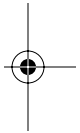


CHAPTER 6

CORE SELF-EVALUATIONS, ASPIRATIONS, SUCCESS, AND PERSISTENCE

An Attributional Model

Timothy A. Judge and John D. Kammeyer-Mueller
University of Florida

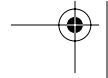
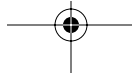


ABSTRACT

The study of attributions and personality are two of the most well-developed areas in all of psychology, but there are only limited efforts to integrate these areas due to the division between experimental and correlational psychology. The literature on attributions has also been divided into affective and cognitive camps. To achieve rapprochement between these areas, a model is developed that proposes that attributions are affected by stable core self-evaluations, and that these attributions, in turn, affect more proximal self-evaluations. The resultant model provides an opportunity to restore the concept of process to a central role in personality research and understand how stable individual differences might affect attributions for specific events.

Understanding causal relationships is fundamental to the way that human beings make sense of and attempt to adapt to their worlds, even though for

Attribution Theory in the Organizational Sciences, pages 111–132
Copyright © 2004 by Information Age Publishing
All rights of reproduction in any form reserved.





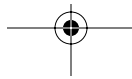
the most part, we are unable to observe causes directly (Einhorn & Hogarth, 1986). David Hume (1748/1963) argued that cause-and-effect relationships do not exist in nature *a priori*, although it is the nature of human consciousness to determine the causes of events. He wrote:

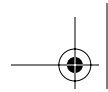
Our conviction of the truth of a fact rests on feeling, memory, and the reasonings founded on the causal connection, i.e. on the relation of cause and effect. The knowledge of this relation is not attained by reasonings *a priori*, but arises entirely from experience.... Hence there is no knowledge and no metaphysics beyond experience.

Because experiences that inform causal inferences were influenced by feelings and sentiments, Hume's philosophy provides a tacit role for individual differences in causal attributions. While Hume's assertions regarding the centrality of experience have been controversial, alternative philosophical schools go even further in emphasizing the uniquely constructive role of the individual in forming an understanding of cause (e.g., Kant, 1781/1998; Leibniz, 1765/1982).

Yet, within the realm of psychology, the study of attributions often has ignored individual differences and individual subjectivity. As noted by Allport (1955) and Cronbach (1957), there is a long history of differentiating the field of psychology into individual differences research that primarily concentrates on stable differences between people (e.g., personality psychology) and intraindividual differences research that concentrates on how situations affect behavior (e.g., social psychology). Traditionally, attributions have been the domain of social psychologists (Weiner, 1990). Indeed, some of the more renowned social psychologists played pivotal roles in the development of attribution theory,¹ including Heider (1958) and Kelley (1967, 1973). Unfortunately, because of the differences in methods and focus for personality and social psychology, there is a history of either suspicion or overt challenge between these "two disciplines of psychology," and very little integration of research between fields. Forgas, Bower, and Moylan (1990) noted that "attribution researchers have paid relatively little attention to individual differences and the personal states and characteristics of judges, such as their emotional states" (p. 809).

As noted by Weiner and Graham (1999), attribution theory need not be under the exclusive purview of social psychologists interested in cognitive reactions to situations. Specifically, Weiner (1990) notes that attributions may both affect, and be affected by, personality processes. For example, Weiner and Graham (1999, p. 605) noted, "Answers to a question such as 'Why have I failed?' surely can affect self-esteem.... In addition, self-esteem is likely to influence the answer to that question." Moreover, as noted by





Martinko (1995), only limited, relatively recent research has studied attribution theory in the organizational sciences.

The purpose of this chapter is to provide a model that integrates contemporary concepts in personality and motivation with attribution theory concepts. Our goal in doing this is to augment the existing literature, which has only described the cognitive framework for making attributions, with affective and experiential components (Forgas et al., 1990). In the next section of this chapter, we introduce and discuss the meaning and relevance of the concepts that appear in the model. In subsequent sections, we present hypotheses linking these concepts in the context of an integrated model. Finally, in the last section of this chapter we discuss how future research could productively test the model and the relationships embedded therein. Our goal is to shed better light on the *intrapersonal* processes that may be substantially informed by attribution theory, but which have been relatively ignored in research (Martinko, 1995).

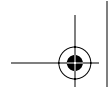
ATTRIBUTION THEORY

Attributions lie at the core of human reasoning because they are the principal means by which individuals make sense of their and others' behavior (Einhorn & Hogarth, 1986). It is not surprising, then, that attributions were one of the earliest phenomena considered by social psychologists. Heider (1944) believed that all individuals were, in some sense, naïve psychologists who formed beliefs or hypotheses about the motives of themselves and others with whom they interacted, and acted on the basis of these beliefs. Heider (1944, 1958) proposed rules by which responsibility for an action are likely to be attributed to a person. The result of applying these rules range from a fully internal attribution (the person is wholly responsible) to a completely external attribution (the situation is solely responsible). Person factors include ability, motivation, and personality. Situation factors include luck, influential others, and other elements of the environment.

Kelley (1967) extended and formalized Heider's theory by providing specific hypotheses regarding factors that affect the formation of attributions. Specifically, Kelley hypothesized that attributions hinged on three types of information:

1. *Consensus*—how does one's behavior compare to that of one's peers? Consensus is high when one acts similarly to one's peers; it is low when it is different.
2. *Distinctiveness*—how does one's behavior compare to one's behavior in other situations? Distinctiveness is high when one's behavior in





one situation is different from one's behavior in other situations; distinctiveness is low when one's behavior on a task is similar to behavior in other situations.

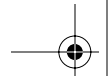
3. *Consistency*—how consistent is one's behavior on a task over time? Consistency is high when one's behavior is similar over time; consistency is low when one's behavior varies considerably over time.

Kelley argued that individuals ascribe behavior to internal causes when consensus is low, distinctiveness is low, and consistency is high. Individuals will make external attributions when consensus is high, distinctiveness is high, and consistency is low.

