into ineffective strategies—strategies that were characteristic of preschoolers and that would never yield a solution (even if sufficient trials for solution had been permitted on those problems). Thus although all of the helpless children had demonstrated their ability to employ mature and useful strategies on the task, a sizable number were no longer doing so.

In short, helpless children viewed their difficulties as failures, as indicative of low ability, and as insurmountable. They appeared to view further effort as futile and, perhaps, as their defensive maneuvers suggest, as further documentation of their inadequate ability.

In striking contrast, the mastery-oriented children, when confronted with the difficult problems, did not begin to offer attributions for their failure. Indeed, they did not appear to think they were failing. Rather than viewing unsolved problems as failures that reflected on their ability, they appeared to view the unsolved problems as challenges to be mastered through effort. Toward that end, they engaged in extensive solution-oriented self-instruction and self-monitoring. Interestingly, their self-instructions and self-monitoring referred to both the cognitive and motivational aspects of the task at hand. That is, in addition to planning specific hypothesis-testing strategies and monitoring their outcomes, they also instructed themselves to exert effort or to concentrate and then monitored their level of effort or attention.

Also in contrast to the helpless children, the mastery-oriented children appeared to maintain an unflagging optimism that their efforts would be fruitful. For example, the mastery-oriented children said such things as "I did it before, I can do it again" or even "I'm sure I have it now." Nearly two thirds of them spontaneously offered statements of positive prognosis.

In keeping with their optimistic stance, the mastery-oriented children maintained their positive affect toward the task, and some even showed heightened positive affect with the advent of the difficult problems. As noted by Diener and Dweck (1978), one boy, soon after the failure problems began, pulled up his chair, rubbed his hands together, smacked his lips, and exclaimed, "I love a challenge!" Another boy, also upon confronting the failure problems, regarded the experimenter and stated in a pleased tone of voice, "You know, I was *hoping* this would be informative." Thus, the mastery-oriented children not only believed they could surmount obstacles and reach a solution, but some even relished the opportunity to do so.

Finally, the positive cognitions and affect were reflected in the problem-solving performance of the mastery-oriented chil-

dren. In contrast to the helpless children, who showed marked decrements in their level of problem-solving strategy, 80% of the mastery-oriented children succeeded in maintaining their problem-solving strategies at or above prefailure levels, with over 25% increasing the level of their strategy. That is, these children actually taught themselves new, more sophisticated hypothesis-testing strategies over the four failure trials.

In short, in the face of failure, helpless children exhibited negative self-cognitions, negative affect, and impaired performance, whereas mastery-oriented children exhibited constructive self-instructions and self-monitoring, a positive prognosis, positive affect, and effective problem-solving strategies. Despite the fact that they had received identical tasks and earned identical task outcomes, helpless and mastery-oriented children processed and responded to the situation in entirely different ways.

Although these patterns were first identified in research with children, they have been well documented in adults as well (see, e.g., Brunson & Matthews, 1981). Moreover, although the patterns were first investigated in laboratory settings, they have been shown to operate in natural settings. A study by Licht and Dweck (1984) provides a clear demonstration. In this study, children were taught new material (the principles of operant conditioning) in their classrooms by means of programmed instruction booklets. For all children, an irrelevant passage (on imitation) was inserted near the beginning of their instructional booklet. For half of the children, this passage, although irrelevant to the principles to be learned, was clear and straightforward. For the other half, the passage was rather tortuous and confusing. The question was whether helpless and mastery-oriented children (as defined in this study by their attributional tendencies) would show differential mastery of the material in the no-confusion and confusion conditions; that is, whether difficulty in the irrelevant passage would impair helpless children's subsequent learning.

Mastery of the material was assessed by means of a seven-question mastery test that asked subjects to employ the principles they had just learned. Any child who failed to answer the seven questions correctly was given a review booklet followed by another mastery test. In all, children were given as many as four opportunities to demonstrate mastery.

The results showed that in the no-confusion condition, the mastery-oriented and helpless children were equally likely to master the material: 68.4% of the mastery-oriented children and 76.6% of the helpless ones reached the mastery criterion, again demonstrating no difference in ability between the groups. However, in the confusion condition a clear difference emerged. As before, most of the mastery-oriented children, 71.9%, reached the learning criterion. In contrast, only 34.6% of the helpless children in the confusion condition ever mastered the material. Thus with "real" material in a real-world setting, the mastery-oriented and helpless patterns were shown to be associated with effective versus ineffective functioning in the face of difficulty.

To conclude, the Diener and Dweck research suggests that whereas helpless individuals appear to focus on their ability and its adequacy (or inadequacy), mastery-oriented ones appear to focus on mastery through strategy and effort; whereas helpless individuals appear to view challenging problems as a threat to

their self-esteem, mastery-oriented ones appear to view them as opportunities for learning something new.

### Goals

In view of these entirely different ways of perceiving identical situations, Elliott and Dweck (1988) hypothesized that helpless and mastery-oriented individuals might be pursuing very different goals. That is, their different perceptions and reactions might be a result of their different aims or purposes in the situation. Helpless children, they suggested, might be pursuing *performance* goals, in which they seek to establish the adequacy of their ability and to avoid giving evidence of its inadequacy. In other words, they may view achievement situations as tests or measures of competence and may seek, in these situations, to be judged competent and not incompetent. Mastery-oriented individuals, in contrast, might be pursuing *learning* goals. They may tend to view achievement situations as opportunities to increase their competence and may pursue, in these situations, the goal of acquiring new skills or extending their mastery. Thus, in challenging achievement situations, helpless children might be pursuing the performance goal of *proving* their ability, whereas the mastery-oriented children might be pursuing the learning goal of *improving* their ability. It might be these different goals, Elliott and Dweck reasoned, that set up the patterns of cognition, affect, and behavior.

To test the hypothesis that goals generate the helpless and mastery-oriented responses, Elliott and Dweck experimentally induced performance or learning goals and examined the pattern of cognition, affect, and behavior that followed from each goal. The question of interest was whether the performance goal, with its emphasis on measuring ability, would create a greater vulnerability to the helpless pattern, whereas the learning goal, with its emphasis on acquiring ability, would create a greater tendency to display the mastery-oriented pattern. More specifically, as shown in Table 1, they hypothesized that when individuals held a performance goal and had a low assessment of their present ability level, they would display the helpless pattern in the face of failure. That is, concern with one's ability combined with doubts about its adequacy should create the negative ability attributions, negative affect, and performance deterioration characteristic of helplessness.

In contrast, it was hypothesized that when individuals held a learning goal, they would display the mastery-oriented pattern, even when they assessed their present ability level to be low. That is, when individuals are seeking to increase their ability, the adequacy of their present level of ability should not be a deterrent to their pursuit of their goal and could even be seen as providing an additional reason to pursue the goal.

Briefly then, Elliott and Dweck simultaneously manipulated subjects' (a) goals (by orienting them more toward evaluations of ability or more toward the value of the skill to be learned) and (b) assessments of their present ability level (via feedback on a pretest). To test the effect of the goal-orienting manipulation on subjects' actual goal choices, children were then asked to choose one task from an array of tasks that embodied either a learning or a performance goal. The learning goal task was described as enabling skill acquisition, but as entailing a high risk of a negative ability judgment. In contrast, the performance

Table 1  
*Theories, Goals and Behavior Patterns  
in Achievement Situations*

Theory of intelligence	Goal orientation	Perceived present ability	Behavior pattern
Entity (Intelligence is fixed)	Performance (Goal is to gain positive judgments/avoid negative judgments of competence)	High	Mastery oriented (Seek challenge; high persistence)
		Low	Helpless (Avoid challenge; low persistence)
Incremental (Intelligence is malleable)	Learning (Goal is to increase competence)	High or low	Mastery oriented (Seek challenge that fosters learning; high persistence)

goal options allowed children to obtain a favorable ability judgment (by succeeding on a difficult task) or to avoid an unfavorable judgment (by succeeding on an easier task), but did not afford any opportunity for learning. Following this choice, all children were given the Diener and Dweck concept-formation task. (Children had in fact been asked to make several task selections so that the Diener and Dweck task—described as moderately difficult—could be presented to them as consonant with their choice. Thus it would not appear that the wishes of some children were granted and others denied.) As in the Diener and Dweck research, children were requested to verbalize as they worked on the problems, and verbalizations and strategies were monitored and categorized.

The results showed the predicted relations. When children were oriented toward skill acquisition, their assessment of their present ability was largely irrelevant: They chose the challenging learning task and displayed a mastery-oriented pattern. In contrast, when children were oriented toward evaluation, the task they adopted and the achievement pattern they displayed (mastery-oriented or helpless) were highly dependent on their perceived ability. Children who perceived their ability to be high selected the challenging performance tasks that would allow them to obtain judgments of competence, whereas children who perceived their ability to be low selected easier tasks that would permit them to avoid judgments of incompetence. Note that the great majority of children in the evaluation-oriented condition sacrificed altogether the opportunity for new learning that involved a display of errors or confusion.

What was most striking was the degree to which the manipulations created the entire constellation of performance, cognition, and affect characteristic of the naturally occurring achievement patterns. For example, children who were given a performance orientation and low ability pretest feedback showed the same attributions, negative affect, and strategy deterioration that characterized the helpless children in our earlier studies (Diener & Dweck, 1978, 1980).

Research from other laboratories is yielding similar findings. For example, in a study by Ames (1984), different goal structures (competitive vs individualistic) were instituted by orient-

ing subjects either toward evaluation of their ability relative to a peer or toward improvement of their ability over time. The results showed that subjects in the competitive (performance goal) condition were significantly more likely than those in the individualistic (learning goal) condition to focus on ability attributions, whereas those in the individualistic condition were significantly more likely to focus on self-instructions (with ability attributions being their least frequent category of achievement cognition). Ames interpreted these findings as suggesting that the different goal structures elicit the helpless and mastery-oriented achievement cognitions described by Diener and Dweck.

