Advancing Our Understanding of Processes in Personality–Performance Relationships

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When it comes to predicting behavior at work, personality measures have complex patterns of validity results. In contrast to the highly generalizable validities of cognitive ability tests (e.g., Hunter, 1986; Salgado et al., 2003; Schmidt, 2002; Schmidt & Hunter, 2004), personality measure validities tend to be situationally specific and are influenced by a number of factors (Hough & Oswald, 2008; Tett & Christiansen, 2007). Although job complexity seems to moderate the level of the validity coefficient (Hunter & Hunter, 1984), tests of general cognitive ability tend to predict performance at a useful level across all occupations (Schmidt, 2002). In contrast, personality measures show a great deal of variability in validity coefficients across studies, and this variability is not accounted for by sampling error (Tett & Christiansen, 2007).

Accounting for a substantial proportion of the variance in the criterion space requires theories and models that reflect the complexity of the determinants of job performance (Hough & Oswald, 2005). A number of personality–performance process models have been proposed in recent years, both for individual job performance and for counterproductive work behavior (CWB). The purpose of this chapter is to (a) discuss the properties of process models, (b) present a general model describing the many ways by which personality can influence work behavior, (c) review specific personality–performance process models and how they fit into the general model, and (d) suggest a strategy for refining theories and models in future research. The goal is to stimulate research on mediated models involving personality and performance to improve our understanding of how personality influences different aspects of job performance.

Theories and Models

Process models attempt to explain the relationship between an antecedent variable (e.g., a measure of dependability) and an outcome variable (e.g., supervisor ratings of decision-making performance). The term model is frequently used interchangeably with the term theory. The distinction between these two terms is not perfectly clear and we do not address this distinction in depth, but we do briefly discuss these terms because of their relevance to this chapter.

According to Meehl (1990), “a scientific theory is a set of statements in general form which are interconnected in the sense that they contain over-lapping terms that designate the constructs of the theory” (p. 109). This is the nomological network familiar to most psychologists (Cronbach & Meehl, 1955). The nodes of the net are the theoretical constructs and the strands of the net are postulates.
relating the constructs to one another. The empirical meaning of the constructs derives from their operational definitions as well as “upward seepage” from a subset of constructs that are operationally tied to the database. Campbell (1990b) offers a complementary definition of theory: “A collection of assertions, both verbal and symbolic, that identifies what variables are important for what reasons, specifies how they are interrelated and why, and identifies the conditions under which they should be related or not related” (p. 65).

While some definitions of the term “model” sound very much like definitions of “theory,” we consider a model to be “a deliberately simplified theory” or a “structure . . . used to represent some other system” (Godfrey-Smith, 2003, p. 238). Models “provide the bridge between theories and empirical evidence” (Marewski & Olsson, 2009, p. 51). A theory could be represented by a model, but a model does not necessarily have to be considered a theory. One could propose a model that is not based on a theory (or is only partially based on a theory) and it could be thought of as a set of hypotheses. Because this chapter deals with process models, we generally refer to theories that can be represented by models, but when we refer to a model we do not necessarily consider it to be a theory.

Properties of Process Models

Researchers who develop process models generally hypothesize two types of variables in an attempt to explain these relationships: (a) mediating variables and (b) moderating variables. Most process models include both types of variables. Mediation occurs when a third variable explains the relationship between two other variables, providing a causal link (Edwards & Lambert, 2007). For example, motivation is often seen as mediating the relationship between personality and performance. Barrick, Stewart, and Piotrowski (2002) found that the motivational variables of accomplishment striving and status striving mediated the relationship between conscientiousness and job performance for sales representatives, and that status striving mediated the relationship between conscientiousness and job performance.