Weiner (1980) extended this attribution model to achievement-oriented behavior. In Weiner's model, after an individual performs a task, he or she seeks to judge whether it was successful or unsuccessful and determines what factors might have caused that success or failure. Weiner hypothesized that attributions would hinge on three factors: locus of control (internal vs. external), stability (whether causes change over time), and controllability (whether the causes can be changed by the person). The results of this attributional process produce changes in an individual's self-concept, which then produce changes in behavior. Evidence indicates that people's attributions of their current performance foreshadow their expectations concerning future performances (e.g., Forsyth & McMillan, 1981). Martinko and Thomson (1998) provided an integration of Kelley's and Weiner's theories, based on the idea that both models describe the same fundamental attribution process. This model begins to move toward suggesting an important role for self-construal in determining behavior and attributions. A more comprehensive integration of the self-concept requires a more detailed understanding of personality, however. This is the topic to which we turn in the next section of the chapter.

PERSONALOGICAL STATES AND TRAITS

The concept of personality is among the most central and diffuse in all of psychology. While nearly any topic in the study of human beings could potentially be studied under the topic of personality, for the most part personality researchers have been concerned with the sense of an integrated self and personal consistency over time and across situations. Allport (1937) described personality as the "dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment" (p. 48). For Allport (1955), the dynamics of the internal process were what made personality psychology distinctive, so much so that he proposed that intra-individual growth and change should

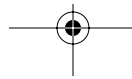


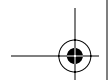
be central to the study of personality. Similar psychologies of intra-individual change were investigated by other seminal writers of personality theory (e.g., Erikson, 1959; Murray, 1938).

However, a review of the recent literature currently shows that intra-individual variation is not currently a major component of personality research. Instead, personality researchers have expended far more time and effort in an attempt to define the taxonomy of important traits on which individuals differ reliably across situations. This theme has been so central that to many individuals, personality is considered the study of traits. This research has amply demonstrated that individuals differ on aggregate measures of personality, and that these differences are consistent over time (e.g., Costa & McCrae, 1997; Roberts & DelVecchio, 2000; Watson & Walker, 1996). On the environmental side, psychodynamic researchers propose that early life experiences have an especially powerful imprinting on an individual, which is unlikely to change over time (Westen, 1990). Moreover, research shows that there is a genetic component to personality traits, further enhancing the argument for stability and consistency in behavior (Loehlin, 1992; Loehlin, McCrae, Costa, & John, 1998).

However, the existence of stable, genetically inherited traits does not necessarily mean that personality is immutable. As noted in Allport's definition of personality provided earlier, there is an important dynamic aspect to personality. Even if personality does show impressive rank order stability, there is considerable change over time in each person's alignment and relationship between traits—a well-adjusted adult of 40 probably behaves quite differently than a similarly well-adjusted 20-year-old even though they might have quite similar trait scores (Allport, 1955). Life cycle researchers focus not only on how events affect personality, but how interpretations of events build on one another across the life span (McAdams, 1990). An increasing number of researchers in the area of personality psychology have turned to an interactional approach, wherein there is an interplay between person factors and situational factors (e.g., Magnusson, 1990). The dynamic between the two has been captured by work in the area of anxiety (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) and more general measures of negative affect (Watson, Clark, & Tellegen, 1988), which explicitly focus on the relationship between higher-order trait measures and day-to-day states. Steyer, Ferring, and Schmitt (1992) also demonstrate that for both anxiety and coping behaviors, models that use both state and trait properties are consistently superior than those that focus on only one. This research suggests that incorporating some element of the effect of the environment from social psychology might greatly enhance our understanding of personality.

Another key area of interest for personality theorists is the factors that influence one's self-construal, particularly in the form of self-appraisals of



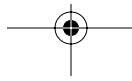


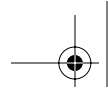
self-esteem and self-efficacy. This is the most direct area for attribution theory's contribution. Cognitive theories of personality tend to focus on how individuals construct a view of reality through selective attention to various aspects of their environment and understanding causal linkages (Mischel, 1990). Social cognitive theory similarly takes a person's self-observations of behavior as a starting point for subsequent self-construals, which in turn will influence self-efficacy and behavior (Bandura, 1991). More affect-based models of self-appraisal note that individuals with more negative self-images tend to concentrate on personal shortcomings as explanations for poor performance (Di Paula & Campbell, 2002; Dodgson & Wood, 1998).

Given the apparent linkages between personality and attribution theory, we further propose that researchers may already have begun to explore one of the most central personality traits for the study of attributions. In the next section, we review core self-evaluations, which we propose is the single most important constellation of personality traits for attribution theory, and which we also believe is the component of personality that is most likely to be affected by attributions.

CORE SELF-EVALUATIONS

At the nexus of the relationship between a person's construal of their environment and their exercise of personal agency lies a person's construal of themselves. While diverse research has treated self-evaluations along dimensions of efficacy, esteem, locus of control, and neurosis, Judge, Locke, and Durham noted in 1997 there is a common core to all these dimensions that can be termed *core self-evaluations*. According to Judge and colleagues (1997), core self-evaluations are defined as fundamental premises that individuals hold about themselves and their functioning in the world (Judge & Larsen, 2001). In the 6 years since the publication of the first paper on the topic, more than 20 articles (e.g., Erez & Judge, 2001), chapters (e.g., Bono & Judge, 2003), and dissertations (e.g., Best, 2003; Erez, 1997; Rode, 2002) have been conducted, addressing issues ranging from the construct validity of the trait to its role in explaining and predicting job satisfaction and job performance. Although Judge and colleagues originally linked core self-evaluations to job satisfaction (Judge, Locke, Durham, & Kluger, 1998), more recent research has linked the concept to life satisfaction (Heller, Judge, & Watson, 2002), job performance (Judge & Bono, 2001), and motivation (Erez & Judge, 2001; Judge, Erez, & Bono, 1998). In this research, the core self-evaluations concept emerges as a consistently valid predictor of both affective and objective work outcomes.





In their initial formulation of the core self-evaluations concept, Judge and colleagues (1997) searched the literature for traits that met three criteria: *self-evaluative* (core traits should involve self-appraisal as opposed to description of oneself or others), *fundamentality* (core traits should be fundamental as opposed to surface traits; Cattell, 1965), and *scope* (core traits should be wide in scope, or cardinal traits; Allport, 1961). Using these criteria, Judge and colleagues (1997, 1998) proposed core self-evaluations as a higher-order concept comprised of four more specific lower order traits: (1) *self-esteem*—the basic appraisal people make of themselves and the overall value that people place on themselves; (2) *generalized self-efficacy*—individuals' estimate of their fundamental ability to cope with life's exigencies, to perform, and to be successful; (3) *locus of control*—the degree to which individuals believe that they control events in their lives; and (4) *neuroticism* (or its converse, *emotional stability*)—one of the "Big Five" personality dimensions that represents the tendency to exhibit poor emotional adjustment and experience negative affects such as fear, hostility, and depression (Goldberg, 1990).