Studies by Bandura and Dweck (1985) and by Leggett and Dweck (1986), in which individuals' existing goal preferences were measured (rather than manipulated) have provided further confirmation for the hypothesis that performance goals are associated with a vulnerability to challenge avoidance, as well as to negative ability attributions, negative affect, and low persistence in the face of difficulty. In contrast, learning goals again were found to be associated with challenge seeking (despite low confidence in ability), as well as with an effort/strategy focus, positive affect, and high persistence under difficulty.

Moreover, a recent study by Farrell and Dweck (1985) provides evidence that individuals' goal preferences predict patterns of learning in real-world settings. One of the hallmarks of effective learning is the tendency to apply or transfer what one has learned to novel tasks that embody similar underlying principles. Farrell and Dweck (1985) examined the relation between children's goal orientations and transfer of learning. As a week-long unit in their regular science classes, eighth-grade children were taught one of three scientific principles by means of self-instructional booklets. They were then tested for their generalization of this learning to tasks involving the two (conceptually related) principles that had not been taught. The results showed that children who had learning goals for the unit, compared to those who had performance goals, (a) attained significantly higher scores on the transfer test (this was true for children who had high and low pretest scores); (b) produced about 50% more work on their transfer tests, suggesting that they were more active in the transfer process; and (c) produced more rule-generated answers on the test even when they failed to reach the transfer criterion, again suggesting a more active stance toward learning and mastery opportunities.

Although we have been emphasizing the vulnerability created by an orientation toward performance goals over learning goals, it is essential to note that there are also adaptive performance concerns. It is often important for individuals to evaluate their abilities or to gain positive judgments of their competence. Indeed, sometimes this may be a prerequisite to the successful pursuit of learning goals: Obtaining an objective diagnosis of strengths and weaknesses may be a necessary step in the learning process, and earning the positive judgment of those who control important resources may be a necessary step in one's pursuit of skills and knowledge. Thus adaptive individuals effectively coordinate performance and learning goals. It is when an overconcern with proving their adequacy (to themselves or others) leads individuals to ignore, avoid, or abandon potentially valuable learning opportunities that problems arise.

It is also important to reiterate that when confidence in ability is high, performance goals can produce mastery-oriented

behavior, and they have undoubtedly fueled many great achievements. However, it is equally important to reiterate that high confidence is necessary within a performance goal to support a mastery orientation but, as we will show, high confidence may be difficult to sustain within a performance goal. Learning goals, as the research indicates, tend to make individuals less vulnerable to the effects of fluctuations in confidence.

### *How Goals Create Patterns*

What are the mechanisms through which the different goals produce their associated patterns of cognition, affect, and behavior? Why and how do they lead to such different patterns? Evidence increasingly suggests that the goal an individual is pursuing creates a framework for interpreting and responding to events that occur. Thus the same event may have an entirely different meaning and impact if it occurs within the context of a learning versus a performance goal. In this section, we propose what the different frameworks established by the two goals might be and build a case for how the observed cognitive, affective, and behavioral patterns follow from these frameworks.

*Cognitions.* How might the different goal frameworks set up the different cognitions in the face of failure? Individuals adopting different goals can be seen as approaching a situation with different concerns, asking different questions, and seeking different information (see, e.g., Dweck & Elliott, 1983). For each individual, the data in the situation are interpreted in light of their focal concern and provide information relevant to their question.

Within a performance goal, individuals are concerned with measuring their ability and with answering the question, Is my ability adequate or inadequate? Within such a framework, outcomes will be a chief source of information relevant to this concern and thus failure outcomes may readily elicit the helpless attribution that ability is inadequate.

In contrast, learning goals create a concern with increasing one's ability and extending one's mastery and would lead individuals to pose the question, What is the best way to increase my ability or achieve mastery? Here, then, outcomes would provide information about whether one is pursuing an optimal course and, if not, what else might be necessary. Failure would simply mean that the current strategy may be insufficient to the task and may require upgrading or revision. The self-instructions and self-monitoring of the mastery-oriented children can therefore be seen as a direct implementation of this information in pursuit of future goal success. Thus the attributions of the helpless children and the self-instructions of the mastery-oriented children in response to failure may be viewed as natural outgrowths of their goals.

Recent research (Leggett & Dweck, 1986) has shown that another potentially informative event—one's input or effort expenditure—will also be interpreted in line with the differing goal concerns: as an indicant of ability versus a means of achieving learning or mastery. Leggett and Dweck measured eighth graders' goal preferences and devised a questionnaire to assess their interpretation of effort information. The results clearly indicated that those with performance goals used effort as an index of high or low ability. Specifically, they viewed effort and ability as inversely related: High effort (resulting in either suc-

cess or failure) implies low ability, and low effort (resulting in success) implies high ability. These children endorsed items such as "If you have to work hard at some problems, you're probably not very good at them" or "You only know you're good at something when it comes easily to you." In essence then, children with performance goals use an inference rule that says effort per se—even when it accompanies success—signifies a lack of ability.

In contrast, those with learning goals were more likely to view effort as a means or strategy for activating or manifesting their ability for mastery. Here effort and ability are seen as *positively related*: Greater effort activates and makes manifest more ability. These children endorsed items such as "[Even] when you're very good at something, working hard allows you to really understand it" or "When something comes easily to you, you don't know how good you are at it." Thus, within a learning goal, high effort would represent a mastery strategy and would signify that one was harnessing one's resources for mastery.

In short, children with different goals appear to use very different inference rules to process effort information (cf. Jagacinski & Nicholls, 1983; Surber, 1984). This research suggests how use of the *inverse* rule by individuals with performance goals can contribute to their helpless pattern of attributing high-effort failures to low ability (and of doubting their ability after high effort success; see Diener & Dweck, 1980). It also shows, in contrast, how use of the *positive* rule by those with learning goals can contribute to their mastery-oriented tendency to focus on effort when challenged.<sup>4</sup>

In summary, performance goals create a context in which outcomes (such as failures) and input (such as high effort) are interpreted in terms of their implications for ability and its adequacy. In contrast, learning goals create a context in which the same outcomes and input provide information about the effectiveness of one's learning and mastery strategies.

*Affect.* How would the different goal frameworks result in different affective reactions to challenge or setbacks? Within a performance goal, experiencing failure or effort exertion warns of a low-ability judgment and thus poses a threat to self-esteem. Such a threat might first engender anxiety (Sarason, 1975; Wine, 1971), and then, if the negative judgment appears increasingly likely, depressed affect (Seligman, Abramson, Semmel, & von Baeyer, 1979) and a sense of shame (Sohn, 1977; Weiner & Graham, 1984) may set in. Alternatively, individuals could adopt a more defensive, self-protective posture, devaluing the task and expressing boredom or disdain toward it (Tesser & Campbell, 1983; cf. Berglas & Jones, 1978). All of these emotions—*anxiety, depressed affect, boredom, defiance*—were apparent among the helpless subjects in the Diener and Dweck (1978, 1980) studies as failures accrued.

Within a learning goal, however, the occurrence of failure simply signals that the task will require more effort and ingenuity for mastery. This creates, for some, the opportunity for a more satisfying mastery experience, producing the heightened positive affect noted earlier. In addition, the continued belief that success can occur through effort will engender determination—and indeed in many of our studies, mastery-oriented children (whether instructed to verbalize or not) have issued battle cries or vows of victory.

Finally for individuals with learning goals, exerting effort in

the service of learning or mastery may bring intrinsic rewards, pleasure, or pride (Deci & Ryan, 1980; Lepper, 1981). Whereas within performance goals high effort may engender anxiety, and high-effort progress or mastery is a mixed blessing, within a learning goal high-effort mastery may often be precisely what is sought. Indeed, in the study by Bandura and Dweck (1985), children with learning goals reported that they would feel bored or disappointed with a low-effort success. (Children with performance goals reported that they would feel proud or relieved about a low-effort success.) Similarly, Ames, Ames, and Felker (1977) found that within an individualistic (learning goal) structure, children's pride in their performance was related to the degree of effort they perceived themselves to have exerted. This was true in both the success and the failure conditions, indicating that within a learning goal, effort per se can be a source of pride.

In summary, because of their different meanings in the context of the two goals, events that produce negative or depressed affect within one goal may produce positive affect and heightened engagement within the other.

*Behavior.* How would the goal-related differences in cognition and affect create different behavior? First, they would influence task choices. The ideal task within each goal would be a task that maximized goal success and positive affect or minimized goal failure and negative affect, or both (see Dweck & Elliott, 1983).

Within a performance goal the ideal task would be one that maximized positive judgments and pride in ability, while minimizing negative judgments, anxiety, and shame. For performance-oriented individuals with low confidence in their ability, challenging tasks (those requiring high effort and having uncertain outcome) would promise aversive experiences: high anxiety, expected negative judgments, and loss of esteem. These individuals would thus orient themselves toward easy tasks, ones that minimized negative outcomes and affect, even though such tasks would preclude the possibility of positive judgments.

Performance-oriented individuals with high confidence, although more challenge seeking, would nonetheless avoid challenge when the threat of performance failure existed. And indeed, these individuals are found to sacrifice learning opportunities that pose the risk of errors and difficulty (Bandura & Dweck, 1985; Elliott & Dweck, 1988).

The ideal task within a learning goal, however, would be one that maximized the growth of ability and the pride and pleasure of mastery, quite apart from how one's abilities are showing up at any given moment. Indeed, Bandura and Dweck (1985) found that their learning-oriented children with low confidence

<sup>4</sup> In this study, junior high school students (14 years old) were chosen as subjects because developmental evidence suggests that children are not able to reason reliably about effort and ability in inverse relation to each other until after 10 or 11 years of age (e.g., Nicholls, 1978). We thus asked, once children are able to use either rule, which rule do they use? However, the developmental evidence raises the additional possibility that some aspects of our model may not be fully in place until the later grade school years. For this reason we are conducting research (Cain & Dweck, 1987) that traces the development of the theories of intelligence and the theory-goal-behavior linkages across the grade school years.