Full mediation occurs when the relationship between two variables is fully explained by a mediating variable. We often see partial mediation, where a variable has a direct effect on another variable in addition to an effect that is mediated by a third variable. For example, Mount, Ilies, and Johnson (2006) found that the relationship between agreeableness and self-rated CWB directed at individuals (CWB-I) was partially mediated by job satisfaction, but there was also a direct path from agreeableness to CWB-I. Partial mediation may be due to a variable having a true direct effect that is independent of the mediated effect, but in many cases the direct effect is probably an indirect effect through an unmeasured mediating variable. For example, Mount et al. suggested that the direct effect they found between agreeableness and CWB-I could be explained by the influence of communion striving or needs fulfillment motives.

A moderating variable is a variable that influences the relationship between two other variables, producing an interaction effect. For example, Blickle, Wendel, and Ferris (2010) found that political skill moderated the relationship between extraversion and sales performance. This relationship was positive for car salespeople who were high on political skill, but negative when salespeople were low on political skill. This analysis demonstrated that the relationship between extraversion and cars sold was much more complex than could be seen by simply examining the correlation between the variables \( r = -0.36 \).

Because mediation and moderation are often combined within a single model or theory, it is important to distinguish between moderated mediation and mediated moderation. Moderated mediation is relatively straightforward, and essentially coincides with the definition of a moderator variable. That is, moderated mediation occurs when a mediation effect depends on the level of a moderator variable (MacKinnon, Fairchild, & Fritz, 2007). For example, Ng, Ang, and Chan (2008)
found that leadership self-efficacy mediated the relationships between three personality variables (neuroticism, extraversion, and conscientiousness) and leader effectiveness for leaders with low job demands but not for leaders with high job demands. In addition, the effects of neuroticism and conscientiousness on leader effectiveness were mediated by leadership self-efficacy for leaders with high job autonomy but not for leaders with low job autonomy.

Mediated moderation occurs when a variable mediates the relationship between an interaction effect and a dependent variable. In other words, the mediating variable explains how the interaction effect influences the dependent variable (MacKinnon et al., 2007). For example, Bond, Flaxman, and Bunce (2008) found that the effect of a work redesign intervention on mental health and absence rates was moderated by psychological flexibility. Perceived job control fully mediated this interaction effect on absence rates and partially mediated the interaction effect on mental health.

### A General Personality Process Model

After reviewing many recent process models representing the relationship between personality and either individual job performance or CWB, Johnson and Hezlett (2008) determined that the models are generally consistent with each other, with each emphasizing different aspects of the personality–performance process. Johnson and Hezlett integrated these models into a general model that incorporates the major potential influences of personality on performance, with all variables representing broad construct domains. The purpose of the general model is to provide a guide for constructing models for predicting specific types of performance (e.g., leadership, sales, citizenship performance, and adaptive performance). The general model is intended to stimulate research to determine what elements of the model operate for specific types of performance. When researching a specific type of performance, the general model can be used to generate hypotheses about relationships between specific variables. The model can be evaluated through programmatic research that tests relationships between subsets of its variables.

A reconceptualization of Johnson and Hezlett’s (2008) model is shown in Figure 3.1. Throughout this chapter, we refer to the model in Figure 3.1 as the “general model.” Although the model is quite comprehensive, we claim neither that all possible variables that could influence performance are included, nor that all possible relationships are specified. We do, however, suggest that the general model represents the many different pathways through which personality can influence performance. To provide more detail, we also present more specific models highlighting relationships involving subsets of variables in the general model.

Based on an integration of models presented by Campbell (1990a) and Motowidlo, Borman, and Schmit (1997), Johnson (2003) proposed four direct determinants of performance: (a) knowledge, (b) skill, (c) motivation, and (d) work habits. Direct performance determinants are distinguished from indirect performance determinants, which can only influence performance via the direct determinants. Personality is an indirect determinant, along with variables such as abilities, education, experience, training, and management practices. In the general model, the most distal indirect performance determinants are work context and the individual-difference domains of personality, abilities, and experience. When applying the general model to a given performance component, specific variables from each broad predictor domain would be specified that are theoretically related to each of the more proximal determinants of that performance component. The specific variables should be drawn from previous research and theories focusing on the relevant portions of the general model. There is a rich empirical research literature documenting relationships between personality traits, abilities, and different aspects of the general model. Personality traits directly influence all other domains of the model, as well as moderating some relationships. Abilities have their strongest relationships with knowledge and skill, but may have weaker relationships with many other aspects of the model.
Experience can be operationalized as either (a) amount of time on the job, or (b) number of times a task has been performed (Lance & Bennett, 2000). Experience has been shown to be a meaningful indirect determinant in process models of job performance, exerting its influence on performance through job knowledge, skill, and/or motivation (Johnson, Duehr, Hezlett, Muros, & Ferstl, 2008; Lance & Bennett, 2000; Schmidt, Hunter, & Outerbridge, 1986). Experience may also moderate the relationships between certain variables.

