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## TARGET ARTICLE

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### Implicit Theories and Their Role in Judgments and Reactions: A World From Two Perspectives

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*In this target article, we present evidence for a new model of individual differences in judgments and reactions. The model holds that people's implicit theories about human attributes structure the way they understand and react to human actions and outcomes. We review research showing that when people believe that attributes (such as intelligence or moral character) are fixed, trait-like entities (an entity theory), they tend to understand outcomes and actions in terms of these fixed traits ("I failed the test because I am dumb" or "He stole the bread because he is dishonest"). In contrast, when people believe that attributes are more dynamic, malleable, and developable (an incremental theory), they tend to focus less on broad traits and, instead, tend to understand outcomes and actions in terms of more specific behavioral or psychological mediators ("I failed the test because of my effort or strategy" or "He stole the bread because he was desperate"). The two frameworks also appear to foster different reactions: helpless versus mastery-oriented responses to personal setbacks and an emphasis on retribution versus education or rehabilitation for transgressions. These findings are discussed in terms of their implications for personality, motivation, and social perception.*

In this target article, we describe a theoretical model of how implicit beliefs influence people's inferences, judgments, and reactions, particularly in the face of negative events. Our model finds its intellectual roots in Kelly's (1955) theory of personality and in Heider's (1958) field theory of social perception. According to Kelly, a major component of personality involves personal constructs or naive assumptions about the self and the social reality. In his view, just as the implicit assumptions of a scientific model guide the interpretation of scientific findings, the implicit assumptions of a naive model guide the way information about the self and other people is processed and understood. This strong emphasis on the role of lay theories in guiding social information processing is also found in Heider's (1958) theory of social perception. To Heider, lay people's latent theories of personality influence the way the self and other people are perceived (see also Jones & Thibaut, 1958). Recently, the role of implicit theories in the organization and interpretation of information has gained increasing acceptance among both cognitive and social psychologists (e.g., Carey & Smith, 1993; Dweck & Leggett, 1988; Epstein, 1989; Medin, 1989; Medin & Wattenmaker, 1987; Murphy &

Medin, 1985; M. Ross, 1989; Wittenbrink, Gist, & Hilton, 1993; see also Chiu, Hong, & Dweck, 1994).

Because people's theories are largely implicit or poorly articulated, systematic effort is required on the part of behavioral scientists to identify them and to map out their effects. With our research, we have sought to identify key implicit beliefs and to establish their relevance for the processing of social information. This research has led to the identification of implicit theories that we believe set up a framework for analyzing and interpreting human actions. These implicit theories refer to the two different assumptions people may make about the malleability of personal attributes; they may believe that a highly valued personal attribute, such as intelligence or morality, is a fixed, nonmalleable trait-like entity (*entity theory*), or they may believe that the attribute is a malleable quality that can be changed and developed (*incremental theory*). To illustrate, an entity theory of intelligence is the belief that intelligence is a fixed trait, a personal quality that cannot be changed. Individuals who subscribe to this theory believe that although people can learn new things, their underlying intelligence remains the same. In contrast, an incremental theory of intelligence conceives of intelligence as

cultivable (i.e., individuals may become more intelligent through their efforts).

In this article, we present a model that spells out the cognitive and behavioral consequences of the two theories. In overview, the basic assumption of the model is that conceiving of personal attributes as fixed traits sets up an emphasis on traits for understanding behavior. That is, an entity theorist, more than an incremental theorist, tends to understand a person's behaviors or outcomes in terms of the person's fixed traits. In contrast, conceiving of personal attributes as dynamic, malleable qualities may lessen the importance of traits in understanding behavior and prime an analysis of more specific factors (e.g., needs, goals, intentions, emotional states, prior behaviors) that mediate behavior or outcomes. For example, as we see in this article, those who hold an entity theory of intelligence are more likely to blame their intelligence for negative outcomes, whereas those who hold an incremental theory of intelligence are more likely to understand the same negative outcomes in terms of their effort or strategy. Consider a scenario in which someone stole some bread from a bakery. To one who holds an entity theory of moral character (who believes in fixed moral character), understanding this action may involve diagnosing the actor's moral traits. But for one who holds an incremental theory of moral character (who does not believe in broad, fixed moral traits), the actor's overall moral character may not be as pertinent as the need, goal, or intention that drove the act. To summarize, in our model, holding an entity versus incremental theory leads to a differential emphasis on traits versus more specific psychological or behavioral mediators in understanding human actions and outcomes.

This differential emphasis on traits versus specific mediators in turn fosters different reactions to negative events and negative behavior. For example, our research has shown that entity theorists of intelligence are more likely than incremental theorists to react helplessly in the face of achievement setbacks (Dweck & Leggett, 1988; Henderson & Dweck, 1990). That is, they are not only more likely to make negative judgments about their intelligence from the failures, but also more likely to show negative affect and debilitation. In contrast, incremental theorists, who focus more on behavioral factors (e.g., effort, problem-solving strategies) as causes of negative achievement outcomes, tend to act on these mediators (e.g., to try harder, develop better strategies) and to continue to work toward mastery of the task.

More recently, we have obtained analogous findings relating implicit theories of personality and moral character to how people judge and react to others' behaviors (Dweck, in press; Dweck, Hong, & Chiu, 1993). Spe-

cifically, relative to their incremental counterparts, entity theorists of personality or moral character not only tend to judge people's social or moral traits from a small sample of behaviors (just as entity theorists of intelligence judge their own intellectual ability from a small sample of outcomes) but, once they have judged someone for a negative behavior, they tend to focus on meting out the punishment deserved by a person with these negative traits. In contrast, not only do incremental theorists tend to focus more on mediating processes and less on trait judgments, but they also tend to focus more on educating or reforming (vs. punishing) a transgressor in ways that are consistent with their mediational analyses (and with their theory about the malleability of attributes).

In summary, we discuss the cognitive and behavioral patterns associated with adopting different implicit theories. Using findings from our research on self-judgments and reactions in the intellectual domain, and social judgments and reactions in the social and moral domains, we argue that each theory offers an analytic framework that sets up different interpretations and reactions, whether people are confronting their own outcomes or other people's actions. However, because the implicit theories we examine in this article are relatively recent constructs in the literature, it is important to lay out in some detail the nature of these constructs and to deal with some of the issues pertinent to their assessment.

### **Implicit Theories: Their Nature and Assessment**

#### **Implicit Theories as Core Assumptions**

The belief in fixed versus malleable human attributes can be seen as a core assumption in an individual's world view (see also Whitehead, 1938). It is analogous to a superordinate construct in Kelly's (1955) theory in that it is an assumption that defines the individual's reality and imparts meaning to events. Consistent with the idea that implicit theories are core assumptions, we do not see implicit theories as rigidly determining people's behavior. Instead, we see them as creating a framework and then fostering judgments and reactions that are consistent with that framework.

It is also important to note that neither theory is the "correct" one. We view these theories simply as alternative ways of constructing reality, each with its potential costs and benefits. For example, an entity theory, with its emphasis on static traits that can be readily assessed and that are highly predictive of future behavior, constructs for its subscribers a relatively parsimonious and knowable reality. However, at times, the

simplicity of an entity theory can lead too quickly to global trait judgments and helpless coping styles. In contrast, an incremental theory, with its emphasis on more specific process analysis, offers its subscribers a more complex but less knowable reality. It is a theory that often fosters effective persistence in the face of obstacles, but the possibilities for change assumed in the theory also imply that the reality can never be known with any finality. Thus, the goal of our research is not to evaluate the correctness of the two theories, but to demonstrate that holding one view or the other has potentially important consequences for people.

Finally, we want to emphasize that people need not have one sweeping theory that cuts across all human attributes. Indeed, our research shows that although some people do have one very generalized theory, others have different theories of different attributes—believing, for example, that intelligence is fixed but moral character is malleable (as is mentioned next). In this latter case, the entity theory will provide the framework for thought and action in the intellectual domain, whereas the incremental theory will provide the framework that structures issues relating to moral character. In this sense, then, we are dealing not with a generalized cognitive style, but with domain-specific conceptual frameworks. Thus, in this article, when we refer to an entity theory or an incremental theory, we are always referring to the person's theory about the attribute or domain in question.