Table 2  
*Cognitive and Affective Mechanisms of Debilitation and Facilitation in the Face of Difficulty*

Performance goal: Debilitating factors	Learning goal: Facilitating factors
1. Loss of belief in efficacy of effort, given low ability attribution	Continued belief in efficacy of effort: Effort self-instruction instead of low ability attribution; positive rule emphasizes utility of effort
2. Defensive withdrawal of effort: Effort confirms low ability judgment; inverse rule creates conflict between task requirements and goal	No defense required: Effort is consonant with task requirements and goal
3. Attention divided between goal (worry about outcome) and task (strategy formulation and execution)	Undivided, intensified attention to task that directly serves goal
4. Negative affect can interfere with concentration or can prompt withdrawal	Affect channeled into task
5. Few intrinsic rewards from effort (or high-effort progress) to sustain process.	Continuous intrinsic rewards for meeting challenge with effort

were the most likely of any group to seek a challenging learning opportunity even though it carried the risk of negative ability judgments. Moreover, within a learning goal, there is no need to withdraw from a task that proves to be unexpectedly difficult, because a failure episode or the exertion of high effort does not engender cognitive or affective distress. Instead one would expect withdrawal from a task that became useless or boring, even if it continued to promise favorable ability judgments (see Bandura & Dweck, 1985).

In addition to influencing task choice, goal-related cognitive and affective factors will influence the quality of performance in the face of failure. We note that there are at least five separate cognitive and affective factors that would impair performance for performance-oriented individuals but that would sustain or facilitate performance for learning-oriented individuals. These factors are shown in Table 2.

First, within a performance goal an attribution of failure to a lack of ability suggests that given one's incompetence at the task, further effort may not be useful in bringing about success (see, e.g., Dweck & Reppucci, 1973; Weiner, 1972). A second factor that may prompt a slackening of effort arises from the use of the inverse rule: a belief that greater effort further confirms the low ability judgment.

It is critical to note that the inverse rule sets up a conflict between the effort that is necessary for mastery of a challenging task and the goal of obtaining a high ability judgment. Ironically, what is required to do well at the task and what it takes to attain the performance goal may come into conflict such that when effort is most needed, it may be most likely to be defen-

sively withheld (see Covington & Omelich, 1979; Frankl & Snyder, 1978).

Next, anxiety over goal failure (both the cognitive worry component and the aversive affective component) may divide attention, inspire escape wishes, and interfere with concentration and effective strategy deployment (see Carver, Peterson, Follansbee, & Scheier, 1983; I. Sarason, 1980; S. Sarason & Mandler, 1952; Spielberger, 1958; Wine, 1971). Finally, the absence of intrinsic rewards from goal-oriented effort or high-effort progress would remove an important means of sustaining the process in the face of difficulty (Deci & Ryan, 1980; Lepper, 1981).

Looking at the analogous factors within a learning goal, we can see first that failure, rather than signaling low ability, provides a cue to escalate effort. Moreover, the positive inference rule reinforces the utility of effort: Effort mobilizes one's ability for task mastery. Second, there is no conflict between the effort requirements of the task and the requirements of the goal, for effort is at once the means of mastering the task and the means of maximizing goal attainment. Next, the affect generated by failure (e.g., heightened interest or determination) is consonant with task requirements and may promote an intensification of concentration. Finally, the intrinsic rewards that accompany the meeting of challenge with effort and the attainment of progress through effort will provide additional impetus to performance.

In summary, the performance goal focuses the individual on judgments of ability and can set in motion cognitive and affective processes that render that individual vulnerable to maladaptive behavior patterns, whereas the learning goal creates a focus on increasing ability and sets in motion cognitive and affective processes that promote adaptive challenge seeking, persistence, and sustained performance in the face of difficulty. Indeed, the goal framework may tie together and organize various constructs in the literature that have been proposed to account for performance impairment or enhancement, including attributional patterns, defensive strategies, self versus task focus, ego versus task involvement, evaluation anxiety, and intrinsic motivation. That is, the present conceptualization may provide a way to illuminate the origins and dynamics of these processes within a single system.

### Implicit Theories of Intelligence

What leads individuals to favor performance goals over learning goals or vice versa? Why do some individuals focus on the adequacy of their ability whereas others focus on the development of their ability? Our recent work shows that a consistent predictor of children's goal orientation is their "theory of intelligence," that is, their implicit conception about the nature of ability (cf. Goodnow, 1980; Nicholls, 1984; Sternberg, Conway, Ketron, & Bernstein, 1981; Wellman, 1985; Yussen & Kane, 1985). Some children favor what we have termed an *incremental* theory of intelligence: They believe that intelligence is a malleable, increasable, controllable quality. Others lean more toward an *entity* theory of intelligence: They believe that intelligence is a fixed or uncontrollable trait. Our research consistently indicates that children who believe intelligence is increasable pursue the learning goal of increasing their competence, whereas those who believe intelligence is a fixed entity are



Table 3  
*Percentage of Subjects With Each Theory of Intelligence  
 Selecting Each Achievement Goal*

Theory of intelligence	Goal choice		
	Performance goal (avoid challenge)	Performance goal (seek challenge)	Learning goal (seek challenge)
Entity theory ( $n = 22$ )	50.0	31.8	18.2
Incremental theory ( $n = 41$ )	9.8	29.3	60.9

more likely to pursue the performance goal of securing positive judgments of that entity or preventing negative judgments of it (see Table 1).

For example, in a study with late grade-school-age children, Bandura and Dweck (1985) found that children who endorsed the incremental theory (e.g., "Smartness is something you can increase as much as you want to") were significantly more likely to adopt learning goals on an experimental task than were children who endorsed the entity theory (e.g., "You can learn new things, but how smart you are stays pretty much the same"). Similar findings were obtained in a classroom setting (see Dweck & Bempechat, 1983): Incremental theorists were significantly more likely than entity theorists to report a preference for classroom tasks that embodied learning goals ("Hard, new, and different so I could try to learn from them") versus performance goals ("Fun and easy to do, so I wouldn't have to worry about mistakes"; "Like things I'm good at so I can feel smart").

In a recent study, Leggett (1985) revised the theories of intelligence assessment and examined the relation between theories of intelligence and goal choice in a junior high school sample. As shown in Table 3, children's theories of intelligence were again reliable predictors of their goal choice. The challenge-seeking performance goal ("I'd like problems that are hard enough to show that I'm smart") and the challenge-avoidant performance goal ("I'd like problems that aren't too hard, so I don't get many wrong" or "I'd like problems that are fairly easy, so I'll do well") are presented separately in Table 3 to emphasize the degree to which the incremental and entity theories are differentially associated with challenge seeking versus challenge avoidance.

To illuminate the causal relationship between implicit theories and goal choice, Dweck, Tenney, and Dinces (1982) experimentally manipulated children's theories of intelligence and then assessed their goal choice on an upcoming task. In their study, children were oriented toward either an entity or incremental theory by means of reading passages that portrayed the intelligence of notable individuals (Albert Einstein, Helen Keller, and the child Rubik's Cube champion) as either a fixed, in-born trait or an acquirable quality. The structure, content, tone, and interest value of the two passages were highly similar, except that they presented and illustrated different definitions of smartness. Great care was taken to avoid attaching any goals to these theories, that is, to avoid any mention or implication of learning versus performance goals.

The passage on intelligence was embedded in a series of three short, interesting reading passages, all concerning "things that psychologists study" (imprinting, intelligence, dreams). As a rationale for reading these passages, children were asked to indicate after each one whether they would like to know more about this topic. As a rationale for their subsequent goal choice, children were told that psychologists also study how people think, form concepts, and solve intellectual problems. They were then asked to select from a list of different types of problems (each embodying a different goal choice) the type of problem they would like to work on when the experimenters returned. The results showed that the experimental manipulation of theory affected children's goal choices in the predicted direction: Subjects who had read the incremental passage were significantly more likely to adopt learning goals for the upcoming task than were those who had read the entity passage. This study, then, by (temporarily) orienting children toward a particular theory of intelligence, provided support for a causal relationship between implicit theories and goal choice.

Taken together, the research indicates that an incremental theory of intelligence is more consistently associated with adaptive motivational patterns. In this context, it is interesting to note (along with Covington, 1983, and Gould, 1981) that Alfred Binet, the inventor of the IQ test, was clearly an incremental theorist. He believed that not only specific skills, but also basic capacity for learning, were enhanced through his training procedures:

It is in this practical sense, the only one accessible to us, that we say that the intelligence of these children has been increased. We have increased what constitutes the intelligence of a pupil: the capacity to learn and to assimilate instruction. (Binet 1909/1973, p. 104)

It is therefore a particular irony that the assessment tool he developed within an incremental theory and learning goal framework has been widely interpreted within an entity theory and performance goal framework as a measure of a stable quality. As Dweck and Elliott (1983) pointed out, perhaps the most appropriate view represents an integration of both entity and incremental theories, that is, a recognition of present differences in relative ability but an emphasis on individual growth in ability (see also Nicholls, 1984).<sup>5</sup>

In summary, implicit beliefs about ability predict whether individuals will be oriented toward developing their ability or toward documenting the adequacy of their ability. As such, these theories may be at the root of adaptive and maladaptive patterns. Indeed it may be the adherence to an underlying entity theory that makes performance goals potentially maladaptive, for within an entity theory individuals are not simply judging a momentary level of ability. Rather, they may be judging what

<sup>5</sup> For research purposes we have treated theory of intelligence as a dichotomous variable, and in some studies (where the measure has permitted it) we have in fact obtained bimodal distributions of theory scores. However, it is of great interest to us to determine more precisely the exact nature of individuals' theories (e.g., whether there are quantitatively or qualitatively different versions of both theories, or whether some individuals hold blends of the two theories), and this research is currently underway (Henderson, Cain, & Dweck, 1987).



they perceive to be an important and permanent personal attribute. Thus, an entity theory may place one's intelligence on the line in evaluative situations, magnifying the meaning and impact of negative judgments.

### Generalization of the Model to Other Domains

#### *Does the Formulation Have Generality?*

The research we have reviewed indicates that the theory-goal-behavior formulation illuminates behavior patterns in achievement situations, but does it also illuminate behavior patterns in other major domains, such as social situations or moral situations? Do individuals hold theories about the malleability of their social and moral attributes, such as their personality or their moral character? Do these theories orient them toward different goals (to document vs. develop these attributes)? Finally, do these goals generate different behavior patterns?