We use the term work context to refer to a wide variety of both work and organizational context variables, including Tett and Burnett’s (2003) task, social, and organizational cues (i.e., demands, distracters, constraints, and releasers; see Chapter 5, this volume). Other examples of work context variables are supervision, procedural fairness, training, reward systems, autonomy, and stressors (Arad, Hanson, & Schneider, 1999; Strong, Jeanneret, McPhail, Blakely, & D’Egidio, 1999). Work context directly influences many aspects of the model in addition to moderating the relationship between individual differences and performance (Ones, Dilchert, Viswesvaran, & Judge, 2007).

The motivation component of the model is represented by several different kinds of variables. When describing motivational processes, Mitchell and Daniels (2003) distinguished between proactive cognitive processes (e.g., expectancies, self-efficacy, goal-setting) and on-line cognitive processes (e.g., self-regulation). Johnson (2003) added psychological motives (i.e., reasons for taking certain courses of action, such as values, interests, preferences, or attitudes) as a third component of motivation that mediates the relationship between personality and proactive cognitive processes. Johnson and Hezlett (2008) further expanded this component of motivation by (a) separating task-related motives from social motives (Barrick, Mitchell, & Stewart, 2003), and (b) separating work attitudes from other motives. Although an attitude can be a motive for performing a behavior, it can also have a direct effect on both task-related and social motives.
Attitudes and Motives

Figure 3.2 provides a more specific look at the attitudes and motives aspects of the general model. Task-related motives are similar to Barrick et al.’s (2003) accomplishment striving, which is a generalized intention to exert effort and work hard. This is determined jointly by personality (e.g., need for achievement), work context (e.g., task difficulty), experience, ability, and work attitudes. Social motives include communion striving and status striving, which mediate the relationship between accomplishment striving and performance (Barrick et al., 2003). In the general model, social motives mediate the relationship between task-related motives and intentions, but we also allow for a direct path from task-related motives to intentions. The relationship between task-related motives and social motives is moderated by personality and work context. For example, Barrick et al. predict that the path from accomplishment striving to status striving is moderated by extraversion and competitive demands in the situation. Social motives are determined primarily by personality, as well as by work context and work attitudes.

Perceived job characteristics, specific attitudes (e.g., supervisor support), and general attitudes (e.g., job satisfaction) are depicted in a single work attitudes construct domain. Personality has a direct influence on work attitudes (e.g., positive or negative affectivity may lead people to form more positive or negative perceptions of their environment). Personality and experience may moderate the relationship between work context and attitudes (e.g., a lack of feedback would likely be evaluated more negatively by someone lower on tolerance for ambiguity or someone with less experience). Although work attitudes can be a motive for action (e.g., commitment to the organization could be a reason for working late to complete a task), they can also have a direct effect on both task-related and social motives. For example, satisfaction with the work group may cause communion striving to be a more salient motive, whereas dissatisfaction with the work group may increase the salience of status striving so that the individual can get ahead of the rest of the members of the group. Work attitudes are directly related to expectancies, probably because employees who are more satisfied are more likely to see or have experienced the link between good performance and valued rewards (Johnson et al., 2008). Stress is

Figure 3.2  More Complete Description of the Attitudes and Motives Aspect of the General Model.
included as a direct influence on work attitudes, based on research showing that work stress mediated the relationship between personality and attitudes (Day, Bedeian, & Conte, 1998; Van den Berg & Feij, 2003). Work context, experience, and ability also influence the experience of stress.