### Assessment of Implicit Theories

**The measures.** The research reviewed in this article focuses on how implicit theories in the domains of intelligence and morality are related to judgments and reactions in these domains. In this research, participants' entity versus incremental theory in each domain was assessed by a three-item questionnaire. Only three items are used because implicit theory is a construct with a simple unitary theme, and repeatedly rephrasing the same idea may lead to confusion and boredom on the part of the respondents. One possible disadvantage of having a small number of items in a scale is that it may lead to low internal reliability because, psychometrically, the internal reliability of a measure is positively related to the number of items in the measure. Yet, as discussed next, the high internal reliabilities of the measures we obtained across studies suggest that this is not a problem.

The three items in the implicit theory of intelligence measure are (a) "You have a certain amount of intelligence and you really can't do much to change it"; (b) "Your intelligence is something about you that you can't change very much"; and (c) "You can learn new

things, but you can't really change your basic intelligence." Respondents indicated their agreement with these statements on a 6-point scale from 1 (*strongly agree*) to 6 (*strongly disagree*).

To score this questionnaire, scores on the three items are averaged to form an overall implicit theory score (ranging from 1 to 6), with a higher score indicating a stronger incremental theory. Most typically, to ensure that only participants with clear theories are included, participants are classified as entity theorists if their overall implicit theory score is 3.0 or below and classified as incremental theorists if their overall score is 4.0 or above. Using this criterion, about 15% of the participants are typically excluded, and the remaining 85% tend to be evenly distributed between the two implicit theory groups. Because only 15% of the participants are excluded, the two theory groups do not represent extreme groups.

The implicit theory of morality measure has the same format and scoring method as the implicit theory of intelligence. The items in this measure are (a) "A person's moral character is something very basic about them and it can't be changed very much," (b) "Whether a person is responsible and sincere or not is deeply ingrained in their personality. It cannot be changed very much," and (c) "There is not much that can be done to change a person's moral traits (e.g., conscientiousness, uprightness and honesty)."

As noted, implicit theories are conceptually domain specific. Indeed, at the assessment level, endorsing an entity theory of one attribute is statistically independent of endorsing an entity theory of a different attribute (as is discussed next). However, in some studies, the issues being addressed cut across domains. In these studies, instead of assessing the participants' implicit theories in a particular domain, we measure their entity versus incremental theory of the person as a whole. This measure has the same format and scoring method as the other two implicit theory measures. The items in this implicit person theory measure are (a) "The kind of person someone is something very basic about them and it can't be changed very much;" (b) "People can do things differently, but the important parts of who they are can't really be changed;" and "Everyone is a certain kind of person and there is not much that can be done to really change that."

**Reliability.** Tables 1 to 5 present the data from six validation studies on the reliability and validity of the theory measures just described. As shown in Table 1, across studies, the implicit theory measures had high internal reliability ( $\alpha$  ranged from .94 to .98 for the implicit theory of intelligence, .85 to .94 for the implicit theory of morality, and .90 to .96 for implicit person

theory). The test–retest reliability of the measures over a 2-week interval was .80 for the intelligence theory measure, .80 for the morality theory measure, and .82 for the implicit person theory measure.

**Validity.** Before we present the data on the validity of the measures, several issues concerning the format of the measures should be addressed. First, items depicting an incremental theory are not included in our implicit theory measures. This is the case because in past studies (Boyum, 1988; Leggett, 1985), even among respondents who endorsed items depicting an entity theory, many endorsed items depicting the opposite incremental theory and drifted toward incremental choices over items. This suggests that incremental items are highly compelling. However, the issue of whether disagreement with the entity theory statements could be taken to represent agreement with the incremental theory needed to be addressed. Therefore, in a study by Henderson (1990), respondents were given the implicit theory of intelligence measure and asked to explain their answers. Those who disagreed with the entity statements gave clear incremental theory justifi-

cations for their responses. We obtained the same results in another validation study employing both the morality theory measure and the implicit person theory measure.

Second, because endorsement of an entity theory requires agreement with the items, another issue that requires attention is whether agreement with these statements represents an acquiescence set. To address this issue, factor analyses were performed on the items in our validation studies from (a) the intelligence theory measure, (b) the morality theory measure, and (c) the world theory measure we developed for other research. (Items of the world theory measure are shown in Table 2.) Because these three implicit theory measures have the same format, and if endorsement of the items represents an acquiescence set, then a single factor with heavy loadings from all nine items should emerge from the factor analysis. However, as shown in Table 2, across the five validation studies, the three implicit theory measures formed clear separate factors. This consistent finding suggests that (a) endorsement of the implicit theory items does not represent an acquiescence set

**Table 1.** Summary Statistics and Reliability of the Implicit Theory Measures

	<i>M</i> <sup>a</sup>	<i>SD</i>	Internal Reliability
Study 1 Test ( <i>N</i> = 69)			
Kind of Person	3.81	1.28	.94
Morality	3.78	1.24	.91
Intelligence	3.96	1.34	.96
Retest ( <i>N</i> = 62)			
Kind of Person			
(2-Week Test–Retest, <i>r</i> = .82)	3.66	1.26	.96
Morality			
(2-week Test–Retest, <i>r</i> = .80)	3.57	1.23	.94
Intelligence			
(2-Week Test–Retest, <i>r</i> = .80)	3.71	1.39	.98
Study 2 ( <i>N</i> = 184)			
Kind of Person	3.31	1.04	.90
Morality	3.32	1.14	.85
Intelligence	3.80	1.32	.94
Study 3 ( <i>N</i> = 139)			
Morality	3.65	1.13	.93
Intelligence	3.79	1.28	.94
Study 4 ( <i>N</i> = 121)			
Morality	3.51	0.95	.89
Intelligence	3.97	1.13	.96
Study 5 ( <i>N</i> = 93)			
Kind of Person	3.59	1.24	.92
Morality	3.63	1.23	.86
Intelligence	3.73	1.40	.96
Study 6 ( <i>N</i> = 32)			
Kind of Person	3.11	1.27	.96
Morality	3.27	1.07	.90
Intelligence	3.57	1.49	.97

<sup>a</sup>Range = 1–6.

**Table 2.** *Factor Analyses of the Implicit Theory Measures*

Items	Factor Loadings														
	Study 1 (Test)			Study 2			Study 3			Study 4			Study 5		
	F1	F3	F2	F1	F3	F2	F1	F2	F3	F1	F2	F3	F1	F3	F2
<b>Intelligence</b>															
1. You have a certain amount of intelligence and you really can't do much to change it.	95	12	17	94	11	5	94	13	12	96	4	16	96	7	9
2. Your intelligence is something about you that you can't change very much.	94	20	13	95	12	7	96	15	10	95	6	15	94	13	15
3. You can learn new things, but you can't really change your basic intelligence.	93	13	16	91	5	13	91	7	12	93	6	14	95	11	15
<b>Morality</b>															
1. A person's moral character is something very basic about them and it can't be changed much.	14	89	22	12	88	5	12	91	20	1	91	14	3	88	15
2. Whether a person is responsible and sincere or not is deeply ingrained in their personality. It cannot be changed very much.	15	85	26	2	87	0	16	91	16	8	87	9	11	86	4
3. There is not much that can be done to change a person's moral traits (e.g., conscientiousness, uprightness, and honesty).	16	90	23	13	86	14	6	90	22	6	91	12	15	88	14
<b>World</b>															
1. Though we can change some phenomena, it is unlikely that we can alter the core dispositions of our world.	17	26	89	7	6	91	6	19	80	12	5	89	11	12	95
2. Our world has its basic or ingrained dispositions, and you really can't do much to change them.	14	24	91	11	8	92	8	12	86	21	14	85	16	15	94
3. Some societal trends may dominate for while, but the fundamental nature of our world is something that cannot be changed much.	18	22	89	7	14	87	17	21	74	11	18	85	10	8	93

*Note:* Factor analysis was not performed on the theory measures in Study 6 because of relatively small sample-to-item ratio.

and (b) as we propose, implicit theories about different human attributes are statistically independent.