Note that achievement situations are particularly suitable for developing and testing motivational models. Researchers can readily establish convincing and compelling situations that afford a high degree of control and precision. For example, achievement situations allow for standardization of tasks and feedback across individuals. They also allow one to separate ability or skill factors from motivational factors—to control for the former and investigate the latter. Finally, the moment-to-moment impact of motivational factors on cognitive performance can be precisely monitored in both laboratory and field settings. However, it is then important to examine the generality of the models developed in this context.

In this section we review research evidence that suggests that the motivational formulation developed in achievement situations can illuminate behavior in social relationships as well. Following this, we evaluate the applicability of the formulation to still other domains, reviewing relevant evidence when it is available and proposing relevant research when it is not.

#### *Social Domain*

As shown in Table 4, the model applied to the social domain would predict that (a) there are adaptive mastery-oriented and maladaptive helpless responses to difficulty (rejection, conflict) in social situations, (b) these reflect the social goal the individual is pursuing in that situation, and (c) the goal is linked to the individual's theory of his or her attributes as fixed entities or malleable qualities. What is the evidence for the model?

First, Goetz and Dweck (1980) documented helpless and mastery-oriented responses to social rejection that are clearly analogous to those found by Diener and Dweck (1978, 1980) in achievement settings. To tap children's attributions for social rejection, Goetz and Dweck developed a questionnaire depicting a series of hypothetical social situations involving rejection. For each situation, children were asked to evaluate different reasons the rejection might have occurred. Both the situations and their causes were based on those most frequently generated by children in pilot interviews, for example, "Suppose you move to a new neighborhood. A girl/boy you meet does not like you very much. Why would this happen to you?" The reasons

Table 4  
*Model of Social Motivation*

Theory	Goal orientation	Behavior pattern
Entity (Social/personality attributes are fixed traits)	Performance (Goal is to gain positive judgments/avoid negative judgments of social attributes)	Helpless (Avoid risk; low persistence)
Incremental (Social/personality attributes are malleable qualities)	Learning/development (Goal is to increase social competence, develop relationships)	Mastery oriented (Seek challenge; high persistence)

*Note.* Predicted interaction of goal with confidence level (depicted in Table 1) is omitted here for simplicity.

offered included such factors as personal social incompetence, a negative characteristic of the rejector, the chance mood of the rejector, or a misunderstanding.

Within the 3-week period following the administration of this attribution questionnaire, each subject was seen individually in a situation that posed the possibility of rejection from a peer and that allowed assessment of changes in strategies in the face of rejection. Specifically, children tried out for a pen pal club by communicating their sample getting-to-know-you letter to a peer evaluator who represented the pen pal acceptance committee. The evaluator initially expressed uncertainty about admitting the child into the club, but allowed the child the opportunity to compose a second letter and attempt to obtain a positive decision. The pre- and postrejection letters were then coded and assessed for change. The major measure of adaptive change was the amount of new information the child introduced into the second letter.

As in the achievement research, children were initially classified into groups on the basis of their attributions. Those blaming personal social incompetence for rejection were predicted to show the helpless pattern, whereas those attributing rejection to the other factors were predicted to display a more mastery-oriented pattern. Also as in the achievement research, children falling into the different groups did not differ in their skill at the task, as evidenced by their performance prior to failure. That is, children in different groups showed no differences in the length or quality of the first letter they produced. However, clear differences emerged in the letter that followed rejection.

First, children making the incompetence attribution were far more likely than others to show complete disruption of performance following rejection. Approximately 39% of the children in this group showed withdrawal (initial refusal to try again after rejection) or perseveration (verbatim repetition of the first unsuccessful message). Few children in other groups showed this degree of disruption. Second, looking at the amount of new information contained in the second message, Goetz and Dweck found that children making the incompetence attribution showed the least message change of any group. Thus, the results directly parallel the Diener and Dweck findings that helpless children are less likely than others to formulate new strategies in the face of difficulty and are more likely than others

to repeat ineffective strategies or to abandon effective strategies entirely.

Looking at the specific content of the second message, another striking parallel to the Diener and Dweck results was apparent. Children making the incompetence attribution were more likely to engage in defensive self-aggrandizement than were children in the other groups. Specifically, they boasted in their postrejection message about their popularity in other contexts, even though they were not more popular than children in the other groups (as assessed by classroom sociometric ratings). In summary, this research provides clear evidence for the impact of motivational patterns in social situations.

Do children's social goals predict their motivational patterns? Although there is as yet no direct evidence linking goals to specific behavior patterns, Renshaw and Asher (1983) and Taylor and Asher (1984a, 1984b, 1985) have begun to link the goals children pursue in social situations to their sociometric status (i.e., their popularity with peers). They have devised a variety of means for tapping children's goals—having the child respond to hypothetical conflicts with a peer and probing for the goal of the child's actions (Renshaw & Asher, 1983) or having the child complete a questionnaire on which various goals are pitted against each other (e.g., Taylor & Asher, 1984b).

The consistent finding is that children of low sociometric status are more likely to formulate or endorse "avoidance" goals—performance goals in which the concerns center around avoiding negative outcomes. Indeed, on Taylor and Asher's questionnaire measure (which included concerns about social rejection, as well as about skill-related failures in a game-playing context), children of low sociometric status were more concerned than other children with avoiding both negative social outcomes and negative game-related achievement outcomes. Taylor and Asher suggested that this preoccupation with negative outcomes may be in part responsible for the lower popularity of these children. However, as they acknowledge, further research is necessary to establish more clearly the direction of causality between goals and sociometric status and determine more precisely the specific ways in which goals may affect social behavior to produce sociometric differences.

These issues can be directly addressed in studies that manipulate goals and then assess the quality and success of subsequent peer interactions. Another strategy for addressing the second issue (although it does not establish causal direction) is to measure children's goals and then examine important aspects of their social behavior, such as their response to conflict or rejection. One such study is currently underway in our laboratory. Olshefsky, Erdley and Dweck, (1987), using the Goetz and Dweck (1980) paradigm, are assessing children's goals in the pen pal acquaintanceship task: Is a given child pursuing predominantly a performance goal (hoping to win positive judgments and validation of his or her likeability, or avoid negative judgments and rejection), or is that child focusing on a learning/development goal (hoping to develop a new relationship, expand social horizons and social experiences, master a new social task)?<sup>6</sup> It is hypothesized that the two goals will be differentially associated with the helpless and the mastery-oriented response to rejection found by Goetz and Dweck; specifically, the performance goal (particularly when combined with low confidence) will be most predictive of the helpless pattern, and the learning/

development goal (even when accompanied by low confidence) will be predictive of the mastery-oriented pattern.

In the Olshefsky et al. study and in another study as well (Benenson, 1987), we are testing the hypothesis that children's implicit theories of their social attributes predict their social goals. Olshefsky et al., as well as Benenson, have developed questionnaires assessing whether children believe their personality or their likeability to be a fixed, uncontrollable characteristic or a malleable, acquirable one. For example, Olshefsky et al. have asked children to indicate the degree to which they agree with statements such as "You have a certain personality and there isn't much you can do to change it." In both cases, pilot results have revealed clear individual differences in whether children subscribe to the entity or incremental theory of their social attributes, and it is hypothesized that, as in achievement situations, these theories will predict the goals they adopt and pursue.

In summary, past research has established the existence of helpless and mastery-oriented patterns of response to social rejection and has suggested a link between children's goals in social situations and the success of their social interactions. Current research is aimed at fleshing out and testing precisely the larger model of social motivation in which implicit theories predict social goals and social goals provide the framework for social behavior.

### *Morality and Other Attributes of the Self*

As a final example, the same conceptualization may be applied to the moral domain to illuminate the reasons or purposes for which individuals (at any stage of moral development) engage in moral actions. As before, the model would suggest that some people tend to engage in moral actions in order to prove to themselves and others that they are moral individuals (performance goals), whereas other people might tend to pursue courses of action that would develop their moral understanding or that would allow them to master a morally difficult situation according to some standard (learning goals). It would be predicted, as well, that performance goals would create a vulnerability to risk avoidance (e.g., conformity) and low persistence in situations that contained the threat of negative moral judgments, whereas learning goals would better arm the individual to withstand conflict with or disapproval from others (see Rest, 1983, for a discussion of the need to consider motivational variables in the prediction of moral behavior).

Also as before, the model would predict that different "theories of morality" would be associated with the different goals. Those who believe that their goodness or moral character is a fixed trait would orient toward documenting that trait, whereas those who believe it is a malleable quality would orient toward developing and exercising that quality.

Thus far, we have developed a motivational model and examined its applicability to major attributes of the self: intellectual competence, social competence, and, very briefly, morality.

<sup>6</sup> The learning goal in the social domain will include not only developing one's own social skills, but also developing relationships between oneself and others. It might thus be more accurate to call it a "development" goal.

However, it may be possible to generalize the model to any attribute of the self. Bempechat and Dweck (1985) sampled a variety of personal attributes (intelligence, morality, physical skills, and physical attractiveness) and found that each was seen by some children as quite malleable ("You can get more and more \_\_\_\_\_ all the time") but by others as more fixed ("You're a certain amount \_\_\_\_\_, and how \_\_\_\_\_ you are stays pretty much the same").<sup>7</sup> The further prediction, of course, is that for any personal attribute that the individual values, viewing it as a fixed trait will lead to a desire to document the adequacy of that trait, whereas viewing it as a malleable quality will foster a desire to develop that quality.

### Theories and Goals: Two Types of Self-Concept, Two Sources of Self-Esteem

The two theories about one's personal attributes may be seen as fundamentally different ways of conceptualizing the self. That is, entity and incremental theories represent two different forms of self-concept. Within a generalized entity theory, the self would be conceptualized as a collection of fixed traits that can be measured and evaluated. Within an incremental theory, the self would be seen as a system of malleable qualities that is evolving over time through the individual's efforts.