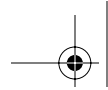
As might be expected given their conceptual similarities, empirically, the traits are strongly interrelated. Neuroticism, locus of control, generalized self-efficacy, and self-esteem appear to be strongly related. In a meta-analysis, Judge, Erez, Bono, and Thoresen (2002) revealed the following correlations between the traits:

- Self-esteem–locus of control, $\hat{\rho} = .52$.
- Self-esteem–emotional stability, $\hat{\rho} = .64$.
- Self-esteem–generalized self-efficacy, $\hat{\rho} = .85$.
- Locus of control–emotional stability, $\hat{\rho} = .40$.
- Locus of control–generalized self-efficacy, $\hat{\rho} = .56$.
- Emotional stability–generalized self-efficacy, $\hat{\rho} = .62$.

The average (absolute) correlation among the traits is .60. Furthermore, the four traits appear to indicate a single common factor, and the measures load strongly on the common factor (e.g., average loading = .80; Erez & Judge, 2001), and this general factor appears to be more useful in predicting various criteria (such as job satisfaction and job performance) than the specific variance attributed to the subtraits (Judge et al., 2002).

Based on the emerging body of evidence suggesting that core self-evaluations is the best representation of a person's self-construal, we believe this construct offers a unique opportunity to build on the existing literature on self-concept and attribution theory. One of the key advantages of the core self-evaluations construct is that it brings together several dimensions of a person's self-concept that might be relevant to performance. It captures the common variance to variables considered relatively cognitive



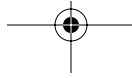


(i.e., self-efficacy and locus of control) along with variables of a more affective or motivational nature (i.e., self-esteem and emotional stability). In addition to its value as a representation of several traits underlying the self-concept, the core self-evaluations model provides a meaningful link to several related literatures that have previously examined the role of self-perception and performance from the distinct perspectives offered by self-esteem, self-efficacy, locus of control, and emotional stability. As such, research on core self-evaluations promises to help unify several distinct methods of conceptualizing the effects of attributions on self-concept and performance, thereby adding to the literature on each of the related sub-constructs. Because attribution theories have been linked to the core traits of self-esteem (Weiner, 1987) and locus of control (Rotter, 1966), it is apropos to explore the link between core self-evaluations and attributions. In the next section of this chapter, we discuss attribution theory and its relevance to core self-evaluations research.

MODEL AND HYPOTHESES

Although each of the Kelley (1967) and Weiner (1980) attribution concepts could be studied, here we focus on internal attributions because this stream of research is most germane to current personality research. Internal attributions are common to the attribution theories, including Kelley's theory, Weiner's theory (as locus of causality), and learned helplessness theory (Abramson, 1979; Seligman & Schulman, 1986). Even more specific attributional concepts—the actor-observer bias (Jones & Davis, 1965) and the self-serving bias (Heider, 1958)—focus on attributing causes to the person (internal attribution) or the situation (external attribution). Additionally, of the core concepts in the Kelley, Weiner, and Seligman models, the internality/externality dimension is most related to existing personality constructs. Weiner (1990) noted the study of individual differences in causal attributions began with Rotter's (1966) incorporation of locus of control into the personality literature as an enduring disposition. Another core trait, self-esteem, also has been an important individual difference in research on attribution theory, especially as it relates to threats to self-esteem (Feick & Rhodewalt, 1997) and the hedonic bias (Campbell & Sedikides, 1999).

Figure 6.1 contains the hypothesized model that links trait core self-evaluations, task aspirations and success, internal versus external attributions, state core self-evaluations, and task persistence/withdrawal. The focus of the model is on core self-evaluations (trait and state) and attributions that



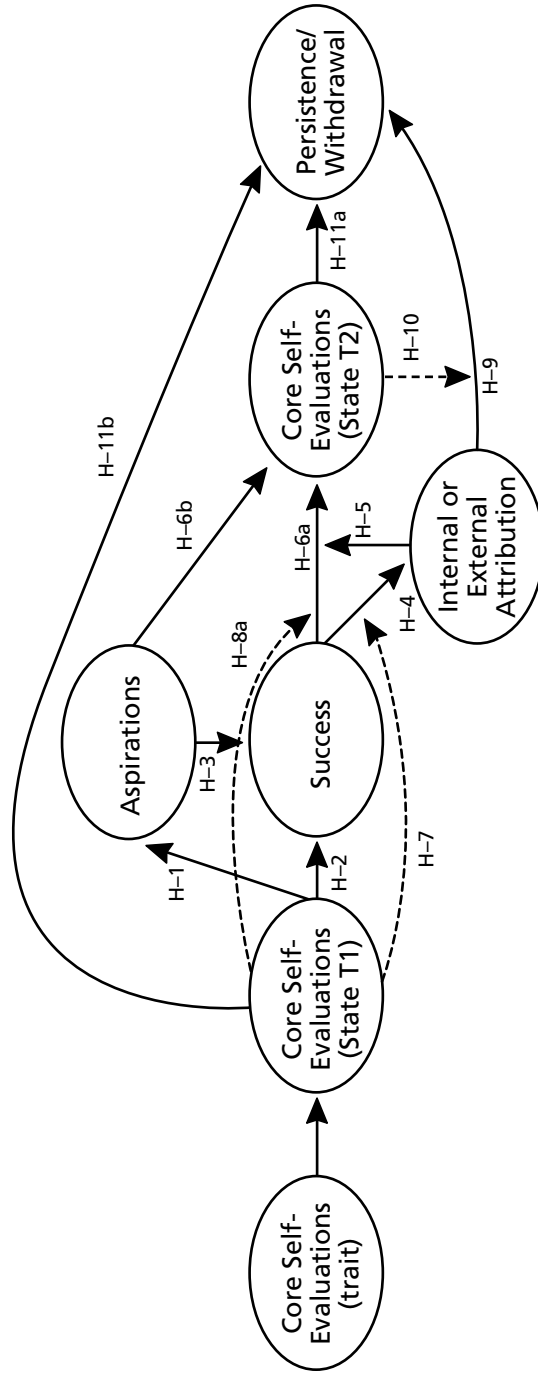
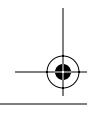
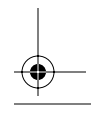
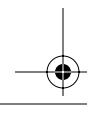
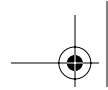


Figure 6.1. Core self-evaluations: Attributional Model.