Figure 3.2 also includes a direct path from work attitudes to performance, which we expect for citizenship performance dimensions (Johnson et al., 2008). Given that citizenship performance often involves behaviors that are not formally required and do not directly benefit the individual, it is not surprising that work attitudes can directly determine citizenship performance. If a person experiences job dissatisfaction, does not have an affective attachment to the organization, and does not share the values of the organization, he or she would be unlikely to engage in behaviors like participating in social activities, exceeding standards when carrying out assignments, or performing extra work without being asked.

**Goals/Intentions**

Cullen and Sackett (2003) incorporated the theory of reasoned action (TRA; Fishbein & Ajzen, 1975) into their model of the determinants of CWB. The TRA posits that intention to perform a behavior (the most proximal determinant of actually performing a behavior) is a function of (a) an individual’s attitude toward the behavior, and (b) subjective norms about what relevant others think about the behavior. Similarly, Johnson and Hezlett (2008) incorporated Ajzen’s (1985) theory of planned behavior (TPB) into their model. The TPB builds on the TRA by adding perceived behavioral control to attitudes and subjective norms as the determinants of intention formation. Figure 3.3 focuses on this aspect of the general model.
The TPB overlaps considerably with concepts in motivation and personality theories. First, goal-setting theory is based on the idea that most behaviors are the result of consciously chosen goals and intentions (Mitchell & Daniels, 2003). Setting and being committed to a goal is very similar to forming an intention to engage in behavior aimed at goal attainment. Thus, the general model equates goal-setting with forming an intention, making this aspect of motivation a direct determinant of performance. In Figure 3.3, the goal-setting process is represented by the interaction between goal difficulty and goal commitment, because more difficult goals tend to produce higher performance (Wright, 1990) and goal commitment moderates this relationship (H. J. Klein, Wesson, Hollenbeck, & Alge, 1999).

Second, an attitude toward a behavior is a function of (a) the individual’s beliefs about the consequences of performing the behavior, and (b) the desirability of those consequences (Fishbein & Ajzen, 1975). These components of an attitude are similar to the components of expectancy theories of motivation (i.e., expectancy, instrumentality, and valence; Mitchell & Daniels, 2003). Expectancy theories represent cognitive choices as Expectancy × Value (E × V), just as Fishbein and Ajzen (1975) represented the formation of an attitude. Thus, expectancies influence goals/intentions in the same way that attitudes influence intentions in the TPB, and we represent attitude toward a behavior as E × V in Figure 3.3.

Third, subjective norms are a combination of (a) a normative belief about whether others think the individual should perform the behavior, and (b) the individual’s motivation to comply with what others think. According to trait activation theory, task, social, and organizational cues indicate what kind of behavior is valued positively and negatively in an organization (Tett & Burnett, 2003; Chapter 5, this volume). Individuals form normative beliefs about what others in the organization think they should do as the individual experiences trait-relevant cues and the value placed on certain behavior is communicated. Motivation to comply with what others think depends on the intrinsic and extrinsic satisfaction gained by engaging in certain behaviors. Individuals gain extrinsic satisfaction when rewarded for good performance, which happens when they express their traits in an environment that values such trait expression. Individuals also gain intrinsic satisfaction simply by expressing their traits, so motivation to comply will be especially high when features of tasks, people, and the organization provide opportunities for expressing one’s traits.