As a consequence of the different self-concepts, the processes that generate and maintain self-esteem (i.e., feelings of satisfaction with one's attributes) will differ (see Damon & Hart, 1982, for a discussion of the important distinction between self-concept and self-esteem). Indeed, the different goals allied with each theory may be seen as the means of generating self-esteem within that self-concept. For the entity theorist, self-esteem will be fed by performance goals. Outcomes indicating the adequacy of one's attributes will raise and maintain self-esteem. However, for the incremental theorist, self-esteem will be acquired and experienced via learning goals. Pursuit of, progress on, and mastery of challenging and valued tasks will raise and maintain self-esteem.

Data collected by Elliott and Dweck (see Dweck & Bempechat, 1983) provide support for this suggestion. Following an assessment of their theories of intelligence, children were asked to describe when they felt smart in school, that is, when they experienced high self-esteem with regard to their intelligence. They were told "Sometimes kids feel smart in school, sometimes not. When do you feel smart?" In line with prediction, children who had endorsed an entity theory reported that they felt smart when their schoolwork was error free ("When I don't do mistakes"), when their work surpassed that of their peers ("When I turn in my papers first"), or when the work was easy for them ("When I get easy work"). In sharp contrast, children with an incremental theory reported that they felt smart when they worked on hard tasks and when they personally mastered these challenges ("When I don't know how to do it and it's pretty hard and I figure it out without anyone telling me"; "When I'm doing school work because I want to learn how to get smart"; "When I'm reading a hard book"). Thus children with different theories reported experiencing high self-esteem under essentially opposite conditions, but these were conditions that represented the goals that accompany their theories.

In summary, it is proposed that the theories and their allied

goals can be seen as two distinct "self-systems": two forms of self-concept with two different sources of self-esteem. These notions may provide one way of thinking specifically and concretely about the global construct self-concept, of theoretically linking self-concept to self-esteem, and of placing both within a system that predicts patterns of behavior.

In the context of the entity versus the incremental self-systems, it is interesting to consider that different personality theories have focused primarily on one or the other. For example, Freud's psychodynamic theory depicts essentially an entity self-system (e.g., Freud, 1923/1960, 1933/1964), in which the judging superego continually assesses the adequacy of the ego and the various defenses are set up to deflect information that is threatening to the ego. Surprisingly, there appear to be no direct mechanisms within his system for generating goals oriented toward growth (see White, 1960).<sup>8</sup> In contrast, and in reaction to Freud, theorists like Jung (1933) and White (1959) have described self-systems built around the impetus toward growth and development (see also Adler, 1927; Erikson, 1959; Rapaport, 1951). Clearly, a comprehensive theory of personality must take account of both systems.

### *Generalization of the Model Beyond the Self*

Thus far we have discussed individuals' implicit theories about the mutability of self-attributes. But now we ask whether individuals hold implicit theories about the mutability of attributes of things outside of themselves: characteristics of other people, places, things, or the world in general (see Epstein, 1980, Janoff-Bulman, 1985, and Lerner, 1980, for related discussions of "world" beliefs). Here an entity theory would assert that people, places, things, and the world in general are what they are and there is little one can do to alter them. An incremental theory would propose that desirable qualities can be cultivated: People can be made more competent, institutions can be made more responsible, the environment can be made more healthful, the world can be made more just. We suggest that mutability or controllability is a dimension along which important things—be they internal or external, abstract or concrete—are categorized. We further suggest that the way something is categorized has important consequences for the way it is treated: Fixed or uncontrollable things that are important will tend to be monitored, measured, and judged, whereas controllable things that are important will tend to be acted on and developed.

The idea that mutability is a central dimension in terms of

<sup>7</sup> Many children held the same theory across attributes, although others held different ones for different attributes. However, for purposes of clarity and simplicity in subsequent sections, we will often speak as though individuals held the same theory across attributes.

<sup>8</sup> Although Freud was a therapist and therefore believed in the possibility of personal change, his therapy remained within the entity self-system. The aim was to repair the maladaptive patterns of cognition, affect, and behavior that arise within that system (such as overly harsh self-judgments, excessive anxiety, and the overuse of defenses and their behavioral sequelae), and thereby promote efficient functioning of that system. His vision of therapy did not encompass change toward a different (incremental) mode of functioning.

which things are conceptualized receives indirect support from a great variety of sources. Philosophers, anthropologists, historians of science, linguists, and psychologists have documented historical changes and cultural differences in whether people and things tend to be viewed in terms of fixed entities or malleable processes.

For example, Whitehead (1938) contrasted in detail scientific theories and philosophical systems that presuppose a world of static objects versus dynamic, evolving processes. Moreover, he details the consequences of each for the way in which one conducts scientific inquiry, that is, whether one focuses on measuring the entities or on understanding and influencing the processes.

Heller (1967/1981) contrasted pre- and post-Renaissance thought and proposed that the true revolution of the Renaissance was a revolution in the conception of persons. "During antiquity, a static conception of man prevailed: his potentialities were circumscribed both in his social and individual life. . . . With the Renaissance a dynamic concept of man appears" (p. 1). And with this dynamic conception of individuals, argued Heller, came the idea of development, whereby individuals can form and shape their own natures.

Furthermore, some linguists have suggested that different languages may embody, and different cultural-linguistic groups may favor, one mode of thought over the other. For example, Bloom, in his book *The Linguistic Shaping of Thought* (1981), developed the position that the English language, in contrast to the Chinese language, "entifies" properties of people and things. The English language, for instance, consistently takes adjectives that describe a person's action or way of behaving and creates nouns that accord this property a separate reality of its own. This entification, Bloom contended, is not simply a different way of expressing something, but rather reflects and perpetuates a different way of thinking about it (see Langer, 1982, for related arguments).

Finally, it has just come to our attention that Piaget, in his last book (Piaget & Garcia, 1983, currently being translated into English by J. Easley), modified his stage theory of cognitive development to include "conceptions of the world" similar to the ones we have described here. In this book, Piaget discussed at length how in addition to universal logical structures, the individual "possesses a conception of the world which controls his assimilation of any and every experience." In particular, he contrasted the conception of the world as fundamentally static (the Aristotelian view) with the conception of the world as being in a constant state of becoming and suggested how these ideologies can generate different interpretive frameworks for experience.

In summary, thinking in terms of relatively static, reified entities versus thinking in terms of dynamic, malleable processes can be seen as two alternative ways of conceptualizing many phenomena, with science and culture perhaps fostering particular views of particular phenomena at certain times.

Table 5 presents our model generalized to attributes external to the self (properties of people, places, things, phenomena, or the world). In this model, an entity theory predisposes the individual to adopt "judgment" goals. That is, when individuals believe that important external attributes are fixed or uncontrollable, they will tend to measure and evaluate those attributes in order to know what to expect: Is this person competent/trust-

Table 5  
*Generalization of Model to External Attributes*

Theory	Goal orientation	Predicted pattern
Entity (Attributes of people and world are fixed or uncontrollable)	Judgment (Goal is to make positive or negative judgment of attributes)	Behavior: Low initiation of and persistence toward change Cognition: Rigid, oversimplified thinking Affect: Evaluative affect such as contempt
Incremental (Attributes of people and world are malleable)	Development (Goal is to understand and improve attributes)	Behavior: Mastery-oriented goal pursuit Cognition: Process analysis Affect: Empathy

worthy or not? Is this institution fair or not? Is the world benign or not? Judgment goals can be seen as the general case of performance goals: An attribute is being judged on the basis of a sample of actions or outcomes.

What patterns should follow from an entity theory of external attributes? An entity theory of external attributes, by its very nature, should inhibit the initiation and pursuit of change, even when an external attribute is judged negatively and improvement is seen as desirable.<sup>9</sup> Individuals holding entity theories of external attributes and pursuing judgment goals might also display a tendency to derive oversimplified, all-or-nothing characterizations from a small sample of actions or outcomes. Believing others to possess fixed attributes that are positive or negative, adequate or inadequate, they may view actions and outcomes as providing a reading of those attributes. For example, just as some individuals with an entity theory of intelligence and performance goals were found to infer a lack of ability from a few failures (without considering such factors as task difficulty and without giving themselves the time and leeway to improve with experience), so individuals with an entity theory of others and judgment goals may ascribe to others broad traits like dishonesty, untrustworthiness, or incompetence on the basis of isolated pieces of evidence (perhaps without considering situational factors or taking the perspective of the individual in the situation).

In contrast, when individuals hold an incremental theory of important external attributes (*and* view the attributes as being in need of improvement), then, we predict, they will tend to adopt "development" goals toward those attributes. Develop-

<sup>9</sup> Entity theorists may attempt to punish, restrain, exploit, or control those they judge to be evil or inferior, but they will not engage in ameliorative measures vis-à-vis the negative attribute.

ment goals can be viewed as the general case of learning goals: Improvement of valued attributes or mastery of valued tasks or situations is sought. For example, individuals may seek to increase the competence, sensitivity, or morality of another person, an institution, or a society. They may seek to tackle and rectify a problematic situation in their environment. As such, development goals should have all the characteristics described for learning goals, including a focus on process and a mastery-oriented response to difficulty.

One can also make predictions about the affect that might follow from the different theories and goals. For example, within an entity theory, a negative judgment of another's qualities (as permanently inferior) may well lead to contempt for that individual. In contrast, within an incremental theory, the observation of inadequate performance or deficient behavior may lead to compassion or empathy for the individual (Hoffman, 1978).

Erdley and Dweck (1987) are currently testing these hypotheses. They have suggested that an entity theory about others' traits—the belief that people or groups of people have unalterable positive or negative qualities—may lie at the heart of stereotypes and prejudices, and they have predicted that individuals who hold entity theories of others will be more susceptible to forming stereotypes of others, distorting information in terms of stereotypes, acting on stereotypes, and maintaining stereotypes in the face of counter information. In contrast, it is predicted that individuals who hold an incremental theory of others, because they do not see others in terms of fixed traits, should be more sensitive to situational factors that can account for a person's negative behavior (cf. Jones & Nisbett, 1972). They should also be more likely to take account of subsequent behavior that contradicts the initial negative behavior, and finally, they should be more willing to engage in behavior that will facilitate desired change in the other person.

To summarize the overall formulation thus far, it is proposed that individuals identify valued attributes or characteristics of themselves, others, and the world; that they have implicit theories about the controllability of those attributes; and that they adopt particular goals (judgment or development goals) with respect to those attributes.