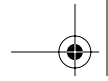


may serve as a central mechanism explaining how core self-evaluations are linked to motivation and performance. Below we explicate each of the hypothesized linkages in the model. While several of the concepts presented in this model have been described previously (e.g., Donovan & Williams, 2003; Eden, 1988; Locke & Latham, 1990; Thomas & Mathieu, 1994), our goal is to integrate these findings under a single theoretical model that recognizes similarities in the assembled literatures using attributional processes as the focal construct. Although many links in the model have been previously supported through empirical research using related concepts, we contend that there is additional utility to examining whether the combined core self-evaluations construct provides a superior explanatory framework relative to the traits examined in isolation.

Moving from left to right in the model, trait core self-evaluations is linked to both aspirations (H-1) and success (H-2). Although our choice of wording is intentionally broad here,² one may think of aspirations as goals or desired end-states and success as task performance. The link between core self-evaluations and goal-setting is clear. Despite impressive support for goal-setting theory (see Locke & Latham, 1990), goals will only motivate people to the degree they are accepted (Locke, 1968). Hollenbeck and Klein (1987) argue that commitment to goals is a function of the expectancy of goal attainment (people will not be committed to goals they think they cannot achieve) and the valence of goal attainment (people will only strive to achieve goals they find attractive). It follows that individuals with positive core self-evaluations should set higher goals because they have greater expectancy of attaining their goals (Earley & Lituchy, 1991; Hollenbeck & Brief, 1987; Phillips & Gully, 1997; Thomas & Mathieu, 1994). Moreover, in a field study, Erez and Judge (2001) found the core self-evaluations trait was positively related to self-set goals ($r = .42, p < .01$) as well as goal commitment ($r = .59, p < .01$).

Hypothesis 1: *Core self-evaluations will be positively related to aspirations such that individuals with a positive self-regard will set higher performance goals than those with a less positive self-regard.*

In terms of core self-evaluations and success, given the link to motivation, it is not surprising that core self-evaluations would be linked to performance. Judge and Bono (2001) linked the four core self-evaluation traits to job performance in a meta-analysis of 105 correlations. The weakest correlation was emotional stability (.19); the strongest correlation was self-esteem (.26). Across the four traits, the average correlation was .23, which is the same as the validity of conscientiousness in predicting job performance (Barrick & Mount, 1991).



Hypothesis 2: *Core self-evaluations will be positively related to success such that individuals with a positive self-regard will perform better than those with a less positive self-regard.*

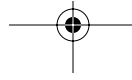
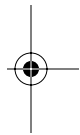
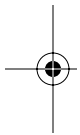
The link between aspirations, in the form of goals, and performance is well documented. According to Locke (1997), goals lead to performance because they direct attention and action, arouse effort, and facilitate persistence. As Locke, Shaw, Saari, and Latham (1980) comment, “The beneficial effect of goal setting on task performance is one of the most robust and replicable findings in the psychological literature” (p. 145). Indeed, several meta-analyses support the relationship between both self-set and assigned goals as predictors of job performance (Mento, Steel, & Karren, 1987; Tubbs, 1986). Wright’s (1990) review revealed corrected correlations of $r = .36$ between assigned goals and performance and $r = .28$ between self-set goals and performance.

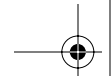
Hypothesis 3: *Aspirations will be positively related to success such that individuals who set higher goals will perform better than those who set lower goals.*

In proffering what has come to be known as the self-serving bias, Heider (1958) argued that individuals attribute their successes to internal causes (one’s ability or motivation) and their failures to external causes (chance, task difficulty, influence of others). A meta-analysis of the self-serving bias literature revealed that, across all studies, the average effect size was $\bar{d} = .47$ (Campbell & Sedikides, 1999), which would translate into $r \bar{r} = .23$. The authors conclude, “Individuals do make internal attributions for their successes and external (person or situation) attributions for their failures” (p. 35). This finding has also received experimental support from research showing self-enhancement motives dominate individuals’ self-evaluative motives compared to self-verification or self-assessment (Sedikides, 1993). Thus, as shown in Figure 6.1, and as articulated in H-4 below, we hypothesize that individuals will attribute successful performance to themselves and unsuccessful performance to others or to the situation.³

Hypothesis 4: *Success will be positively related to internal (vs. external) attributions such that individuals who perform well will be more likely to attribute their performance to internal factors (e.g., disposition) than to external factors (situation).*

Although the revised learned helplessness theory hypothesizes that the *general* tendency to make internal attributions should be positively related to self-esteem and negatively related to depression because it reflects a more optimistic explanatory style (Abramson, Seligman, & Teasdale, 1978), in reacting to specific events, the functionality of attributions depends on the positivity of the event (Aspinwall & Leaf, 2002). Success

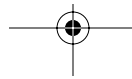
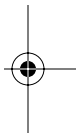




leads to positive emotions and heightened self-worth when attributions are internal because one is assuming credit for success (Weiner, 1990). Conversely, the same attribution leads to negative emotions and undermines self-worth when the event is negative because one is blaming oneself for failure (Weiner, 1990). In discussing locus of causality and self-esteem, Weiner and Graham (1999) note, "Success outcomes that are ascribed to the self (e.g., personality, ability, effort) result in greater self-esteem and pride" (p. 615). There is also an affective component to these responses—internal attributions to success often lead to states like happiness and relaxation (Weiner, Russell, & Lerman, 1978). Research in clinical psychology suggests that individuals who make internal attributions for positive life events experience fewer depressive symptoms, such as reducing negative affective states and increasing personal efficacy (Needles & Abramson, 1990). Thus, internal attributions should foster positive core self-evaluations when the event is positive (performance above expectations) but undermine positive core self-evaluations when the event is negative (performance below expectations).