Finally, perceived behavioral control refers to one’s perception of the relative difficulty and volitional control associated with performing a behavior. We represent perceived behavioral control with the constructs of self-efficacy and perceived autonomy. Self-efficacy is the belief in one’s own capabilities to successfully execute a course of action (Wood & Bandura, 1989). High self-efficacy should lead to a stronger perception that a behavior is under one’s control (Ajzen, 2006). Autonomy is the extent to which the situation allows a person freedom to behave idiosyncratically (Barrick et al., 2003). The degree of autonomy in the situation has been found to moderate the relationship between personality and performance (e.g., Barrick & Mount, 1993; Beaty, Cleveland, & Murphy, 2001). Personality is more highly related to performance when people are free to perform their jobs in idiosyncratic ways. Thus, the amount of autonomy the individual perceives in a situation will contribute to the amount of perceived behavioral control, so the general model includes a direct path from autonomy to goals/intentions.

Self-Regulation

The final motivation component in the general model is self-regulation, which we define as the higher-level cognitive processes that (a) guide the allocation of attention, time, and effort across activities directed toward attaining a goal (Kanfer, 1990); and (b) protect an intention from being replaced by a competing action tendency before the intended action is completed (Kuhl, 1985). Figure 3.4 presents a specific model that focuses on self-regulation. Self-regulation partially mediates
the relationship between goals/intentions and performance, because those who are more committed to a goal are likely to work harder at maintaining goal-directed action. Self-regulation also moderates relationships between performance and other direct determinants. Performance differences between two people with similar knowledge, skill, habits, and desire to perform could be explained by differing levels of ability to self-regulate. Work habits that detract from good performance can be overcome through self-regulatory strategies, so these habits will have less of an influence for people who are better at self-regulating. Self-regulation moderates the relationship between intentions and performance because this relationship is stronger the greater one's ability to protect the intention from competing action tendencies (Kuhl, 1985).

Self-regulatory ability is also expected to enable people to more effectively use their knowledge, skills, and abilities, especially in reaction to stress (Sinclair & Tucker, 2006). Self-regulation is related to both personality (Kanfer & Heggestad, 1997) and ability (Kanfer & Ackerman, 1989). Experience should also influence the acquisition of self-regulatory strategies because, as more situations are encountered in which self-regulation is necessary, effective strategies are learned and refined while ineffective strategies are dropped (Johnson et al., 2008).

Specific Personality Process Models

In this section, we briefly review some recent research on process models relating specific personality traits to specific types of performance, commenting on each model’s implications for the general model. Space prohibits an exhaustive review, so we have chosen a few examples to illustrate how the general model can be applied in future research. Because the literature on moderators of personality–performance relationships is voluminous, we focus on process models featuring mediators.

Job Satisfaction as a Mediator

Ilies, Fulmer, Spitzmuller, and Johnson (2009) used a meta-analytic correlation matrix to test job satisfaction as a mediator of the relationship between personality (agreeableness and conscientiousness)
and organizational citizenship behavior (OCB). OCB was split into OCB-I (behavior that benefits individuals) and OCB-O (behavior that benefits the organization). Both agreeableness and conscientiousness were directly related to job satisfaction, which was directly related to both OCB-I and OCB-O. In addition to the indirect effect through job satisfaction, agreeableness had a direct effect on OCB-I and conscientiousness had a direct effect on OCB-O (for more coverage on personality and citizenship behaviors, see Chapter 26, this volume).

The Ilies et al. (2009) model is very similar to a model tested by Mount et al. (2006) for predicting CWB from personality. Mount et al. distinguished between interpersonal CWBs (behaviors directed at individuals in the organization with the intent to produce emotional or physical discomfort or harm) and organizational CWBs (behaviors directed toward harming the interests of the organization). Mount et al. found that job satisfaction partially mediated the relationships between personality traits and CWB. Agreeableness had a direct effect on interpersonal CWB and an indirect effect on both types of CWB through job satisfaction. Conscientiousness had a direct path to organizational CWB, but the mediating effect through job satisfaction was weaker. Although not the same as CWB, OCB-I and OCB-O should be highly negatively correlated with interpersonal CWB and organizational CWB, respectively (for more coverage on personality and CWB, see Chapter 27, this volume).