Because the implicit person theory measure was not included in some validation studies, it was not included in the factor analysis. Yet, conceptually, as a measure of entity versus incremental belief about the person as a whole, the implicit person theory should correlate with the intelligence theory and the morality theory and yet be independent of the implicit world theory. For the studies in which data were available, this was indeed the case. For example, in Study 1, the implicit person theory was regressed on the other three implicit theory measures in a multiple regression analysis. As expected, the  $R^2$  for the regression model was high ( $R^2 = .78$ ) and the implicit person theory was significantly predicted by the intelligence theory ( $\beta = .32, p = .0001$ ) and the morality theory ( $\beta = .57, p < .0001$ ), but not by the world theory ( $\beta = .08, p = .33$ ). In short, the implicit person theory measure was related to other implicit

theory measures in a conceptually meaningful way. Moreover, the lack of correlation between implicit person theory and implicit world theory again suggests that an acquiescence set is not a problem in the assessment of implicit theories.

Tables 3 to 5 present other data from the six validation studies. Tables 3 and 5 show that implicit theory measures are independent of the respondents' sex and age. Table 3 also shows that the intelligence theory measure and the morality theory measure are independent of the respondents' political affiliation and religion. Tables 4 and 5 show that the three theory measures are not confounded with self-presentation concerns as measured by the Snyder (1974) Self-Monitoring Scale and the Paulhus (1984) Social Desirability Scale. As far as discriminant validity is concerned, the three theory measures are unrelated to measures of cognitive ability (Scholastic Aptitude Test scores), confidence in intellectual ability (see Hong, Chiu, &

**Table 3.** Measures of Implicit Theories of Morality and Intelligence and Their Relation to the Demographic Characteristics of the Respondents.

Response: Theory of Morality	Model	Estimated Parameters
Study 4	~ Sex <sup>a</sup> + Age	$\beta$ (sex) = -.041, ns
Study 5	~ Sex + Age	$\beta$ (age) = -.007, ns $\beta$ (sex) = -.170, ns
Study 3	~ Political Affiliation <sup>b</sup> + Religious Preference <sup>c</sup> + Church Attendance <sup>d</sup> + Importance of Religion <sup>e</sup>	$\beta$ (age) = .049, ns $\beta$ (Pol. Affl.) = -.204, ns F (Rel. Pref.) < 1.0, ns $\beta$ (Imp. of Rel.) = .089, ns
Response: Theory of Intelligence	Model	Estimated Parameters
Study 4	~ Sex + Age	$\beta$ (sex) = -.093, ns $\beta$ (age) = .032, ns
Study 5	~ Sex + Age	$\beta$ (sex) = -.255, ns $\beta$ (age) = .120, ns
Study 3	~ Political Affiliation + Religious Preference + Church Attendance + Importance of Religion	$\beta$ (Pol. Affl.) = .096, ns F (Rel. Pref.) < 1.0, ns $\beta$ (Church Att.) = .181, ns $\beta$ (Imp. of Rel.) = .295, ns

<sup>a</sup>Female coded as 1, male coded as 2. <sup>b</sup>1 = Democrats, 2 = independents, 3 = Republicans. <sup>c</sup>Categories of religious preferences: Protestant, Catholic, Jewish, Other. <sup>d</sup>1 = every week, 2 = almost every week, 3 = once or twice a month, 4 = a few times a year, 5 = never. <sup>e</sup>1 = not important, 2 = somewhat important, 3 = very important

**Table 4.** Construct Validity of the Implicit Theory Measures: Morality and Intelligence

Response Variable	Study Number	Predictor	
		Theory of Morality	Theory of Intelligence
Self-Presentational Concerns			
Self-Monitoring (Snyder, 1974)	5	$\beta$ = -.208, ns	$\beta$ = .040, ns
Social Desirability Scale (Paulhus, 1984)	6	$\beta$ = .399, ns	$\beta$ = .024, ns
Cognitive Ability			
SAT Scores (Quantitative and Verbal)	5	$\beta$ = -7.13, ns	$\beta$ = -11.03, ns
Confidence in the Self			
Confidence in Intellectual Ability <sup>a</sup>	2	$\beta$ = -.082, ns	$\beta$ = -.001, ns
Self-Esteem Inventory (Coopersmith, 1967)	6	$\beta$ = .0100, ns	$\beta$ = -.056, ns
Locus of Control	2	$\beta$ = -.047, ns	$\beta$ = .391, ns
Control by Internal Factors (Levenson, 1974)	4	$\beta$ = .063, ns	$\beta$ = .150, <i>p</i> = .01
Control by Powerful Others (Levenson, 1974)	4	$\beta$ = -.141, ns	$\beta$ = .059, ns
Control by Chance (Levenson, 1974)	4	$\beta$ = .055, ns	$\beta$ = -.114, ns
Optimism			
Confidence in Other People's Morality <sup>b</sup>	6	$\beta$ = -.051, ns	$\beta$ = .110, ns
Confidence in the World <sup>c</sup>	6	$\beta$ = -.150, ns	$\beta$ = -1.71, ns
Social Political Attitudes			
Right-Wing Authoritarianism (Altemeyer, 1981)	6	$\beta$ = -.040, ns	$\beta$ = -.078, ns
Political Conservatism (Kerlinger, 1984, Social Attitude Scale)	6	$\beta$ = -.021, ns	$\beta$ = -.064, ns
Political Conservatism (Kerlinger, 1984, Referent Scale)	6	$\beta$ = .082, ns	$\beta$ = -.087, ns
Political Liberalism (Kerlinger, 1984, Social Attitude Scale)	6	$\beta$ = -.130, ns	$\beta$ = .101, ns
Political Liberalism (Kerlinger, 1984, Referent Scale)	6	$\beta$ = .095, ns	$\beta$ = -.079, ns

<sup>a</sup>Confidence in ability was assessed by items such as "I usually think I'm intelligent" versus "I wonder if I'm intelligent."

<sup>b</sup>Confidence in other people's morality was assessed by items such as "I believe that most people will take advantage of others if they can" versus "I believe that most people are trustworthy." <sup>c</sup>Confidence in the world was assessed by items such as "I feel good about the world and the way it is" versus "I do not feel good about the world and the way it is."

**Table 5.** *Construct Validity of the Implicit Person Theory Measure*

Correlation	
Age	r = .12, ns
Sex <sup>a</sup>	r = .13, ns
Self-Presentational Concerns	
Self-Monitoring Scale	r = -.13, ns
Social Desirability Scale	r = .15, ns
Cognitive Abilities	
SAT Scores (Quantitative & Verbal)	r = -.12, ns
Confidence and Optimism	
Confidence in Intellectual Ability <sup>b</sup>	r = .02, ns
Self-esteem Inventory	r = -.01, ns
Confidence in Other People's Morality <sup>b</sup>	r = .07, ns
Confidence in the World <sup>b</sup>	r = -.18, ns
Political Attitudes	
Right-Wing Authoritarianism (Altemeyer, 1981)	r = -.16, ns
Political Conservatism	
Social Attitude Scale (Kerlinger, 1984)	r = .01, ns
Referent Scale (Kerlinger, 1984)	r = -.02, ns
Political Liberalism	
Social Attitudinal Scale (Kerlinger, 1984)	r = -.15, ns
Referent Scale (Kerlinger, 1984)	r = .16, ns

<sup>a</sup>Female = 1, male = 2. <sup>b</sup>See Table 4 Note.

Dweck, in press), self-esteem (Coopersmith, 1967), optimism or confidence in other people and the world (Chiu & Dweck, 1994), social-political attitudes such as authoritarianism (Altemeyer, 1981), and political conservatism or liberalism (Kerlinger, 1984).