Hypothesis 5: *The effect of success on state core self-evaluations will be moderated by internal or external attributions, such that the effect of internal attributions on state core self-evaluations will be positive when performance is above the aspiration level but negative when performance is below the aspiration level.*

William James (1890) theorized that self-esteem was the ratio of one's successes to one's pretensions or aspirations. Identity theory would predict that one's self-regard is particularly affected by success or failure when the domain is salient to one's identity and when the self-concept is measured in a role-specific manner (Ervin & Stryker, 2001). When the task is important (central to one's identity), the self-esteem threat produced by failure is heightened. Rosenberg and colleagues (1995) show, for example, that high school grades have a stronger relationship with academic self-esteem than global self-esteem. Affect is more centrally involved in processing of information, which is closely related to success or failure on tasks that are peripheral to one's self-concept (Sedikides, 1995). By extension, the relationship between specific self-evaluations and success or failure on a specific task should be more affectively toned than would the relationship between overall self-concept and specific successes or failures. Thus, state core self-evaluations in both the cognitive and affective components should be positively related to success when the self-evaluations and success are assessed in a commensurate manner. Moreover, controlling for this success, one's aspirations will bear a negative relationship to state core self-evaluations because, following James's hypothesis, higher aspirations holding success constant will lead to lower





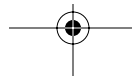
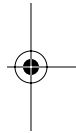
self-esteem. As he noted, “To give up pretensions is as blessed a relief as to get them gratified” (James, 1890).

Hypothesis 6: *State core self-evaluations will be affected by (a) success and (b) aspirations such that individuals will have the most positive self-regard when their performance exceeds their goals.*

As was noted previously, the self-serving bias—the tendency to make internal attributions for success and external attributions for failure—has received general support in the literature (Campbell & Sedikides, 1999). Yet, there are also potential moderators of this effect. One possible moderator is one’s core self-concept. Specifically, it seems likely that one of the ways that positive individuals maintain their favorable self-image is to discount failures (to causes outside themselves) and take credit for successes. Indeed, evidence suggests that individuals with high self-esteem respond to negative feedback through an accentuated self-serving bias (Baumeister, Heatherton, & Tice, 1993). For example, one study revealed that individuals who attributed their recent unemployment to external factors had higher levels of self-esteem than those who gave internal attributions (Winefield, Tiggemann, & Winefield, 1992). Campbell and Sedikides’s (1999) review revealed that the self-serving bias was strong for high self-esteem individuals ($d = 1.05$) but essentially nil for low self-esteem individuals ($d = -.07$). There is also evidence that individuals in positive moods are more likely to attribute their successes to internal or stable causes (Curren & Harich, 1993; Forgas et al., 1990), suggesting that the emotional stability component of core self-evaluations will act similarly to the self-esteem component by increasing the internality of attributions of success. Thus, success should be more likely to translate into internal attributions for individuals with a positive self-concept than those with a less positive self-concept.

Hypothesis 7: *Core self-evaluations will moderate the effect of success on internal (vs. external) attributions such that performance is more likely to translate into internal attributions for those with a positive self-regard than for those with a negative self-regard.*

Self-verification theory (Swann, Stein-Seroussi, & Giesler, 1992) maintains that individuals are motivated to preserve their self-image such that individuals with high self-esteem are motivated to find evidence of success, whereas individuals with low self-esteem are motivated to find evidence of failure. Empirical evidence supports self-verification when the self-views are implicated in the feedback individuals receive (Bosson & Swann, 1999).⁴ The notion of congruency in information processing is also presented from research on mood and self-concept, which shows that individuals



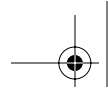


tend to seek out mood-consistent information so that positive individuals will be more sensitive to positive information while negative individuals will be more sensitive to negative information (Mayer, Gaschke, Braverman, & Evans, 1992; Sedikides, 1992). Individuals in negative moods are also more likely to hold themselves to unrealistic standards for feeling that they have performed adequately, leading them to be more likely to see a given level of performance as a failure (Cervone, Kopp, Schaumann, & Scott, 1994). Given the relationship between core self-evaluations and emotional stability, this provides a broader base of support for a relationship than would the self-esteem findings alone. Therefore, individuals with positive trait core self-evaluations could maintain or enhance their state core self-evaluations by making internal attributions for their success and external attributions for their failures. In such a way, positive people reinforce their positive self-image by taking credit for successes and escaping responsibility for failures, and negative people reinforce their negative self-image by blaming themselves for failures and crediting others (or the environment) for successes.

Hypothesis 8: *The effect of success on subsequent (time 2) state core self-evaluations will be moderated by prior (time 1) state core self-evaluations, such that performance will more strongly affect individuals' subsequent state core self-evaluations for those who are initially high on state core self-evaluations.*

The relationship between attributional style and persistence is complex. On the one hand, learned helplessness theory predicts that those who attribute adverse events to internal, stable, and global causes will persist less in the face of failure, pain, or negative feedback (Abramson et al., 1979). Thus, all else equal, the tendency to make internal attributions is positively related to persistence (Seligman & Schulman, 1986). However, a general explanatory style is not the same as attributions in reactions to specific episodes. It is hard to imagine that internal attributions when one is clearly not at fault, or persistence in the face of no hope of success, are adaptive. Weiner's (1980) theory predicts that internal attributions in the face of failure will lead to depression and withdrawal. Thus, with respect to specific situations (e.g., repeated performance of the same task), making internal attributions for failure would seem to support withdrawal from the task, whereas making internal attributions for success would support persistence.

Hypothesis 9: *For successful performance, internal attributions will be related to persistence (H-9a). For unsuccessful performance, internal attributions will be related to withdrawal (H-9b).*

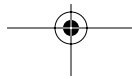
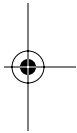


The process described in H-9 could be expected to be accentuated by core self-evaluations. Specifically, the functional process of persisting after success, when one makes an internal attribution, may be stronger for those with a positive self-concept. One of the reasons positive people might better translate internal attributions into persistence in light of successful performance is that they are reward-sensitive. Specifically, positive people may more strongly approach positive outcomes (like the prospect of future successful performance) than less positive people (Snyder, 2002). In support, Erez and Judge (2001) found that the core trait was positively related to goal valence (the attractiveness of goal attainment). Another process supporting this relationship is the expectancy of (future) success. Positive people should be more likely to believe that their capabilities will translate into future success, as evidenced by research showing links between the individual core traits and expectancy motivation (Hollenbeck & Brief, 1987).⁵