We might also note that individuals will vary in the extent to which they pursue goals relating to the self versus other people versus the world. This will depend on where they place their values, that is, on the extent to which they value attributes in these different spheres. For example, among individuals with generalized incremental theories, some may prize self-attributes most highly and strive to develop their own qualities; others may focus on attributes of others, striving to teach new skills, perform psychotherapy, or cure physical illnesses; still others may focus on the societal level, striving to increase human rights or promote world peace. In our experimental situations thus far, we have constrained individuals' goal choices to "within-attribute" choices—to learning/development versus performance/judgment goals with respect to a given characteristic of the self or another person. However, it should be possible to construct situations that present between-attribute goal choices and to predict individuals' goals by measuring the relative values they place on the different attributes and the theories they hold of those attributes. In this way, we can gain a fuller

picture of these motivational processes in less constrained settings.

### *Relation to Other "Control" Formulations*

Our formulation shares features with other formulations dealing with perceptions of control, but it differs from them in important ways.

*Locus of control.* How is the present conceptualization related to the more traditional locus of control conceptualization (Lefcourt, 1976; Rotter, 1966)? Both deal with the question of whether one perceives oneself to have personal control over important elements of one's life. However, whereas the locus of control work deals with perceptions of control over events or outcomes, the present formulation begins with beliefs that may set up the locus of control beliefs, namely, perceptions of control over the basic attributes that influence these events and outcomes (such as one's competence, other people's honesty, or the fairness of institutions). By beginning earlier in the psychological chain, the present formulation suggests the underlying factors that may produce or prevent perceptions of control over subsequent events.

Table 6 depicts the manner in which an entity theory may hinder perceived control over events, whereas an incremental theory may facilitate it. Specifically, within an entity theory, the basic attributes that influence outcomes are perceived to be uncontrollable and therefore perceptions of control over outcomes are conditional upon the attribute level: The individual will perceive control only when the relevant attribute level is judged to be high. For example, desirable outcomes will be viewed as possible only if, for example, one judges oneself to be intelligent, others to be honest, or institutions to be fair. If not—if one perceives oneself to be basically and unalterably incompetent, others to be dishonest, institutions to be corrupt—then control attempts will be perceived as futile, or at best their impact will be viewed as determined by chance. Thus, perceptions of control will be more difficult to generate and maintain when individuals operate within an entity framework.

In contrast, an incremental theory will more reliably generate perceived control over events and outcomes. Within an incremental theory, perceptions of control derive directly from a belief in the basic mutability of the attributes that influence outcomes. Even if the present level of an attribute is low or negative (e.g., one's competence is presently insufficient or the fairness of an institution is currently inadequate), this can be potentially altered and desirable outcomes can ultimately be achieved. Thus, because of belief in the controllability of the basic factors that determine outcomes, perceptions of control are deeply rooted in the incremental theory.

*Attributional approach.* How is the present conceptualization related to the attributional approach (e.g., Weiner, 1974)? The attributional approach posits that individuals' causal attributions for events determine their reactions to those events and their expectations about future events. Thus a failure that is attributed to a lack of ability will give rise to different reactions and future expectations than will a failure attributed to a lack of effort. The reformulated helplessness model of Seligman, Abramson, and their colleagues (Abramson, Seligman, & Teasdale, 1978; Seligman et al., 1979) also represents an attribu-

Table 6  
*Perceptions of Control as a Function of Theory*

Theory	Perceived attribute level <sup>b</sup>	Perceptions of control over events
Entity (attributes are fixed or uncontrollable) <sup>a</sup>	High	Control is possible
	Low	Control is not possible: Outcomes will be negative or determined by chance
Incremental (attributes are controllable) <sup>a</sup>	High	Control is possible
	Low	Control is possible although requiring more time and effort

Note. For comparison, see Table 1.

<sup>a</sup> Again, we assume a generalized theory for purposes of simplicity.

<sup>b</sup> Perceived level of the attribute that is relevant to outcome.

tional approach, positing that individuals' attributional styles underlie their characteristic reactions to events. Thus a tendency to attribute negative events to global and stable factors is seen to elicit depressive, hopeless responses to such events. But what leads individuals to adopt particular attributional styles? What underlying beliefs about oneself and the world would prime an individual to interpret events in particular ways?

Our present formulation differs from the attributional approach in two major ways. First, we attempt to identify the source of attributional styles. That is, although we place attributions at the heart of the helpless and mastery-oriented patterns, we view the attributions as arising from yet more basic and prior processes. Again, our model proposes a chain of processes beginning with individuals' implicit theories and eventuating in response patterns that include attributions and their consequences. The earlier processes can be seen as setting up the later ones, such that an implicit entity theory, which portrays oneself and the world as composed of global, stable traits (and that promotes goals centering on the adequacy of those traits), should make it more likely that one will explain outcomes in terms of these traits. The current approach, then, seeks to establish the underlying processes that give rise to "attributional styles" and their desirable or undesirable consequences.

The second important difference is that classic attribution theory (e.g., Weiner, 1974) tends to depict particular factors as inherently controllable or uncontrollable, so that ability is considered to be a stable, uncontrollable factor. Although we would agree that individuals who dwell on ability and ability attributions might tend to view it in this way, a major point of the present approach is that virtually any factor can be viewed as controllable or uncontrollable. The difference between entity and incremental theorists, by definition, is that they do not see a given factor in the same way. Thus an incremental theorist who is led by the situation to attribute failure to a current lack of ability is not blaming an uncontrollable factor, but rather

something that is controllable over time. In the same vein, an entity and an incremental theorist may blame the same external factor for a failure, but the former will view that factor as uncontrollable and the latter will view it as controllable. The present formulation, then, places perceived controllability in the eyes of the perceiver, for it is these perceptions that will guide the individual's behavior.

In summary, the present conceptualization suggests a number of distinctions that may be of potential importance for understanding the origins and impact of perceptions of control.

### *Implications for Personality and Motivation*

The current formulation, which began with patterns of cognition, affect, and behavior and then traced these patterns to underlying psychological processes, has implications for a number of theoretical issues in personality and motivation.

One class of issues concerns the role of situational versus dispositional factors in determining behavior (see D. Bem & Allen, 1974; D. Bem & Funder, 1978; and Mischel & Peake, 1982, for discussions of this issue). Dispositional approaches have had wide appeal because we know that people confronting the same situation react differently (and often, it seems, characteristically). Situational approaches have also had appeal in that many situations appear to constrain or compel behavior. Perhaps the widest appeal has been enjoyed by the interactionist (Disposition  $\times$  Situation) position because it grants the contribution of both types of variables and thereby promises a more complete story (see A. Buss, 1977; E. Diener, Larsen, & Emmons, 1984; and Endler, 1983, for reviews).

But how should we conceptualize dispositions? Does the existence of dispositions imply, as some have argued, that an individual's behavior should be similar across diverse situations? How should we think about situations? And how do dispositional and situational factors combine to produce behavior?

First, our research has clearly shown that both situational variables and dispositional variables play important roles in producing behavior. We have experimentally induced goals and behavior patterns by manipulating situational variables (Dweck, Davidson, Nelson, & Enna, 1978; Elliott & Dweck, 1988), but we have also predicted goal choice and behavior patterns by measuring existing dispositional variables (e.g., implicit theories: Bandura & Dweck, 1985; Leggett, 1985). A view that integrates these findings is one in which dispositions are seen as individual difference variables that determine the a priori probability of adopting a particular goal and displaying a particular behavior pattern, and situational factors are seen as potentially altering these probabilities.

In other words, we suggest that person-situation interactions are best understood in probabilistic terms, with the situation potentially altering the probability that a predisposing tendency will prevail. Let us assume that in a situation affording a choice between a performance goal and a learning goal, an individual brings to the situation a predisposition of a certain strength to favor one goal or the other. Where the situation offers no cue favoring either, the predisposition should hold sway. If, on the other hand, the situation offers strong cues in favor of either (appreciably increasing its salience or value), predispositions should be overridden and greater homogeneity among individu-

als will result. The stronger a predisposition, the less likely it is to be overridden by situational cues or the stronger will be the situational cues necessary to override it. Analogously, the weaker the predisposition, the more easily it can be altered by situational cues. Thus although we grant an important role to dispositional variables, this view of how situational cues and dispositional tendencies combine would lead one not to expect behavioral consistency across situations when the strength of the relevant situational cues varies across these situations.

Another factor that would work against finding behavioral consistency across situations is the fact that different goals may be available in different situations. Consider three situations: one affords a choice of intellectual achievement goals (learning or performance), the second affords a choice of these achievement goals along with social goals, and the third affords a choice of achievement goals along with social goals and moral goals. By measuring, for each individual, the relative value of intellectual, social, and moral attributes, as well as the theory attached to each (entity or incremental), one can begin to predict the goal that will be pursued in each situation. In some cases, it will be the same goal across situations; in other cases it may be a different one in each. In the latter case, little behavioral resemblance would be expected across situations. In fact, marked contradictions in behavior might emerge as the individual pursued different goals. A person might cheat in the first situation in order to obtain a high grade and be judged intelligent, but might be honest and altruistic in the latter two situations in order to be judged favorably on social and moral attributes.

In short, the power of personality theories and dispositional variables lies in their ability to predict what behavior will be displayed in various situations, not in their prediction that the same behavior will be displayed across these situations.

A second set of issues concerns the nature of the central construct(s) in formulations dealing with personality and motivation. Other existing formulations have taken schema (S. Bem, 1981; Cantor, 1981; Markus, 1977, 1983), traits (D. Bem & Funder, 1978; Block, 1961; Block & Block, 1980; Buss & Craik, 1983), or motives (Atkinson, 1964; McClelland, 1955) as their central constructs. Some, more recently, like the present approach, have organized their formulation around goals (Carroll, Perrowitz, Lurigio, & Weaver, 1987; Cohen, 1981; Kreitler & Kreitler, 1982; Srull & Wyer, 1985; see also Pervin, 1983). How does the present formulation relate to these other approaches?