Finally, the morality theory measure is independent of the locus of control subscales, although a modest but significant association was found between a belief in internal control and an incremental theory of intelligence. This correlation is not surprising given that individuals who expect their ability to be malleable and controllable may also expect themselves to have greater control over their personal outcomes.

In summary, the implicit theory measures appear to be reliable and valid measures of the constructs. Having addressed these assessment issues, we return to the question of how subscribing to an entity versus incremental theory might affect individuals' judgments and reactions to negative events.

### Self-Judgments of Intelligence and Reactions to Achievement Setbacks

#### Self-Judgments of Intelligence

The most long-standing program of research in our laboratory addresses self-judgments of ability and responses to achievement setbacks. In this research, participants' theories of intelligence are assessed and

then, in a separate session, their self-judgments and reactions in the face of actual or hypothetical achievement setbacks are monitored. As noted earlier, across studies (e.g., Henderson & Dweck, 1990; Hong & Dweck, 1992; Zhao & Dweck, 1994), individuals who believe that intelligence is a fixed trait show a greater tendency to blame their intellectual ability when they encounter achievement failures than do those who believe it is a malleable quality. Incremental theorists, by contrast, make more inferences about the specific factors that may have mediated the negative outcomes (effort and strategies). It is important to note that, in this context, the two theory groups do not make different inferences following failure because entity theorists are less able than incremental theorists. In fact, prior to receiving negative feedback, the intellectual task performance of entity theorists, as a group, is entirely equivalent to that of incremental theorists (e.g., Hong & Dweck, 1992; Zhao & Dweck, 1994).

In one study, Henderson and Dweck (1990) tracked students over the transition to junior high school. As part of this study, students were asked to make attributions for hypothetical academic failures they might encounter (poor grades). As our model predicts, entity theorists of intelligence were significantly more likely than incremental theorists to attribute the failures to their intellectual ability, whereas incremental theorists were significantly more likely to attribute them to a lack of effort.

In another recent study (Zhao & Dweck, 1994), college students were presented with three scenarios depicting major academic setbacks (e.g., low Graduate Record Examination scores) and asked, following each, what they would think, feel, and do. Relative to incremental theorists, entity theorists reported significantly more derogation of their global intellectual ability derogation (e.g., "I would think I was dumb"). In contrast, incremental theorists generated significantly more responses suggesting new strategies or heightened effort in the future.

Consistent results were obtained when participants' ability judgments were assessed by means of less obtrusive measures. Hong and Dweck (1992) reasoned that if entity theorists made negative inferences about their ability following failure, then their heightened concern with ability should alter their reaction times to ability words but not to other words (cf. Bock & Klinger, 1986; Jung & Riklin, 1904/1973). To test this prediction, Hong and Dweck randomly assigned college students to either a failure condition or a baseline condition. In the failure condition, participants took an intellectual ability test and received failure feedback. In the baseline condition, which was designed to provide a baseline measure of reactions to ability words,

they proceeded directly to the reaction time task—an adjective decision task. On this task, participants were instructed to decide as quickly as they could whether an adjective displayed on a computer screen could be used to characterize a person. The adjectives could be (a) an ability adjective (e.g., smart, stupid), (b) a non-ability person adjective (e.g., brave, greedy), or (c) an adjective that normally is not used to characterize a person (e.g., spacious, melodic).

The findings supported our prediction. First, as predicted, in the failure condition, entity theorists' response times to ability adjectives differed significantly from those of incremental theorists, suggesting that entity theorists had indeed made ability inferences. The findings also showed that this difference was not due to a generalized reaction to failure among entity theorists, because there were no differences between the two theory groups in their responses to other adjectives following failure. Furthermore, this difference was not due to a chronic responsivity to ability words on the part of entity theorists because in the baseline condition, the two theory groups' response times to the ability adjectives were identical.

In summary, these studies supported the hypothesis that having an entity theory predicts a concern about one's ability and is associated with global ability judgments after negative performance outcomes. Having an incremental theory, by contrast, is associated with a relative deemphasis of trait judgments or explanations and with a focus on the more specific behavioral factors (e.g., effort and strategies) that may mediate negative outcomes.

### Goals

Another source of evidence for the hypothesis that an entity theory engenders a greater concern with traits and trait judgments comes from studies linking students' theories of intelligence to their achievement goals (Bandura & Dweck, 1985; Dweck & Leggett, 1988). In these studies, students' theories of intelligence were assessed, and at a later point, they were given a choice of tasks to work on. Some of the tasks embodied *performance* goals in that they provided students with opportunities to gain positive judgments of their intellectual ability and avoid negative judgments (but did not give them the opportunity to learn anything new). Other tasks embodied *learning* goals in that they provided an opportunity for students to increase their ability, but it was at the risk of exposing ignorance and drawing negative judgments of their intellectual competence. Results from both studies showed that students holding an entity theory of intelligence, significantly more than those holding an incre-

mental theory, chose the performance goal tasks—ones that ensured the desired competence judgments—but at the sacrifice of a meaningful learning opportunity. These studies, then, like the foregoing ones, indicate that entity theorists focus more on judgments of their intellectual ability in achievement situations than do incremental theorists.

### Reactions to Setbacks

One well-documented phenomenon in the literature on achievement motivation is that when individuals encounter achievement setbacks, some respond in a mastery-oriented manner, whereas others respond helplessly (Diener & Dweck, 1978, 1980). More specifically, the mastery-oriented pattern is characterized by a focus on effort and strategies, along with persistent striving and generation of new problem-solving strategies. The helpless response pattern, by contrast, is characterized by negative self-judgments, along with negative affect, a lack of persistence, and performance decrements.

Our research to date has shown that subscribing to an entity theory of intelligence predicts not only global ability judgments in the face of failure but also a less adaptive, helpless pattern of coping. In a study by Henderson and Dweck (1990), students were followed through their transition to junior high school. It was reasoned that over this transition, when schoolwork becomes more challenging and the grading criteria become more stringent, achievement setbacks would be relatively frequent, and implicit theories of intelligence would predict gains and losses in achievement. Students' implicit theories of intelligence were assessed at the beginning of seventh grade (along with their attributions, as previously described, and their affective response to schoolwork). In addition, their sixth-grade grades and achievement test scores were recorded and later compared to their subsequent seventh-grade grades. The question was: How well did students with the different theories do in seventh grade, compared to how well one would have expected them to do on the basis of their sixth-grade performance?

As hypothesized, the students' implicit theories of intelligence predicted their subsequent academic performance. Overall, entity theorists who had received relatively low grades in sixth grade tended to receive low grades in seventh grade, and entity theorists who had previously earned high grades tended to show substantial decrements in their relative standing in seventh grade. In contrast, incremental theorists who had received high grades in the past tended to perform well in seventh grade, and many incremental theorists who had previously exhibited relatively low performance



showed a marked improvement in their standing relative to their peers. In addition, during this transition, entity theorists as a group displayed more negative affect than did incremental theorists. For instance, they reported feeling more apprehensive about their schoolwork than did incremental theorists.

Consistent with these findings, Zhao and Dweck (1994) showed that, when presented with hypothetical achievement setbacks and then asked about their thoughts, feelings, and possible reactions, entity theorists of intelligence were significantly more likely to generate responses reflecting strong negative affect and helpless coping reactions (such as escape from the situation) as compared to incremental theorists, who were significantly more likely to generate mastery-oriented responses (new problem-solving strategies or plans to exert greater effort).

To summarize thus far, in the domain of intellectual achievement, individuals who believe that intelligence is a fixed, trait-like entity are relatively more likely to view achievement outcomes as indicative of their level of intelligence. Even a single failure, despite many prior successes, may be enough to govern their self-judgments. Moreover, this tendency toward global self-judgment is usually accompanied by a greater vulnerability to other aspects of a helpless reaction, such as negative affect, disrupted performance, or the abandonment of constructive strategies. In contrast, incremental theorists, who do not believe in fixed intelligence, are less likely to assess their ability via a few, possibly unrepresentative outcomes. Indeed, setbacks seem to motivate them to focus on and to address the specific factors (e.g., effort or strategy) that might have contributed to these setbacks.