Hypothesis 10: *Core self-evaluations will moderate the effect of internal attributions on persistence on a task such that the effect of internal attributions on persistence following success will be stronger for those with a positive self-regard than those with less positive self-regard.*

A final consideration in the model is the relationship between states and traits as antecedents of behavior. The difficulties in matching attitudes to behavior encountered in social psychology serves as a useful guide in this regard. After nearly half a century of research that produced largely equivocal results on the question of whether attitudes predict behavior, Ajzen and Fishbein (1977) proposed a correspondence model to explain when relationships should be strongest. Their review of the published literature showed that behaviors involve (a) a specific action, (b) performed toward a target, (c) in a context, and (d) at a time or occasion, and that the relationship between attitudes and behaviors will be enhanced to the extent that these elements are overlapping. Similarly, self-evaluations can be expected to be most predictive of behavior to the extent that they refer to an evaluation of the self in regard to a proximal behavior. "Global self-esteem is shown to relate to overall psychological well-being, role-specific self-esteem more directly to behavior" (Ervin & Stryker, 2001, p. 36). Indeed, Rosenberg, Schooler, Schoenbach, and Rosenberg (1995) found that specific self-esteem better predicted behavior to which it was matched (i.e., academic self-esteem and grades) than did global self-esteem.

Hypothesis 11: *State core self-evaluations (H-11a) will have a more proximal effect on task persistence/withdrawal than will trait core self-evaluations (H-11b).*





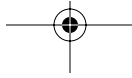
DISCUSSION

In summary, the proposed model of attributions and personality provides several linkages that have not previously been explored. While Hypotheses 1–4 have largely been demonstrated in the past, the full model of the relationship between core self-evaluations and performance has not been investigated systematically. The model centers around a proposition made at the beginning of this chapter—namely, that evaluations of the self will exert a powerful influence on how causal forces are interpreted, and that in turn, the interpretation of causation will affect self-evaluations. It is through these reciprocal effects that personality traits, which may begin from inauspicious beginnings as isolated events and inert genetic code, come to be solidified over time through a process of self-reinforcement (Li, 2003).

The model makes several contributions to our understanding of attributions and core self-evaluations. Regarding attributions, although the phenomenological nature of inferences of causality has long been recognized, there has been little systematic work to understand how individual differences might affect how attributions are made. The present model locates both trait- and state-level self-evaluations as a personality dimension that might have especially strong implications for how internality or externality of cause is inferred. Beyond simply suggesting that there will be these effects, the model hypothesizes a sequence for performance as a mediator of the relationship between individual differences and attributions of causality. In addition, the research on attributions has not integrated cognitive and affective processes in the past.

Regarding core self-evaluations, although there is research demonstrating a consistent stability in these evaluations, there is far less research showing how self-evaluations are formed. Most research has implicitly treated core self-evaluations as unchanging properties of the self, without acknowledging how the traits of self-esteem, self-efficacy, and neuroticism have been studied as time varying and contextual. The notion of a state core self-evaluation that combines transitory versions of the core traits of self-esteem, self-efficacy, neuroticism, and locus of control is a potentially important addition to the literature. Although state core self-evaluations are our primary objects of study that might be affected by experiences, the possibility that self-evaluations are the outcome of experience is also a major refinement of core self-evaluations theory that may help extend the research into an understanding of personal agency in general.

As this study is an attempt to bridge a gap between the worlds of the two empirical disciplines of psychology (Cronbach, 1957), empirical evidence for this model will need to come from a variety of sources. One clear implication of the model for research is that meaningful tests of the model will require measurement of global and specific traits. It is our hope that





extending the research in this way will facilitate an understanding of how the critical concept of agency is inferred from the environment.

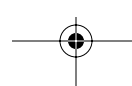
NOTES

1. As noted by Kelley and Michela (1980), there is no single attribution theory; it may be more accurate to refer to attribution *theories* (Martinko & Thomson, 1998).
2. We chose “aspirations” and “success” rather than “goals” and “performance” in the model because the latter terms, while useful, may be overly narrow. Aspirations is the generalized “upward desire for excellence” (Oxford University Press, 2003), which is a broader concept than goal-setting. Core self-evaluations may be linked to aspirations beyond goals in that goals are task specific (Locke, 1997), whereas aspirations may generalize beyond a single task. Moreover, core self-evaluations may be linked for various definitions of success beyond job/task performance, including career success such as earnings or status (Kammeyer-Mueller, Judge, & Piccolo, 2003) or, though direct evidence is lacking, intrinsic career success (career satisfaction).
3. Although, consistent with the self-serving bias, the causal arrow in Figure 6.1 goes from performance to attributions, much of the research on the relationship between attributions and performance has tended to use attributions or attributional style as a predictor of performance, such that those who tend to make internal attributions perform better than those who tend to make external attributions, in both correlational (Seligman & Schulman, 1986; Silvester, Patterson, & Ferguson, 2003) and experimental (Sharma & Mavi, 2001) studies. For example, Feeley and Federal (2003) found that midjets’ attributions about the causes of their shortness affected their performance in the high jump. On the other hand, evidence does suggest that performance is a source of attributions, especially when individuals are given comparative information (Arnelsson & Smith, 2000). Although attribution theories would predict that the effect of success on attributions will depend on one’s reasoning about the causes of the success (or failure), it stands to reason that the events themselves (in this case, success or performance) will affect attributions. Moreover, in an experimental context, one can design a situation in which either is the cause of the other.
4. It should be noted that individuals also may have tendencies to self-enhance (both positive and negative people engage in processes to improve their self-image); such dual tendencies to self-verify and self-enhance can coexist (Morling & Epstein, 1997).
5. Although state core self-evaluations are shown as the moderating variable in Figure 6.1, it is also possible that trait core self-evaluations be a moderating variable here in the same way as state core self-evaluations. However, for simplicity, we only hypothesize a moderating role of state core self-evaluations, though both can be investigated.