Schema approaches suggest that individuals describe themselves as possessing certain characteristics (e.g., "I am smart"), structure their experiences in terms of these characteristics, and generally tend to behave in ways suggested by these characteristics. In contrast, the present formulation suggests that individuals may value particular attributes, such as "smartness," regardless of whether they currently perceive themselves to possess a high level of those attributes. Moreover, the present model adds two important factors: It specifies the different theories that individuals hold about their attributes (entity or incremental), and it specifies the attribute-relevant goals that grow out of these theories (to judge or develop the attribute). By doing so, our model depicts a specific motivational mechanism through which valued attributes can generate goals and identifies the specific patterns of cognition-affect-behavior that will characterize the attribute-relevant strivings of different individuals.

Thus, two individuals, both placing high value on intelligence, may structure their experiences in different ways and pursue different courses of action, depending on their theories and goals.

Trait approaches (e.g., Block & Block, 1980) suggest that people have traits that characterize their personalities and that are displayed across situations in the form of coherent behavioral patterns. So, for example, some people might have the trait of shyness, others friendliness, and others competitiveness. Our approach attempts to spell out the chain of psychological processes that might produce such behavioral patterns. For example, "friendliness" may suggest that social attributes and goals are salient for the individual and that this behavior is a way of pursuing these goals. "Shyness" may also suggest that social attributes and goals are valued but that such individuals have low confidence in their ability to perform well and thus exhibit a helpless response rather than a more mastery-oriented one. "Competitiveness" may suggest that these individuals place high value on competence, seek the performance goal of documenting their competence, and actively structure situations so as to pursue these goals. However, as noted earlier, our analysis does not necessarily predict behavioral consistency across situations that offer or promote different goals; thus it does not view such consistency as the hallmark of personality or as the focal phenomenon that personality constructs should strive to capture.

The motive approach (see, McClelland, 1984, for a review) may be viewed as identifying classes of goals (achievement, affiliation, and power) that individuals differentially value and seek. (More specifically, it postulates internal motives whose strength determines the vigor with which these classes of goals are pursued.) And, indeed, many goals that individuals pursue may be placed in these categories. However, we suggest that a more fine-grained analysis of goals is necessary to classify them properly and predict their behavioral consequences. One must ask, For what more particular purpose is the individual pursuing something? Individuals may seek achievement, affiliation, or power for any number of purposes—to validate their worth, to develop new abilities, to master new tasks, to help others. These more specific goals, we suggest, are the ones that will bear a closer relationship to behavior.

Finally, the present formulation has much in common with recent formulations that identify goals as a central construct in personality (e.g., Pervin, 1983; Cohen & Ebbesen, 1979) and as the link between personality and motivational processes. However, the present approach identifies *specific classes* of goals, links them to dispositional antecedents, and spells out their behavioral consequences.

## Summary and Conclusion

We began by documenting patterns of cognition-affect-behavior that have profound effects on adaptive functioning. We then asked questions about the underlying motivational and personality variables that give rise to these response patterns, first demonstrating the role of learning and performance goals in producing the patterns and then linking these goals to individuals' implicit theories of their attributes.

Next we examined the generalizability of the model to a vari-



ety of self-attributes. We suggested that each implicit theory could be seen as a different form of self-concept and that its allied goal could be seen as the way of generating and maintaining self-esteem within that self-concept. Finally, we proposed that the model could be extended to attributes outside of the self, hypothesizing that individuals hold implicit theories about the characteristics of other people, places, and things, and that these theories will predict the goals they adopt vis-à-vis these external variables.

In this context, we examined the relation of our model to other current formulations and developed the implications of our approach for contemporary issues in motivation and personality. In closing, we would like to highlight what we believe to be the central aspect of our model: its depiction of the manner in which underlying personality variables can translate into dynamic motivational processes to produce major patterns of cognition, affect, and behavior. Although much model-testing and model-building research remains to be done, the existing work lends encouraging support to the present model. It suggests that this model may be useful for both tying together existing lines of research and generating new lines of research in the future.

## References

- Abramson, L., Seligman, M., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 87, 49-74.
- Adler, A. (1927). *The practice and theory of individual psychology*. New York: Harcourt, Brace & World.
- Ames, C. (1984). Achievement attributions and self-instructions under competitive and individualistic goal structures. *Journal of Educational Psychology*, 76, 478-487.
- Ames, C., Ames, R., & Felker, D. W. (1977). Effects of competitive reward structure and valence of outcome on children's achievement attributions. *Journal of Educational Psychology*, 69, 1-8.
- Atkinson, J. (1964). *An introduction to motivation*. Princeton, NJ: Van Nostrand.
- Bandura, M., & Dweck, C. S. (1985). *The relationship of conceptions of intelligence and achievement goals to achievement-related cognition, affect and behavior*. Manuscript submitted for publication.
- Bem, D., & Allen, A. (1974). Predicting some of the people some of the time: The search for cross-situational consistencies in behavior. *Psychological Review*, 81, 506-520.
- Bem, D., & Funder, D. (1978). Predicting more of the people more of the time: Assessing the personality of situations. *Psychological Review*, 85, 485-501.
- Bem, S. (1981). Gender schema theory: A cognitive account of sex-typing. *Psychological Review*, 88, 354-364.
- Bempechat, J., & Dweck, C. S. (1985). *Children's conceptions of self-attributes*. Unpublished manuscript.
- Benenson, J. (1987). [Children's implicit theories and goals in their friendships]. Unpublished raw data.
- Berglas, S., & Jones, E. (1978). Drug choice as a self-handicapping strategy in response to non-contingent success. *Journal of Personality and Social Psychology*, 36, 405-417.
- Binet, A. (1973). *Les idées modernes sur les enfants* [Modern ideas on children]. Paris: Flammarion. (Original work published 1909)
- Block, J. (1961). *The Q-sort method in personality assessment and psychiatric research*. Springfield, IL: Charles C. Thomas.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego resiliency in the organization of behavior. In W. A. Collins (Ed.), *Minnesota Symposium on Child Psychology* (Vol. 13, pp. 39-101). Hillsdale, NJ: Erlbaum.
- Bloom, A. (1981). *The linguistic shaping of thought*. Hillsdale, NJ: Erlbaum.
- Brunson, B., & Matthews, K. (1981). The Type-A coronary-prone behavior pattern and reactions to uncontrollable stress: An analysis of performance strategies, affect, and attributions during failure. *Journal of Personality and Social Psychology*, 40, 906-918.
- Buss, A. (1977). The trait-situation controversy and the concept of interaction. *Personality and Social Psychology Bulletin*, 3, 196-201.
- Buss, D. M., & Craik, K. H. (1983). The act frequency approach to personality. *Psychological Review*, 90, 105-126.
- Cain, K., & Dweck, C. S. (1987). [The development of children's theories of intelligence]. Unpublished raw data.
- Cantor, N. (1981). A cognitive-social approach to personality. In N. Cantor & J. Kihlstrom (Eds.), *Personality, cognition, and social interaction* (pp. 23-44). Hillsdale, NJ: Erlbaum.
- Carroll, J. S., Perkowski, W. T., Lurigio, A. J., & Weaver, F. M. (1987). Sentencing goals, causal attributions, ideology, and personality. *Journal of Personality and Social Psychology*, 52, 107-118.
- Carver, C. S., Peterson, L. M., Follansbee, D. J., & Scheier, M. F. (1983). Effects of self-directed attention on performance and persistence among persons high and low in test anxiety. *Cognitive Therapy and Research*, 7, 333-354.
- Cohen, C. E. (1981). Goals and schemata in person perception: Making sense from the stream of behavior. In N. Cantor & J. Kihlstrom (Eds.), *Personality, cognition, and social interaction* (pp. 45-62). Hillsdale, NJ: Erlbaum.
- Cohen, C. E., & Ebbesen, E. B. (1979). Observational goals & schema activation: A theoretical framework for behavior prediction. *Journal of Experimental Social Psychology*, 15, 305-329.
- Covington, M. V. (1983). Strategic thinking and the fear of failure. In J. Sigal, S. Chipman, & R. Glaser (Eds.), *Thinking and learning skills: Relating instruction to research* (Vol. 2, pp. 389-416). Hillsdale, NJ: Erlbaum.
- Covington, M. V., & Omelich, C. (1979). Effort: The double-edged sword in school achievement. *Journal of Educational Psychology*, 71, 169-182.
- Crandall, V. C., Katkovsky, W., & Crandall, V. J. (1965). Children's beliefs in their own control of reinforcement in intellectual-academic situations. *Child Development*, 36, 91-109.
- Damon, W., & Hart, D. (1982). The development of self-understanding from infancy through adolescence. *Child Development*, 53, 841-864.
- Deci, E. L., & Ryan, R. M. (1980). The empirical exploration of intrinsic motivational processes. In L. Berkowitz, (Ed.), *Advances in experimental social psychology* (Vol. 13, pp. 39-80). New York: Academic Press.
- Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy and achievement cognitions following failure. *Journal of Personality and Social Psychology*, 36, 451-462.
- Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness: II. The processing of success. *Journal of Personality and Social Psychology*, 39, 940-952.
- Diener, E., Larsen, R., & Emmons, R. (1984). Person  $\times$  Situation interactions: Choice of situations and congruence response models. *Journal of Personality and Social Psychology*, 47, 580-592.
- Dweck, C. S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, 31, 674-685.
- Dweck, C. S., & Bempechat, J. (1983). Children's theories of intelligence. In S. Paris, G. Olsen, & H. Stevenson (Eds.), *Learning and motivation in the classroom* (pp. 239-256). Hillsdale, NJ: Erlbaum.
- Dweck, C. S., Davidson, W., Nelson, S., & Enna, B. (1978). Sex differ-