Ability attributions or global, stable self-judgments in the face of failure have long been associated with helpless responding (Abramson, Seligman, & Teasdale, 1978; Diener & Dweck, 1978; Dweck, 1975; Weiner, 1985). This more recent work suggests that these global, stable attributions or inferences are themselves predicted by the prior belief that one's intelligence is a fixed entity. That is, a tendency to invoke a fixed trait when one fails may be set up by the implicit theory that one possesses a fixed trait and that this trait is reflected in the outcome.<sup>1</sup>

<sup>1</sup>Although, theoretically, there is a meaningful distinction to be made between trait judgments and causal trait attributions (in that the former refers simply to trait judgments of persons made on the basis of their acts or outcomes and the latter ascribes causal status to the trait in bringing about those acts or outcomes), we do not emphasize this distinction. This is because our findings have consistently shown similar results whether we have used simple judgments or causal attributions as the dependent variable. This was also true for inferences about more specific mediational processes.

### Judgment of Others and Reactions to Negative Social Behaviors

Thus far, we have shown how subscribing to an entity theory versus incremental theory of intelligence may make global self-judgments and the helpless response pattern more likely in the domain of intellectual achievement. More recently, we have extended our model to the social-moral domain and obtained an analogous pattern of results. As an overview, we have found that compared to individuals who conceive of social or moral attributes as malleable qualities, individuals who conceive of these attributes as fixed traits have a greater tendency to make global trait judgments of others (both positive and negative ones) from initial information about their social and moral behavior. Incremental theorists of personality or morality, by contrast, tend to focus more often on the more specific psychological factors that mediate the social and moral behaviors. In addition, in reaction to the negative social behaviors of another person, entity theorists tend to focus more on meting out the punishment that is appropriate given the trait judgments of the target that they have made. In contrast, incremental theorists tend to focus more on education and are more likely to recommend remedial action that is in line with the mediational factors they believe have produced the negative behaviors.

### Trait Judgments Versus Mediational Judgments

Across a series of studies, we found entity theorists of personality and morality to have a greater tendency than their incremental counterparts to make dispositional trait inferences from preliminary behavioral information. In one study (Chiu, Parker, Hong, & Dweck, 1994; Study 3), participants were presented with a set of positive behaviors (e.g., risking one's life for another), negative behaviors (e.g., stealing a car), or behaviors with unclear valence (e.g., making one's bed in the morning), each performed by a different target. They then judged whether these behaviors were indicative of the targets' underlying moral goodness or badness. As expected, entity theorists of morality consistently believed that these behaviors were significantly more indicative of moral traits than did incremental theorists. Furthermore, this result held for both positive behaviors and negative behaviors, as well as behaviors with unclear valence. That is, entity theorists were not just more negative; they also believed more strongly that positive behaviors were reflective of a person's traits.

Participants in this study also judged the goodness or badness of the behaviors. On this measure, entity theorists' judgments were virtually identical to those of incremental theorists. This indicates that entity theorists' more extreme trait judgments did not reflect a blanket tendency to be more extreme in responding or in judging. It shows that, although entity and incremental theorists differed clearly in the extent to which they would infer a person's traits from the behaviors, it was not because they evaluated the behaviors differently (cf. Bassili, 1989a, 1989b; Newman & Uleman, 1993).

Other studies in our laboratory have shown that entity theorists make stronger trait inferences than do incremental theorists, even when there are also situational explanations for the behaviors. For example, in one study (Erdley & Dweck, 1993), children were shown a narrated slide show of how a new boy in school tried to adjust to the regime of his new classroom. In order to impress others and to hide his ignorance, the boy committed some transgressions (e.g., he told some lies about his background, tried to copy a neighbor's answers, and appropriated leftover material from someone else's project). None of these acts harmed others, all were accompanied by internal debates, and the situational pressures were underscored in the narration. Despite this, on measures of trait inferences administered to the participants after the slide show, entity theorists of personality made far stronger inferences about the target's global moral traits (bad, mean, nasty) than did incremental theorists.

Consistent with this finding, Chiu, Parker, et al. (1994, Study 5) found that entity theorists make stronger trait inferences than do incremental theorists, even from unintentional behaviors. In one condition of this study, college students made judgments about targets who perform behaviors such as "accidentally drops a book from a second-floor window, which almost hits Mrs. Brown." As predicted, entity theorists of morality made stronger inferences about the agents' character traits from the behavior than did incremental theorists.

In yet another study, Hong (1994, Study 2) found that entity theorists make trait inferences even when they are given stimuli that depict a psychological state (an emotion) and even when they are not explicitly asked to make any trait inferences. In this study, participants were first shown on a computer screen five pictures of faces expressing positive or negative emotions (selected from Ekman & Friesen, 1975). Each picture was shown for 10 sec so that the participants could familiarize themselves with it. The faces were then individually presented. However, this time, following a brief exposure to the face (e.g., a picture of an angry face), participants were presented with a trait word (*mean* or

*violent*), a state word (*furious* or *enraged*) or a neutral word (matched with the trait or state word for length and frequency). Half of the time, the words appeared in their normal form, and half the time the letters were scrambled. The task for the participants was to judge, as quickly and accurately as they could, whether the string of letters following the picture was a word or a nonword. The assumption behind this task was that people who had made trait inferences from the faces should recognize and respond to the trait words more quickly (i.e., they should respond more quickly to a trait word than to a matched neutral word that followed the picture). Consistent with our hypothesis, only entity theorists showed significant facilitation of response time to trait words, suggesting that only entity theorists had indeed spontaneously made trait judgments of the targets in the pictures.

Hong (1994, Study 1) also provided evidence for the hypothesis that entity theorists focus more on traits in explaining (i.e., making causal attributions for) social behavior and outcomes, whereas incremental theorists focus more on specific psychological or behavioral mediators. In this study, participants were presented with 24 sentences, 6 describing positive actions (e.g., "Susan volunteered once a week to teach reading to inner city children"), 6 describing negative actions (e.g., "Ben stole some bread from a bakery shop"), 6 describing positive outcomes (e.g., "Bill was recommended highly for the job") and 6 describing negative outcomes (e.g., "Lee's last two relationships ended badly"). Participants were then asked to offer an explanation for these behaviors or outcomes by completing the sentence, "This probably occurred because ...". The explanations they generated were coded into dispositional trait explanations (e.g., "She is an altruistic person") and psychological state explanations (e.g., "He is desperate"). (These two categories accounted for most of the explanations.) As predicted, the Implicit Theory  $\times$  Causal Explanation interaction was significant. Consistent with the findings from the studies described previously, entity theorists offered significantly more trait explanations than did incremental theorists, and there was a trend ( $p = .06$ ) for incremental theorists to generate more psychological state explanations than entity theorists. Only incremental theorists generated significantly more psychological state explanations than trait explanations. In addition, incremental theorists offered significantly more behavioral mediators as explanations for the episodes depicting outcomes than did entity theorists.

In summary, the studies taken together suggest that an entity theory of personality and moral character fosters trait judgments and trait attributions, whereas an

incremental theory promotes a focus on more specific mediational processes.

### **Perceived Stability and Consistency of Trait-Relevant Behavior**

A hallmark of trait judgments is the belief that a trait and its allied behaviors will remain consistent over time and across situations (Kunda & Nisbett, 1986; Mischel, 1990; Nisbett, 1980). When entity theorists render a trait judgment, are they, in line with their theory, likely to view it as a permanent judgment? Does a belief in fixed traits lead an individual to believe more strongly that a person who has displayed a trait-related behavior will act similarly in the future in a variety of situations?