REFERENCES

- Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*, 888–918.
- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt, Rinehart, & Winston.
- Allport, G. W. (1961). *Pattern and growth in personality*. New York: Holt, Rinehart, & Winston.
- Arnkellsson, G. B., & Smith, W. P. (2000). The impact of stable and unstable attributes on ability assessment in social comparison. *Personality and Social Psychology Bulletin, 26*, 936–947.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*, 248–287.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44*, 1–26.
- Best, R. G. (2003). *Are self-evaluations at the core of job burnout?* Unpublished doctoral dissertation, Kansas State University.
- Bono, J. E., & Judge, T. A. (2003). Core self-evaluations: A review of the trait and its role in job satisfaction and job performance. *European Journal of Personality, 17*, S5–S18.
- Bosson, J. K., & Swann, W. B., Jr. (1999). Self-liking, self-competence, and the quest for self-verification. *Personality and Social Psychology Bulletin, 25*, 1230–1241.
- Campbell, W. K., & Sedikides, C. (1999). Self-threat magnifies the self-serving bias: A meta-analytic investigation. *Review of General Psychology, 3*, 23–43.
- Cattell, R. B. (1965). *The scientific analysis of personality*. Baltimore: Penguin.
- Cervone, D., Kopp, D. A., Schaumann, L., & Scott, W. D. (1994). Mood, self-efficacy, and performance standards: Lower moods induce higher standards for performance. *Journal of Personality and Social Psychology, 67*, 499–512.
- Cronbach, L. J. (1957). The two disciplines of scientific psychology. *American Psychologist, 12*, 671–684.
- Curren, M. T., & Harich, K. R. (1993). Performance attributions: Effects of mood and involvement. *Journal of Educational Psychology, 85*, 605–609.
- Di Paula, A., & Campbell, J. D. (2002). Self-esteem in the face of failure. *Journal of Personality and Social Psychology, 83*, 711–724.
- Dodgson, P. G., & Wood, J. V. (1998). Self-esteem and the cognitive accessibility of strengths and weaknesses after failure. *Journal of Personality and Social Psychology, 75*, 178–197.
- Donovan, J. J., & Williams, K. J. (2003). Missing the mark: Effects of time and causal attributions on goal revision in response to goal-performance discrepancies. *Journal of Applied Psychology, 88*, 379–390.
- Earley, P. C., & Lituchy, T. R. (1991). Delineating goal and efficacy effects: A test of three models. *Journal of Applied Psychology, 76*, 81–98.
- Eden, D. (1988). Pygmalion, goal setting, and expectancy: Compatible ways to boost productivity. *Academy of Management Review, 13*, 639–652.



- Einhorn, H. J., & Hogarth, R. M. (1986). Judging probable cause. *Psychological Bulletin*, *99*, 3–19.
- Ervin, L. H., & Stryker, S. (2001). Theorizing the relationship between self-esteem and identity. In T. J. Owens, S. Stryker, & N. Goodman (Eds.), *Extending self-esteem theory and research* (pp. 29–55). Cambridge, MA: Cambridge University Press.
- Erez, A. (1997). *Core self-evaluations as a source of work-motivation and performance*. Unpublished doctoral dissertation, Cornell University.
- Erez, A., & Judge, T. A. (2001). Relationship of core self-evaluations to goal setting, motivation, and performance. *Journal of Applied Psychology*, *86*, 1270–1279.
- Erez, M., & Zidon, I. (1984). Effect of goal acceptance on the relation of goal difficulty to performance. *Journal of Applied Psychology*, *69*, 69–78.
- Erikson, E. H. (1959). Identity and the life cycle: Selected papers. *Psychological Issues*, *1*, 5–165.
- Feick, D. L., & Rhodewalt, F. (1997). The double-edged sword of self-handicapping: Discounting, augmentation, and the protection and enhancement of self-esteem. *Motivation and Emotion*, *21*, 147–163.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, *82*, 221–234.
- Forgas, J. P., Bower, G. H., & Moylan, S. J. (1990). Praise or blame? Affective influences on attributions for achievement. *Journal of Personality and Social Psychology*, *59*, 809–819.
- Forsyth, D. R., & McMillan, J. (1981). Attributions, affect, and expectations: A test of Weiner's three-dimensional model. *Journal of Educational Psychology*, *73*, 393–401.
- Ghorpade, J., Hattrup, K., & Lackritz, J. R. (1999). The use of personality measures in cross-cultural research: A test of three personality scales across two countries. *Journal of Applied Psychology*, *84*, 670–679.
- Heider, F. (1944). Social perception and phenomenal causality. *Psychological Review*, *51*, 358–374.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Heller, D., Judge, T. A., & Watson, D. (2002). The confounding role of personality and trait affectivity in the relationship between job and life satisfaction. *Journal of Organizational Behavior*, *23*, 815–835.
- Hollenbeck, J. R., & Brief, A. P. (1987). The effects of individual differences and goal origin on goal setting and performance. *Organizational Behavior and Human Decision Processes*, *40*, 392–414.
- Hollenbeck, J. R., & Klein, H. J. (1987). Goal commitment and the goal-setting process: Problems, prospects, and proposals for future research. *Journal of Applied Psychology*, *72*, 212–220.
- Hume, D. (1963). *An enquiry concerning human understanding*. New York: Washington Square Press. (Original work published 1748)
- Hunter, J. A., Reid, J. M., Stokell, N. M., & Platow, M. J. (2000). Social attribution, self-esteem, and social identity. *Current Research in Social Psychology*, *5*, 97–125.
- James, W. (1890). *The principles of psychology*. Available: <http://psychclassics.yorku.ca/James/Principles/>.
- Jones, E. E., & Davis, K. E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2). Orlando, FL: Academic Press.



