

## Life Is a Roller Coaster When You View the World Through Entity Glasses

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In their model of implicit theories, Dweck, Chiu, and Hong articulate an ambitious conceptual framework with far-ranging implications for personality, motivation, and social behavior. The authors identify two fundamentally different world views that influence how individuals process and respond to social information, and they detail the motivational and social consequences of these world views in two important domains of human behavior (achievement and moral judgment). Dweck et al. have marshalled an extensive array of empirical evidence demonstrating that an individual's beliefs about the malleability of intelligence and morality have a major impact on the way impressions are formed, information is processed, goals are adopted, setbacks are handled, and social reward and punishment is administered. The elegance, simplicity, and scope of the model are truly impressive. In the following, we outline some questions and concerns about the model as presently articulated.

One important question about this model, which is essentially a theory about individuals' theories about traits, is whether Dweck et al. themselves hold an entity or incremental theory in conceptualizing this individual difference variable. That is, do theories of intelligence and morality represent fixed world views, or are these perspectives malleable? The data indicate that the entity-incremental dimension is domain specific but reliable over time within domains. These data and the use of global and stable terms like *world view* and *immutable* suggest that "once an entity theorist, always an entity theorist" (within domains, of course). However, the authors also cite evidence that entity and incremental theories can be experimentally manipulated, suggesting that these theories are, to some degree, malleable. These seemingly discrepant positions—that implicit theories represent stable world views within domains, yet they can be experimentally manipulated—are difficult for us to reconcile. Intuitively, it seems odd that an individual who views the world through entity glasses could be persuaded to adopt an incremental theory as a function of a brief experimental manipulation.

We have additional questions regarding the precise nature of the incremental and entity theories, based on the manner in which Dweck et al. assess the two world

views. Although the authors claim that approximately 85% of participants can be classified as holding a clear theory within each domain, we are not convinced that they have actually established a clear dichotomy between entity and incremental theorists. Individuals identified as incremental theorists are defined by virtue of their *rejection* of entity theories rather than their espousal of incremental beliefs. Does rejection of an entity theory necessarily or logically imply endorsement of an incremental theory? This method of classification makes it difficult to know whether incremental theorists show their distinct patterns of judgments, affective reactions, and adaptive responses because they reject the entity world view or because they have actively embraced the incremental world view. The Boyum (1988) and Leggett (1985) data cited in the target article seem to indicate that the latter is true, but these data also demonstrate that entity theorists widely endorse incremental beliefs as well. Thus, *everyone* appears to adhere to the incremental world view, one subset of whom (approximately 40%) additionally endorse the entity theory.

An interesting possibility raised by the Boyum (1988) and Leggett (1985) data is that entity theorists may actually have both incremental and entity theories available in memory, but the relative accessibility of the two beliefs varies (see Nicholls, 1984, 1989). Perhaps the entity theory is chronically accessible for individuals characterized as entity theorists and typically determines their judgments and reactions in the manner outlined by Dweck et al. However, these individuals may be able to access the incremental theory in situations that make a different world view salient (e.g., questionnaires that ask about incremental beliefs, studies that manipulate theories), and entity theorists may thus become incremental theorists in some situations. In this sense, entity theorists might have the potential to be more flexible than incremental theorists who only have one theory available. Our analysis suggests that it should be easier to alter the world view of an entity theorist than one of an incremental theorist, and an interesting direction for future research would be to examine whether entity theorists can learn to change their theories on the basis of anticipated feedback. For example, perhaps entity theorists could learn to switch

to an incremental theory for situations in which negative feedback is likely, thereby strategically protecting themselves from the debilitating consequences of negative feedback.

This possibility of greater flexibility for entity theorists raises a more general question about the potential positive consequences of holding an entity theory. Although Dweck et al. state that both implicit theories have potential costs and benefits, they focus almost exclusively on the positive consequences of holding an incremental theory and the negative ramifications of entity theorizing. This emphasis is similar to Dweck's theoretical work on achievement goals, in which she links learning goals to a host of positive achievement outcomes and performance goals to a constellation of negative achievement responses (cf. Dweck, 1986; Dweck & Leggett, 1988; Heyman & Dweck, 1992). Much of our own research in the intrinsic motivation domain has focused on the positive consequences of performance goal adoption in some contexts (Elliot, 1994; Harackiewicz & Elliot, 1994; Harackiewicz & Sansone, 1991) and for some individuals (Elliot & Harackiewicz, 1994; Harackiewicz, 1989; Harackiewicz & Elliot, 1993). We feel compelled to draw attention to a comparable possibility in relation to the present work; it seems likely to us that in some instances (and/or for some individuals), entity theorizing may be the preferred alternative.