These questions were directly addressed in Erdley and Dweck's (1993) research on children's social judgments. Recall that in one of these studies, children watched a slide show of a new boy in school, in which the boy tried to cheat, told some lies, and appropriated someone else's materials in his eagerness to make a good impression. Children in this study were asked several questions about how they thought the boy would behave in the short-term and long-term future. For example, they were asked whether a slide show made a few weeks later (presumably giving the boy a chance to acclimate to his new class) would show him to be pretty much the same or very different. Entity and incremental theorists differed sharply in their responses to this question. Entity theorists believed that the boy would be pretty much the same, whereas incremental theorists believed that he would settle down and act differently with time.

The children were also asked what they thought the boy would be like in the eighth grade (several years in the future), specifically whether they thought he would be a troublemaker. Their answers could range from "yes, for sure" to "no, not really." Here, again, the two groups differed significantly. Entity theorists felt it was likely that he would be a troublemaker in the years to come, with their responses falling clearly toward the "yes, for sure" end of the scale. In contrast, incremental theorists appeared to suspend judgment on this issue, with their responses falling in the middle of the scale.

Thus, entity theorists, in line with their theory, believed that the traits they had seen the boy display on his first day in the school were the traits he would continue to display in the near and distant future. Incremental theorists, in contrast, perhaps giving more weight to the unique pressures the boy was under, did not see his behavior as necessarily predictive of how he would be in the future.

Not only do entity theorists believe that trait-relevant behaviors are relatively stable, they also believe that trait-relevant behaviors tend to be relatively consistent across a variety of situations. In one study (Chiu, Parker, et al., 1994, Study 1), our participants (college students) were given information about how people acted in one situation and were asked to predict how they would act in a new and different situation. The items were developed by Kunda and Nisbett (1986), and an example is:

Suppose you observed Jack and Joe in one particular situation and found that Jack was more friendly than Joe. What do you suppose is the probability that in a completely different situation, you would also find Jack to be more friendly than Joe?

Entity theorists in this study predicted significantly greater cross-situational consistency than did incremental theorists. If Jack was more friendly in one situation, they believed he would remain so even in a completely different situation. In contrast, incremental theorists believed that Joe was more likely to be the friendly one next time. In other words, knowing nothing more about these characters, incremental theorists seemed to assume that they were probably equally friendly and that their friendly behavior would even out over time. In this study, then, entity theorists appeared to view a behavior as diagnostic and predictive of similar behavior in a new situation, whereas incremental theorists did not.

In a related study (also by Chiu, Parker, et al., 1994; Study 2), our participants (college students) were given information about a person's trait and asked to predict behavior in a given situation. For example, they were told that Henry was more aggressive than Edward on average and were asked to estimate the likelihood that Henry would act more aggressively in a particular situation. There were 10 items that covered a variety of positive and negative traits. Both entity and incremental theorists found the trait information compelling and predicted consistent behavior in the future, but, as hypothesized, entity theorists predicted significantly greater consistency than did incremental theorists.

To summarize thus far, entity theorists, who believe in fixed traits, appear to perceive a closer correspondence between traits and actions than do incremental theorists. Thus, behavioral information is readily used to make trait inferences, and traits are readily used as causal explanations for behaviors. Moreover, consistent with having made inferences about broad, stable traits, the inferred traits are then used to predict other trait-relevant behavior (e.g., in the future or in new situations). Incremental theorists do not infer traits as readily and do not rely on them as much to predict

behavior. Instead, they tend to focus more on specific mediators when they seek to understand or explain others' actions.

### Reactions to Negative Social Behaviors

We have seen that entity and incremental theories of personality and moral character are associated with different patterns of judgments and attributions. Are these two implicit theories also related to their subscribers' reactions to people's social behaviors?

In a series of studies, we found that when entity theorists observe people's negative behavior and make negative character judgments, their reactions tend to focus on retribution, possibly because for them, a person who has performed negative behaviors that reflect an enduring "immoral" disposition deserves punishment. In contrast, incremental theorists, who believe character is malleable and who focus more on how specific psychological factors may influence a wrongdoer's behavior (e.g., moral values or beliefs, feeling of insecurity, social skills), tend to favor interventions that address these causes (e.g., reasoning with the wrongdoer, providing assurance or skill training).

As a digression, it may appear that these findings are in conflict with predictions from other models of sanction assignment (e.g., Fincham & Jaspars, 1980; Weiner, Perry, & Magnusson, 1988). For example, according to Weiner's model (Graham, Weiner, Giuliano, & Williams, 1993; Weiner et al., 1988; Zuckier & Weiner, 1993), when perceivers find out that a person's negative behavior is not under volitional control, they will not hold the person responsible for the behavior and will therefore assign little or no punishment to the person. Thus, it can be argued that because entity theorists tend to think that behavior is the result of fixed and, hence, less controllable traits, they should be relatively more willing to exonerate a transgressor. However, it should be noted that a belief in the fixedness or uncontrollability of a *trait* may not necessarily lead to the expectancy that any specific trait-related behavior or outcome is also not controllable. Thus, an entity theorist of moral character may believe that individuals with a "weaker" moral character can and should try to act in an appropriate manner in a particular situation by exercising will power or presence of mind or by keeping in mind the consequences of inappropriate behavior. An entity theorist of morality, then, may believe that although individuals do not have control over their character traits and although the traits incline them to behave in certain ways, they can exercise choice in any given situation as to whether to engage in a particular behavior. Seen in this way, our model and

Weiner's model are not incompatible. Instead, they may supplement each other in making predictions about sanction assignment.

Returning to the findings from our research, Erdley and Dweck's (1993) studies of children's judgments, which showed that entity theorists tended to make stronger global trait inferences, also provided the initial evidence for entity theorists' greater preference for retribution as a reaction to negative social behavior. Recall that the participants in this study were shown a narrated slide show about the wrongdoing of a new boy in school. After watching the slide show, they were asked to rate the amount of punishment they thought he deserved. As expected, entity theorists recommended significantly more punishment than did incremental theorists. Whereas incremental theorists recommended a "medium amount" of punishment, entity theorists recommended "a lot" of punishment.

In another study, Chiu and Dweck (1994) presented college students with scenarios depicting children who did not perform the classroom duties assigned to them by their teacher (e.g., taking down some posters from the bulletin board). The participants were asked what they would do if they were the teacher in these situations. Consistent with the findings obtained by Erdley and Dweck (1993), entity theorists recommended punishment for the children more frequently than did incremental theorists. In contrast, incremental theorists were much more likely than entity theorists to adopt an instructional approach when they reacted to the children's behaviors. For example, when asked to role play the teacher and talk to the children, incremental theorists were more likely to try to understand the children's reason for not doing the job and to provide encouragement for them to carry out the assigned tasks in the future.

In another recently completed study in our laboratory, Israella Loeb presented college students with three scenarios in which they were victims of hurtful or harmful acts (e.g., a long-term partner left them with no explanation, somebody stole their study notes for an important examination). For each scenario, students were asked to indicate how they would respond. Entity theorists expressed a much stronger desire to retaliate and harm the perpetrator than did incremental theorists. For example, they expressed significantly stronger agreement with such statements as "Frankly, I would try to hurt [the perpetrator] when the opportunity comes along" or "I would seriously consider aggression toward [the perpetrator]." They also agreed that the overall goal of their reaction would be to punish the perpetrators for the suffering and loss that they caused, which was the goal that received the lowest degree of endorsement from incremental theorists.

In contrast, incremental theorists, although also quite upset, focused more than entity theorists on understanding and educating the perpetrators. They agreed (to a significantly greater extent than entity theorists) with statements indicating that they would feel sorry for the perpetrators, they would think there were strong situational reasons for what the perpetrators did, and they would try to understand and forgive them. Relative to entity theorists, they also agreed more strongly that the overall goal of their reaction would be to educate the perpetrators ("I would focus on changing and educating the perpetrators, explaining to them the consequences of their behavior and how they can improve."), which was the goal that showed the lowest degree of endorsement by entity theorists.

Finally, in research by Gervy, Chiu, Hong, and Dweck (1993), participants were asked to play the role of jurors, presented with trial summaries, and asked to render verdicts. In one of the studies, participants were also asked what they thought the primary purpose of imprisonment was. In response to this question, significantly more entity theorists than incremental theorists said retribution, and significantly more incremental theorists said rehabilitation.