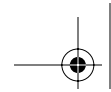
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology, 86*, 80–92.
- Judge, T. A., & Larsen, R. J. (2001). Dispositional source of job satisfaction: A review and theoretical extension. *Organizational Behavior and Human Decision Processes, 86*, 67–98.
- Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relationship between positive self-concept and job performance. *Human Performance, 11*, 167–187.
- Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology, 83*, 693–710.
- Judge, T. A., Locke, E. A., & Durham, C. C. (1997). The dispositional causes of job satisfaction: A core evaluations approach. *Research in Organizational Behavior, 19*, 151–188.
- Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*, 17–34.
- Kant, I. (1998). *The critique of pure reason* (P. Guyer & A. W. Wood, Eds. & Trans.). New York: Cambridge University Press. (Original work published 1781)
- Kelley, H. H. (1967). Attribution in social psychology. *Nebraska Symposium on Motivation, 15*, 192–238.
- Kelley, H. H. (1973). The processes of causal attribution. *American Psychologist, 28*, 107–128.
- Leibniz, G.W. (1982). *New essays on human understanding*. (P. Remnant & J. Bennett, Eds. & Trans.). New York: Cambridge University Press. (Original work published 1765)
- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance, 3*, 157–189.
- Locke, E. A. 1997. The motivation to work: What we know. *Advances in Motivation and Achievement, 10*, 375–412.
- Locke, E. A., & Latham, G. P. 1990. *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Locke, E. A., Shaw, K. N., Saari, L. M., and Latham, G. P. (1981). Goal setting and task performance: 1968–1980. *Psychological Bulletin, 90*, 125–152.
- Loehlin, J. C. (1992). *Genes and environment in personality development*. Newbury Park, CA: Sage.
- Loehlin, J. C., McCrae, R. R., Costa, P. T., & John, O. P. (1998). Heritabilities of common and measure-specific components of the Big Five personality factors. *Journal of Research in Personality, 32*, 431–453.
- Martinko, M. J. (1995). The nature and function of attribution theory within the organizational sciences. In M. J. Martinko (Ed.), *Attribution theory: An organizational perspective* (pp. 7–16). Delray Beach, FL: St. Lucie Press.
- Martinko, M. J., & Thomson, N. F. (1998). A synthesis and extension of the Weiner and Kelley attribution models. *Basic and Applied Social Psychology, 20*, 271–284.





- Mayer, J. D., Gaschke, V., Braverman, D. L., & Evans, T. W. (1992). Mood-congruent judgment is a general effect. *Journal of Personality and Social Psychology*, *63*, 119–132.
- McAdams, D. P. (1990). Unity and purpose in human lives: The emergence of identity as a life story. In A. I. Rabin, R. A. Zucker, R. A. Emmons, & S. Frank, *Studying persons and lives* (pp. 148–200). New York: Springer-Verlag.
- Mento, A. J., Steel, R. P., & Karren, R. J. 1987. A meta-analytic study of the effects of goal setting on task performance: 1966–1984. *Organizational Behavior and Human Decision Processes*, *39*, 52–83.
- Morelli, G., Krottinger, H., & Moore, S. (1979). Neuroticism and Levenson's locus of control scale. *Psychological Reports*, *44*, 153–154.
- Morling, B., & Epstein, S. (1997). Compromises produced by the dialectic between self-verification and self-enhancement. *Journal of Personality and Social Psychology*, *73*, 1268–1283.
- Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Needles, D. J., & Abramson, L. Y. (1990). Positive life events, attributional style, and hopefulness: Testing a model of recovery from depression. *Journal of Abnormal Psychology*, *99*, 156–165.
- Oxford University Press. (2003). *Oxford English Dictionary OED Online*. Oxford: Oxford University Press.
- Phillips, J. M., & Gully, S. M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal-setting process. *Journal of Applied Psychology*, *82*, 792–802.
- Revelle, W. (1995). Personality processes. *Annual Review of Psychology*, *46*, 295–328.
- Roberts, B. W., & DeVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, *126*, 3–25.
- Rode, J. C. (2002). *The role of core evaluations within a comprehensive job and life satisfaction model: A longitudinal analysis*. Unpublished doctoral dissertation, Indiana University.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, *80*, 1–28.
- Sedikides, C. (1992). Changes in the valence of the self as a function of mood. In M.S. Clark *Emotion and social behavior: Review of personality and social psychology* (Vol. 14, pp. 271–311). Newbury Park, CA: Sage.
- Sedikides, C. (1993). Assessment, enhancement, and verification determinants of the self-evaluation process. *Journal of Personality and Social Psychology*, *65*, 317–338.
- Sedikides, C. (1995). Central and peripheral self-conceptions are differentially influenced by mood: Tests of the differential sensitivity hypothesis. *Journal of Personality and Social Psychology*, *69*, 759–777.
- Seligman, M. E. P., & Schulman, P. (1986). Explanatory style as a predictor of productivity and quitting among life insurance agents. *Journal of Personality and Social Psychology*, *50*, 832–838.
- Sharma, V., & Mavi, J. (2001). Self-esteem and performance on word tasks. *Journal of Social Psychology*, *141*, 723–729.





- Silvester, J., Patterson, F., & Ferguson, E. (2003). Comparing two attributional models of job performance in retail sales: A field study. *Journal of Occupational and Organizational Psychology*, *76*, 115–132.
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, *13*, 249–275.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory (Form Y)*. Palo Alto, CA: Consulting Psychologists Press.
- Steyer, R., Ferring, D., & Schmitt, M. J. (1992). States and traits in psychological assessment. *European Journal of Psychological Assessment*, *8*, 79–98.
- Swann, W. B., Stein-Seroussi, A., & Giesler, R. B. (1992). Why people self-verify. *Journal of Personality and Social Psychology*, *62*, 392–401.
- Thomas, K. M., & Mathieu, J. E. (1994). Role of causal attributions in dynamic self-regulation and goal processes. *Journal of Applied Psychology*, *79*, 812–818.
- Tubbs, M. E. (1986). Goal setting: A meta-analytic examination of the empirical evidence. *Journal of Applied Psychology*, *71*, 474–483.
- Wambach, R. L., & Panackal, A. A. (1979). Age, sex, neuroticism, and locus of control. *Psychological Reports*, *44*, 1055–1058.
- Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063–1070.
- Weiner, B. (1980). *Human motivation*. New York: Holt, Rinehart & Winston.
- Weiner, B. (1987). The social psychology of emotion: Applications of a naive psychology. *Journal of Social and Clinical Psychology*, *5*, 405–419.
- Weiner, B. (1990). Attribution in personality psychology. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 465–485). New York: Guilford Press.
- Weiner, B., & Graham, S. (1999). Attribution in personality psychology. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 605–628). New York: Guilford Press.
- Weiner, B., & Russell, D., & Lerman, D. (1978). Affective consequences of causal ascriptions. In J. H. Harvey, W. J. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 59–91). Hillsdale, NJ: Erlbaum.
- Winefield, A. H., Tiggemann, M., & Winefield, H. R. (1992). Unemployment distress, reasons for job loss and causal attributions for unemployment in young people. *Journal of Occupational and Organizational Psychology*, *65*, 213–218.
- Wright, P. M. (1990). Operationalization of goal difficulty as a moderator of the goal difficulty–performance relationship. *Journal of Applied Psychology*, *75*, 227–234.