For instance, within the achievement domain, the consequences of incremental and entity theorizing are considered predominantly in regard to *negative* performance outcomes. Dweck et al. have clearly documented ways in which entity theorists are disadvantaged in failure situations, and they have demonstrated how incremental theorists are uniquely protected from the deleterious consequences of negative feedback. However, success feedback may be associated with a host of positive consequences for entity theorists, relative to incremental theorists. In other words, if individuals view ability as fixed and then perform well, they should infer that they possess the ability in question and, consequently, enjoy all of the affective and motivational benefits therein. The same positive feedback would not have comparable beneficial effects for incremental theorists. Thus, if we consider the full range of possible performance outcomes, entity theorists may actually experience a wider range of consequences, both more negative upon failure and more positive upon success. This suggests that entity theorists are prone to something of a "roller coaster" effect (with both higher "highs" and lower "lows" than incremental theorists) as they experience and process performance feedback in achievement settings.

Moreover, if entity theorists truly believe that performance outcomes are indicative of stable dispositions, then the initial judgments they make about their abilities or attributes ("I have it" vs. "I don't have it") should be highly resistant to change. In fact, these judgments should serve as self-fulfilling prophecies, perpetuating themselves as a function of various perceptual-cognitive biases (Higgins, Roney, Crowe, & Hymes, 1994; Wegner, 1994). Thus, the receipt of positive feedback on a novel task should persuade an entity theorist that he or she probably does possess the attribute in question, and subsequent positive (consistent) feedback should verify and stabilize this judgment. Once in place, this positive judgment should protect the individual from the deleterious consequences of negative (inconsistent) feedback ("Because I know I have this trait, this negative feedback must be a fluke"; i.e., attributable to something other than the ability in question). However, this reasoning seems to conflict with Dweck et al.'s view that for entity theorists, "even a single failure, despite many prior successes, may be enough to govern their self-judgments." Clearly, the implicit theories model predicts asymmetrical effects for positive and negative information, yet the authors have offered no explanation for why negative information should be so dramatically overemphasized by entity theorists. We believe the model would be strengthened by a more elaborate consideration of these important information-processing dynamics and by more attention to the impact of implicit theories for cases in which positive feedback is a possible outcome.

A major strength of this model is its social-cognitive formulation of social perception processes. The authors generate several key predictions for how individuals should perceive social stimuli and behavior, form impressions, and make judgments as a function of implicit theories. We want to emphasize that differentiating entity and incremental world views and delineating their respective social-cognitive consequences represent important contributions in and of themselves. However, we believe the current formulation derives much of its elegance and explanatory power from its connection to Dweck's prior work on achievement goals, and we find the link between implicit theories and goals particularly intriguing. For example, Dweck and Leggett (1988) outlined the cognitive, affective, and motivational processes engendered by the adoption of performance and learning goals, and they considered the role of implicit theories in fostering differential goal adoption. Specifically, Dweck and Leggett, in concert with Dweck et al., suggested that entity theorists adopt performance goals, whereas incremental theorists adopt learning goals in achievement situations. We view this linking of implicit theories to goals as a

valuable aspect of the present model because it provides a motivational component that establishes dynamic paths from global world views to specific achievement behaviors.

Unfortunately, the precise nature of this theory-goal link is not explicated in much detail in the target article, and the authors provide surprisingly little evidence in support of the general hypothesis that entity theorists typically adopt performance goals, whereas incremental theorists predominantly pursue learning goals. For example, no data are presented regarding the association between implicit theories and individual differences in achievement goal orientation. A number of measures have been developed to assess performance and learning goals in classroom and sports situations (e.g., Ames & Archer, 1988; Duda & Nicholls, 1992; Meece, 1991; Pintrich & Garcia, 1991; Wentzel, 1989), and correlations with some of these measures could provide persuasive evidence supporting the proposed theory-goal link.