Taken together, these studies suggest that not only does an entity versus incremental theory of character predict a greater tendency to make trait judgments or attributions, it also predicts a preference for retribution versus education or remediation as a reaction to negative behavior. Thus, in the domains of both intelligence and character, entity and incremental theories are associated with different patterns of judgments and reactions.

### **The Causal Role of Implicit Theories**

Given these robust findings, our research has begun to address the causal role of implicit theories in judgments and reactions. In his dissertation research, Bergen (1991) successfully induced college students to adopt one of the two implicit theories of intelligence by presenting them with a "scientific article" that compellingly argued for either an entity or an incremental view of intelligence. The results demonstrated that participants who had received the entity theory induction showed more evidence of a helpless reaction to failure. In a recently completed study, we used a similar technique (presenting compelling evidence for an entity or incremental theory of character via fictitious scientific articles) to induce college students to adopt either an entity or an incremental theory of character. In this study, participants were randomly assigned to read one of the two articles in a "reading comprehen-

sion experiment." They were then given the behavior prediction questionnaire used in the Chiu, Parker, et al. (1994) studies that were previously described. Specifically, the participants were asked to predict the likelihood that a person with a particular trait would perform in a trait-consistent fashion in a new situation. The findings revealed that participants who were led to adopt an entity theory believed that there was a significantly greater likelihood that a person with a particular trait would behave in a trait-consistent manner in a new situation than did participants who were led to adopt an incremental theory.

In summary, these studies have begun to show that in both the intellectual and moral domains, some of the judgments and reactions associated with implicit theories can be experimentally induced by manipulating participants' implicit theories. These findings are consistent with the idea that implicit theories may play a causal role in the patterns of judgments and reactions forementioned. In addition, given the fact that we have been successful in manipulating theories, these findings suggest that it is more appropriate to view implicit theories and their allied judgment and reaction patterns as relatively stable but malleable personal qualities, rather than as fixed dispositions.

### **Other New Directions**

The implicit theories model has taken our research in a number of new directions. We briefly describe two of them—one growing out of the achievement work and the other growing out of the social judgment work.

#### **Motivational Patterns in Young Children**

First, our model has begun to illuminate the motivational patterns of young children. It had been widely believed that children below the age of 8 or 9 were not vulnerable to helpless reactions in the face of failure (see Dweck & Elliott, 1983; Stipek & Mac Iver, 1989, for a review of this position). Younger children, it was reasoned, do not yet have notions of intelligence as a fixed trait and therefore will not see failure as a reflection of this trait and thus fall into a helpless pattern. Indeed, it was argued, young children may not even have a clear idea of what intelligence is.

Nevertheless, in a series of studies (Cain & Dweck, in press; Heyman, Dweck, & Cain, 1992; Smiley & Dweck, in press; see also Dweck, 1991, for a review), we have shown that children as young as preschoolers

and kindergartners show every aspect of the helpless pattern: negative self-attributions, lowered expectancies, negative affect, decreased persistence, and a lack of constructive strategies. Moreover, this helpless syndrome occurs in a sizable number of these children when they encounter salient failure or criticism on tasks that are meaningful to them. However, these children do not simply think they are *dumb* when they fail; they think they are *bad* (Heyman, Dweck, & Cain, 1992). That is, failure or criticism for their work leads them to question their overall goodness and, perhaps, worth (see Burhans & Dweck, in press). Moreover, compared to children who display the more mastery-oriented pattern, these children tend to view bad behavior as a stable characteristic of the self (see Heyman et al., 1992). In other words, when one looks directly at the domains and the attributes that are relevant to young children's lives—they are on the thick of socialization, being taught what is good and bad, right and wrong—one gains a clearer picture of their motivational concerns and response patterns. Moreover, it appears that our model provides a good description of these patterns: A belief in stable goodness–badness predicts a tendency to blame this trait in the face of failure and to display a helpless reaction. Young children who do not believe in stable goodness–badness instead focus more on effort and strategy when they encounter obstacles or criticism and display a more mastery-oriented response.

In summary, the model we developed to capture the motivational pattern of older individuals (i.e., their goals and concerns; their attributions, affect, and persistence) appears also to capture the patterns of younger children when one focuses on the issues that are of greatest relevance to them.

### **The Representation and Organization of Social Information**

Our recent work on social judgment has begun to reveal individual differences in how people encode and organize incoming social information. Specifically, we are finding that entity theorists appear to tag and categorize incoming person information in terms of its trait-relevant evaluative meaning. Incremental theorists, in contrast, take a less evaluative stance toward the information and tend to categorize persons in terms of such things as the goals they pursue.

In one of our studies (Hong, Chiu, & Dweck, 1994), we tested the hypothesis that entity theorists would encode incoming person information in a more evaluative manner than would incremental theorists, perhaps attaching a positive or negative evaluative tag to each piece of information. We reasoned that if entity theo-

rists are seeking to make trait judgments (“Is this person competent or incompetent, moral or immoral?”), then coding relevant information with appropriate evaluative tags would facilitate trait decisions later.

In the Hong et al. (1994) study, entity and incremental theorists (implicit person theory) were given information relevant to the competence of a pilot trainee—specifically, 20 scores he had earned on the subscales of a pilot aptitude test. To test for evaluative encoding, we later used the high and low test scores in a priming task. If the scores had acquired clear evaluative meaning, then high scores presented as primes should facilitate responding to positive words (e.g., *lovely*) and should retard responding to negative words (e.g., *gruesome*). In the same vein, low scores should facilitate responding to subsequent negative words and should retard responding to positive ones. This method was adapted from Bargh, Chaiken, Govender, and Pratto (1992), who showed that positive and negative attitude objects (e.g., sunshine or rats) had these effects when used as primes.

The results showed that the high and low scores had the predicted priming effects for entity theorists, indicating that the scores had acquired clear evaluative meaning for them and functioned as attitude objects. In contrast, the scores had no impact on the responding of incremental theorists. These results support the idea that entity theorists code information in a way that may facilitate trait judgments.

In a series of studies by Chiu, Sacks, and Dweck (1994), we tested the hypothesis that entity and incremental theorists would use different bases for categorizing people, with entity theorists using trait information as the major basis for judging people as similar or dissimilar and incremental theorists using more mediational information, such as people's goals, as the major basis for judging similarity or dissimilarity. In one study, trait and goal information about each target person was directly and explicitly provided, but in another study, participants simply read a number of comic strips from which trait and goal information could be inferred. In both studies, entity and incremental theorists (implicit person theory) were asked to rate the similarity and dissimilarity of the various target persons. The results from both studies provided clear evidence that entity theorists used traits (e.g., competence, morality) as the major basis for judging similarity and thus as the basis for organizing their impressions of the people. In contrast, the results showed clearly that incremental theorists used goals as the major basis for judging people as similar. The findings thus provided strong evidence for the idea that entity and incremental theorists differ in how they organize person information.

Taken together, this line of work has begun to suggest that, in keeping with their differential emphases on traits versus more specific mediating processes, entity and incremental theorists may encode and organize incoming social information in different ways.

### **Some Possible Linkages in the Nomological Net**

Because the implicit theories discussed in this article are relatively recent constructs in the literature, it is important to establish a nomological net (Cronbach & Meehl, 1955) that links these constructs to other individual difference constructs. As noted earlier, implicit theories of human attributes are statistically independent of generalized attitudes toward the self (self-confidence, self-esteem), other people, and the world (see Tables 3, 4, and 5). They are also independent of attitudinal syndromes such as authoritarianism, liberalism, and conservatism. The statistical independence from these measures indicates that the effects of implicit theories on judgments and reactions are not mediated by these other beliefs or attitudes. Instead, the group differences in judgments and reactions previously described appear to be directly predicted by beliefs about the nature of human attributes and may result from the different processing frameworks set up by these implicit theories.