- ences in learned helplessness: II. The contingencies of evaluative feedback in the classroom and III. An experimental analysis. *Developmental Psychology*, 14, 268-276.
- Dweck, C. S., & Elliott, E. S. (1983). Achievement motivation. In P. H. Mussen (Gen. Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. IV. Social and personality development* (pp. 643-691). New York: Wiley.
- Dweck, C. S., & Reppucci, N. D. (1973). Learned helplessness and reinforcement responsibility in children. *Journal of Personality and Social Psychology*, 25, 109-116.
- Dweck, C. S., Tenney, Y., & Dinces, N. (1982). [Implicit theories of intelligence as determinants of achievement goal choice]. Unpublished raw data.
- Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54, 5-12.
- Endler, N. (1983). Interactionism: A personality model, but not yet a theory. In R. A. Dienstbier (Ed.), *Nebraska Symposium on Motivation* (pp. 155-200). Lincoln: University of Nebraska Press.
- Epstein, S. (1980). The self-concept: A review and the proposal of an integrated theory of personality. In E. Straub (Ed.), *Personality: Basic aspects and current research* (pp. 81-131). Englewood Cliffs, NJ: Prentice-Hall.
- Erdley, C. A., & Dweck, C. S. (1987). [Implicit personality theories: Effects on social judgment]. Unpublished raw data.
- Erikson, E. H. (1959). Identity and the life cycle. *Psychological Issues*, 1, 1-171.
- Farrell, E., & Dweck, C. S. (1985). *The role of motivational processes in transfer of learning*. Manuscript submitted for publication.
- Frankl, A., & Snyder, M. (1978). Poor performance following unsolvable problems: Learned helplessness or egotism? *Journal of Personality and Social Psychology*, 36, 1415-1423.
- Freud, S. (1960). *The ego and the id*. (J. Riviere, Trans.). New York: W. W. Norton. (Original work published 1923)
- Freud, S. (1964). New introductory lectures on psychoanalysis. (J. Stachey, Trans.). New York: W. W. Norton. (Original work published 1933)
- Goetz, T. E., & Dweck, C. S. (1980). Learned helplessness in social situations. *Journal of Personality and Social Psychology*, 39, 249-255.
- Goodnow, J. J. (1980). Everyday concepts of intelligence and its development. In N. Warren (Ed.), *Studies in cross-cultural psychology* (Vol. 2, pp. 191-219). Oxford, England: Pergamon Press.
- Gould, S. J. (1981). *The mismeasure of man*. New York: W. W. Norton.
- Heller, A. (1981). *Renaissance man*. (R. Allen, Trans.). New York: Schocken. (Original work published 1967)
- Henderson, V., Cain, K., & Dweck, C. S. (1987). [Theories of intelligence and their dimensions]. Unpublished raw data.
- Hoffman, M. (1978). Empathy, its development and prosocial implications. In C. B. Keasey (Ed.), *Nebraska Symposium on Motivation* (pp. 169-218). Lincoln: University of Nebraska Press.
- Jagacinski, C., & Nicholls, J. (1983, March). *Concepts of ability*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY.
- Janoff-Bulman, R. (1985, March). *Understanding people in terms of their assumptive worlds*. Paper presented at the Boston University Symposium on the Interdisciplinary Study of Personality, Boston.
- Janoff-Bulman, R., & Brickman, P. (1981). Expectations and what people learn from failure. In N. T. Feather (Ed.), *Expectancy, incentive, and action* (pp. 207-237). Hillsdale, NJ: Erlbaum.
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). Morristown, NJ: General Learning Press.
- Jung, C. (1933). *Modern man in search of a soul*. New York: Harcourt, Brace & World.
- Kreitler, H., & Kreitler, S. (1982). The theory of cognitive orientation: Widening the scope of behavior prediction. In B. Maher & W. Maher (Eds.), *Progress in experimental personality research* (pp. 100-135). New York: Academic Press.
- Langer, S. K. (1982). *Mind: An essay on human feeling, Vol. III*. Baltimore: Johns Hopkins University Press.
- Lefcourt, H. (1976). *Locus of control: Current trends in theory and research*. New York: Wiley.
- Leggett, E. L. (1985, March). *Children's entity and incremental theories of intelligence: Relationships to achievement behavior*. Paper presented at the annual meeting of the Eastern Psychological Association, Boston.
- Leggett, E. L., & Dweck, C. S. (1986). *Goals and inference rules: Sources of causal judgments*. Manuscript submitted for publication.
- Lepper, M. (1981). Intrinsic and extrinsic motivation in children: Detrimental effects of superfluous social controls. In W. W. Collins (Ed.), *Minnesota Symposium on Child Psychology* (Vol. 14, pp. 155-214). Hillsdale, NJ: Erlbaum.
- Lerner, M. (1980). *The belief in a just world: A fundamental delusion*. New York: Plenum Press.
- Licht, B. G., & Dweck, C. S. (1984). Determinants of academic achievement: The interaction of children's achievement orientations with skill area. *Developmental Psychology*, 20, 628-636.
- Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, 35, 63-78.
- Markus, H. (1983). Self-knowledge: An expanded view. *Journal of Personality*, 51, 543-565.
- McClelland, D. C. (1955). *Studies in motivation*. New York: Appleton-Century-Crofts.
- McClelland, D. C. (1984). *Human motivation*. Oakland, NJ: Scott, Foresman.
- Mischel, W., & Peake, P. K. (1982). Beyond deja-vu in the search for cross-situational consistency. *Psychological Review*, 89, 730-755.
- Nicholls, J. G. (1978). The development of the concepts of effort and ability, perception of academic attainment, and the understanding that difficult tasks require more ability. *Child Development*, 49, 800-814.
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91, 328-346.
- Olshefsky, L. M., Erdley, C. A., & Dweck, C. S. (1987). [Self-conceptions and goals in social situations]. Unpublished raw data.
- Pervin, L. A. (1983). The stasis and flow of behavior: Toward a theory of goals. In R. A. Dienstbier (Ed.), *Nebraska Symposium on Motivation* (pp. 1-53). Lincoln: University of Nebraska Press.
- Piaget, J., & Garcia, R. (1983). *Psychogenese et l'histoire des sciences* [Psychogenesis and the history of the sciences]. Paris: Flammarion.
- Rapaport, D. (1951). *Organization and pathology of thought: Selected sources*. New York: Columbia University Press.
- Renshaw, P. D., & Asher, S. R. (1983). Children's goals and strategies for social interaction. *Merrill-Palmer Quarterly*, 29, 353-374.
- Rest, J. R. (1983). Morality. In P. H. Mussen (Gen. Ed.) & J. H. Flavell & E. M. Markman (Vol. Eds.), *Handbook of child psychology: Vol. III. Cognitive development* (pp. 556-629). New York: Wiley.
- Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80(1, Whole No. 609).
- Sarason, I. G. (1975). Anxiety and self-preoccupation. In I. G. Sarason & C. D. Spielberger (Eds.), *Stress and anxiety* (Vol. 2, pp. 27-44). Washington, DC: Hemisphere.
- Sarason, I. G. (1980). *Test anxiety: theory, research, and applications*. Hillsdale, NJ: Erlbaum.

- Sarason, S., & Mandler, G. (1952). Some correlates of test anxiety. *Journal of Abnormal and Social Psychology*, 47, 561-565.
- Seligman, M. E. P., Abramson, L. Y., Semmel, A., & von Baeyer, C. (1979). Depressive attributional style. *Journal of Abnormal Psychology*, 88, 242-247.
- Seligman, M. E. P., Maier, S. F., & Solomon, R. L. (1971). Unpredictable and uncontrollable aversive events. In F. R. Brush (Ed.), *Aversive conditioning and learning* (pp. 347-400). New York: Academic Press.
- Sohn, D. (1977). Affect generating powers of effort and ability self-attributions of academic success and failure. *Journal of Educational Psychology*, 69, 500-505.
- Spielberger, C. (1958). On the relationship between anxiety and intelligence. *Journal of Consulting Psychology*, 22, 220-224.
- Srull, T., & Wyer, R. (1985). The role of chronic and temporary goals in social information processing. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* (pp. 503-549). New York: Guilford Press.
- Sternberg, R., Conway, B. E., Ketron, J. L., & Bernstein, M. (1981). People's conceptions of intelligence. *Journal of Personality and Social Psychology*, 41, 37-55.
- Surber, C. (1984). Inferences of ability and effort: Evidence for two different processes. *Journal of Personality and Social Psychology*, 46, 249-268.
- Taylor, A. R., & Asher, S. R. (1984a). *Children's interpersonal goals in game situations*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Taylor, A. R., & Asher, S. R. (1984b). Children's goals and social competence: Individual differences in a game-playing context. In T. Field, J. L. Roopnarine, & M. Segal (Eds.), *Friendship in normal and handicapped children* (pp. 53-77). Norwood, NJ: Ablex.
- Taylor, A. R., & Asher, S. R. (1985, April). *Goals, games and social competence: Effects of sex, grade level, and sociometric status*. Paper presented at the biennial meeting of the Society for Research in Child Development, Toronto, Canada.
- Tesser, A., & Campbell, J. (1983). Self-definition and self-evaluation maintenance. In J. Suls & A. Greenwald (Eds.), *Social psychological perspectives on the self* (Vol. 2, pp. 123-149). Hillsdale, NJ: Erlbaum.
- Weiner, B. (1972). *Theories of motivation: From mechanism to cognition*. Chicago: Markham.
- Weiner, B. (1974). *Achievement motivation and attribution theory*. Morristown, NJ: General Learning Press.
- Weiner, B., & Graham, S. (1984). An attributional approach to emotional development. In C. Izard, J. Kagan, & R. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 167-191). New York: Cambridge University Press.
- Wellman, H. M. (1985). The child's theory of mind: The development of conceptions of cognition. In S. R. Yussen (Ed.), *The growth of reflection in children* (pp. 169-206). New York: Academic Press.
- White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 297-333.
- White, R. W. (1960). Competence and the psycho-sexual stages of development. In C. B. Keasey (Ed.), *Nebraska Symposium on Motivation* (pp. 97-138). Lincoln: University of Nebraska Press.
- Whitehead, A. N. (1938). *Modes of thought*. New York: Free Press.
- Wine, J. (1971). Test anxiety and direction of attention. *Psychological Bulletin*, 76, 92-104.
- Yussen, S. R., & Kane, D. T. (1985). Children's conceptions of intelligence. In S. R. Yussen (Ed.), *The growth of reflection in children* (pp. 207-241). New York: Academic Press.

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