Moreover, the authors' straightforward hypothesis about the link between implicit theory and achievement goal may mask numerous complexities. For example, Dweck and Leggett are clearly incremental theorists with respect to achievement goals; that is, they view achievement goals as situationally specific and malleable, and they even allow for the possibility of a person holding both goals simultaneously. This malleability at the achievement goal level seems difficult to reconcile with the presumed stability of implicit theories, if there is indeed a one-to-one correspondence between theory and goal adoption. If there is not a one-to-one correspondence between implicit theories and goals, what other factors moderate this relationship?

One possible moderator to consider, suggested by our earlier speculations about the possible positive consequences of entity theorizing, is perceived competence. According to Dweck and Leggett (1988), the effects of performance and learning goals depend on an individual's present level of perceived ability, and the most detrimental effects of performance goals are found for individuals low in perceived competence. Is it possible that the effects of implicit theories would be similarly moderated by perceived ability or a more global sense of competence or self-esteem?

Finally, what are the relative contributions of implicit theories and achievement goals in predicting achievement behavior? Given the lack of specificity regarding the theory-goal link in the target article, it is difficult to determine whether the implicit theories model is meant to subsume (or replace, to some extent) Dweck's earlier goal formulation or whether the two models are intended to be complementary, constituent elements in a grand, synthetic model. For instance,

Dweck and Leggett (1988) argued that goals are the proximal determinants of achievement behavior, whereas Dweck et al. make predictions for affect and reactions to setbacks as a function of implicit theories, without explicitly invoking goals as a mediating construct. Thus, it is not clear whether Dweck has changed her beliefs about the dynamics of achievement behavior or whether she is simply emphasizing a different part of a larger model. We have assumed the latter in the previous discussion, but we realize that this is but one interpretation. In sum, we believe that a more detailed analysis of the linkage between implicit theory and achievement goals will address some of the ambiguities present in the current framework, facilitate integration of the two models, and afford a more powerful account of achievement behavior.

Despite the concerns raised in this commentary, we believe that Dweck et al.'s implicit theories model has the potential to make a major contribution to theory and research on social-cognitive processes (and beyond). The model clearly possesses two attributes of a good theory: It is both parsimonious and broad in explanatory power (Marx, 1963). Furthermore, its applicability to social, personality, clinical, developmental, and educational psychology (certainly not an exhaustive list) increases the probability that the formulation will lead to subsequent theoretical and empirical developments—yet another hallmark of a good theoretical framework. An apparently immutable characteristic of Dweck's work is that it is both pioneering and generative. Her attributional model of reactions to failure (Dweck & Goetz, 1978) and her programmatic research on gender differences in helplessness (Dweck & Bush, 1976; Dweck, Davidson, Nelson, & Enna, 1978; Dweck & Gilliard, 1975) have had an enormous impact in numerous areas of psychological inquiry, and her achievement goal conceptualization (Dweck, 1986; Dweck & Leggett, 1988) has been equally influential and generative. Although we believe the implicit theories model, as presently articulated, possesses some important limitations, the groundwork has clearly been laid for yet another major contribution to the field. As incremental theorists (at least in the philosophy of science domain), we hope that our comments, together with those of our fellow commentators, will contribute to the further development of this exciting conceptualization.

#### Note

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## Implicit Theory of Personality as a Theory of Personality

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The Dweck, Chiu, and Hong research program breathes new and exciting life into the familiar notion of implicit personality theory. No longer is this mere theory of trait clustering, no longer a mere lay-theoretic base of perceiving *other people*. Because they concern naive notions about the very possibility of personal change, the entity and incremental theories described by Dweck et al. are poignantly pertinent to the *self*. Thus, they aid individuals in interpreting significant events in their own lives and consequently impact their

affective, cognitive, and behavioral reactions to diverse personal and interpersonal situations. If one additionally grants that adherence to such naive theories represents a relatively stable feature of individuals, and if by *personality* one means relatively stable patterns of psychological responding, it may not be an exaggeration to view Dweck et al.'s research program as ushering a new personality theory in which *personality* is construed as largely tantamount to the set of naive personality theories to which the individual may subscribe.