However, the relations between implicit theories and other process-oriented individual differences such as attributional style (Peterson et al., 1982), uncertainty orientation (Sorrentino, Short, & Raynor, 1984), the need for cognition (Cacioppo & Petty, 1982), the need for closure (Kruglanski, Webster, & Klem, 1993), and the personal need for structure (Neuberg & Newsom, 1993) have not yet been established. In our view, implicit theories may form a theoretically interesting nomological net with these individual differences. In this context, however, it is important to point out two significant differences between implicit theories and these other process-oriented constructs. First, by definition, an entity versus incremental theory refers only to the assumption individuals make about the fixedness or malleability of the human attributes in question. This definition does not contain a processing style component or a motivational component, although subscribing to either theory may lead to certain processing strategies and certain processing goals (see Dweck, in press; Dweck, Hong, & Chiu, 1993). Thus, the construct in and of itself has little overlap with individual differences in processing style or motivational set at either the definitional or assessment level. Second,

implicit theories are domain specific whereas most other process-oriented individual differences are not.

Having made these distinctions, we nonetheless predict that implicit theories will be associated with aspects of attributional style (e.g., making internal trait attributions in the relevant domain). Indeed, the previously described studies consistently showed that an entity theory in a particular domain is positively associated with the tendency to make internal, global, and stable (trait) interpretations of behavior and outcomes in that domain. However, our model portrays causal attributions as part of a system of beliefs that begins with implicit theories about the attributes in question. In our model, a belief in fixed traits is what leads to a focus on such traits as causal explanations for actions and outcomes. Thus, although the attributions that are made may well be the important mediators of subsequent reactions (Weiner, 1985), we propose that these attributional tendencies are set up by people's implicit theories.

The findings we have described here also suggest that an entity theory portrays a social world that is relatively stable and predictable. Thus, compared to incremental theorists, who subscribe to a world view that is more dynamic and complex, entity theorists may believe closure is more easily attainable. Indeed, in a recent study conducted in our laboratory by Lisa Sorich, entity theorists agreed (and agreed significantly more strongly than did incremental theorists) with statements asserting that one can diagnose a person's moral character quickly and easily. In contrast, incremental theorists' mean response fell on the disagreement side of the scale. Entity theorists' belief in a relatively simpler reality that allows for rather rapid closure suggests the possibility that, relative to incremental theorists, entity theorists may exhibit a greater need for closure, a lower uncertainty orientation, and a lower need for cognition in the course of social knowing. Finally, because lack of structure is antithetical to the orderly relations implied by a fixed reality, entity theorists may also have a higher personal need for structure in the relevant domain than do incremental theorists.

In summary, although implicit theories and other process-oriented individual differences are conceptually distinct and operationally independent constructs, they may be related to each other in interesting ways.

### **Theoretical Implications**

We have shown that people's assumptions about the fixedness or malleability of human attributes predict the way they seek to know their social reality, as well as the way in which that reality is experienced and

responded to. Moreover, we have shown that judgments and reaction in the intellectual, social, and moral domains fall into similar patterns. Our model may thus be seen as having a number of implications for understanding motivational, personality, and social perception processes.

First, in terms of motivational processes, the model predicts the goals that individuals tend to pursue, how they pursue them, and how effectively they pursue them. Specifically, we have shown that in the achievement domain, entity theorists are more oriented than incremental theorists toward performance goals—goals that reflect a concern with competence judgments. In contrast, incremental theorists are more oriented toward learning goals—goals that reflect a concern with skill acquisition. In addition, we have shown that different patterns of self-judgment, affect, and persistence are associated with the two theories. In short, goal pursuit can be seen as defining motivated behavior (Cantor & Harlow, 1994; Pervin, 1983, 1989), and implicit theories appear to predict important aspect of goal pursuit in the intellectual domain.

In the social domain, we have shown that the different theories predict an orientation toward trait judgments and attributions versus more specific mediational inferences and explanations. Although we have not studied goals directly here, we have seen that entity and incremental theorists appear to encode and organize social information in different ways—ways that suggest they are seeking to make these different types of judgments. We have also seen that entity and incremental theorists have different goals in dealing with a wrongdoer—retribution versus education. Thus, in the social domain as well, implicit theories may illuminate the goals of individuals' social perception and action (Kruglanski, 1990).

The model also has implications for understanding personality processes in that we have demonstrated clear individual differences in patterns of judgment and reactions and shown that these differences are tied to people's implicit theories. Indeed, a major goal of personality research is to identify potentially important patterns of thoughts, feelings, and actions and to link them to underlying psychological causes (see Cantor & Harlow, 1994; Mischel & Shoda, in press). We hope that our model has provided a step in that direction.

Finally, we believe our model has implications for understanding social perception processes. Much of the current research suggests that trait judgment is the major aim of social perception or that trait judgments are the predominant form of social inference and explanation (Gilbert & Jones, 1986; Nisbett, 1980; Uleman, 1987). Our work suggests that this is more true for some people than for others—that is, for entity theorists more

than incremental theorists. As the research we have reported indicates, incremental theorists often focus on more specific mediational processes in their social inferences and explanation. Models of social perception thus need to take account of alternative goals and modes of social inference (Kruglanski, 1990; Trope, 1986, 1989; Wyer & Gordon, 1984).

In summary, although many implications of the model remain to be investigated, the findings to date suggest that it may have the potential to shed light on a variety of processes of interest to psychologists.

### The World From Two Perspectives: Some Concluding Thoughts

The philosopher Alfred North Whitehead (1938; see also Johnson, Germer, Efran, & Overton, 1988) distinguished between a static world view and a dynamic world view. These two distinct views of reality differ in terms of (a) their core ontological assumption about the nature of reality (whether it is static or evolving), and (b) their epistemological approach to knowing this reality (whether the reality is best known by quantifying and measuring its unchangeable dispositions or by analyzing its dynamic processes).

In many ways, an entity versus incremental theory of human nature can be seen as related to the general "static" versus "dynamic" world view described by Whitehead. On the ontological level, the more static, entity view of human nature accords a fixed quality to human attributes. Human attributes, now viewed as internal entities, are similar to physical objects in the sense that they both can be readily measured. Indeed, the epistemological approach in this view often entails measurement or quantification of these entities.

As our research demonstrates, subscribing to a static, entity world view has both advantages and disadvantages. Within a static view of reality, fixed traits organize the individual's phenomenology; there is close correspondence between traits and actions—traits engender actions, which in turn imply traits (see Hong, 1994). This view of the human reality has the advantage of being parsimonious, but it is not without its potential cost. As we have seen, in the face of aversive events, the sweeping trait inferences entity theorists tend to make may sometimes lead to self-stigmatization and ineffective striving.

In contrast, on the ontological level, a malleable theory sees human attributes as dynamic properties that can be developed. On the epistemological level, to understand the dynamic nature of the human reality, one cannot rely solely on the measurement of human attributes at a particular moment in a particular context.



Instead, knowing the human reality requires that we understand the specific psychological processes that mediate behavior and the behavioral processes that mediate outcomes.

This dynamic, incremental view of human reality, as we have seen, may result in a lower degree of certainty when making behavioral predictions. Indeed, to achieve the same degree of certainty in making behavioral predictions that entity theorists have, incremental theorists would likely need to sample behavior across situations and over time (to gain a picture of an individual's patterns of mediated behavior). This means that incremental theorists may need to engage in more complex and effortful analyses to attain the level of certainty that entity theorists attain with less processing effort. Moreover, because human attributes are viewed as malleable, a high degree of certainty or closure may never be possible. However, compared to the static view, this view allows more room for change, and the mediational analysis fostered by this view may also suggest mechanisms for change. Indeed, as we have seen, this view may reduce the likelihood of helpless responding and promote mastery-oriented coping in the face of aversive events.

In conclusion, entity and incremental theories appear to orient their subscribers to see the same world from two different perspectives. As our research has shown, implicit theories consistently predict the different ways in which identical events will be construed and coped with.

### Notes

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