Similar to these two studies, Johnson et al. (2008) found that agreeableness had an indirect effect on maintaining good working relationships (similar to OCB-I) through both job satisfaction and knowledge. In the organizational commitment (similar to OCB-O) model, conscientiousness had an indirect influence through job satisfaction and self-regulation.

Li, Liang, and Crant (2010) proposed leader–member exchange (LMX) as a mediator of the relationship between proactive personality (tendency to identify opportunities to change things and to act on those impulses) and job satisfaction and OCB. LMX is the quality and depth of the relationship between employee and immediate supervisor, so this is a work context variable in the general model. LMX mediated both the proactive personality–job satisfaction relationship and the proactive personality–OCB relationship. This is consistent with the general model, which includes work context as a mediating variable between personality and work attitudes, which then are directly related to OCB. Li et al. did not test job satisfaction as a mediator between LMX and OCB, so this is a logical next step in this line of research.

Schneider and Johnson (2005) tested social knowledge and motivation to perform in a socially competent manner as mediators of the relationship between indirect performance determinants and social performance. There were three categories of indirect determinants: (a) social intelligence, (b) interpersonal personality traits, and (c) general cognitive ability (g). In a study of 160 Reserve Officers’ Training Corps (ROTC) cadets, the mediating effect of social knowledge was found for three social performance dimensions: (a) effective supervision, (b) interpersonal sensitivity, and (c) social presence. Motivation was only a significant mediator when predicting effective supervision.

The measure of motivation focused primarily on the importance respondents placed on performing behaviors relevant to each performance dimension, placing it in the proactive cognitions category of motivation (Mitchell & Daniels, 2003). Johnson et al. (2008) found similar results to Schneider and Johnson (2005) for the broad social performance dimension of maintaining good working relationships. Knowledge mediated the relationship between personality and performance, but proactive cognitions (i.e., expectancies) was not a mediator. Rather, Johnson et al. found that general motives (job satisfaction, military values, and affective commitment) were directly related to citizenship performance dimensions such as maintaining good working relationships. Schneider and Johnson did not include a measure of work attitudes or other types of motives in their study. Had they included these types of variables, the expected mediating effect of motivation may have been found for all types of performance.
The results of Ilies et al. (2009) and Johnson et al. (2008), along with the negative results of Schneider and Johnson (2005), suggest that the primary motivation component through which personality influences OCB is motives such as work attitudes (see Chapter 32, this volume, for more coverage on personality and work attitudes). Ilies et al. did not include other components of motivation, but Johnson et al. included expectancies, goal commitment, and self-regulation. Job satisfaction makes sense as the primary motivational mediator because OCB is often a spontaneous behavior that does not require proactive cognitions such as goal-setting.

The next step in this line of research is to add other potential mediating variables to explain the direct effects of agreeableness and conscientiousness on OCB or CWB. For OCB-I, interpersonal knowledge mediates the relationship between personality and performance (Johnson et al., 2008; Schneider & Johnson, 2005). Whenever behavior involves interacting with other people, the effectiveness of that behavior depends on the individual’s knowledge of what behaviors are effective in interpersonal situations and/or the individual’s interpersonal skill at applying those behaviors, both of which are determined to some extent by personality. People are likely to form an intention to engage in CWB (Cullen & Sackett, 2003), so other motivational components besides job satisfaction are likely to mediate the relationship between personality and CWB. Another way of expanding these models is to add other personality variables that would be expected to influence hypothesized mediating variables.

**Goal Orientation as a Mediator**

Goal orientation refers to one’s predisposition to set certain kinds of goals in achievement situations (Dweck, 1986). Lee, Sheldon, and Turban (2003) proposed a model of the process by which personality influences performance and satisfaction through goal orientation. In a study of 284 management students, Lee et al. demonstrated that three personality characteristics derived from self-determination theory (autonomy orientation, control orientation, and amotivated orientation) directly influenced goal orientation. Autonomy orientation influenced the choice of mastery goals, which focus on mastering a task, developing skills, and meeting personal standards of accomplishment. Performance–approach goals focus on displaying competence and earning positive evaluations from others. Performance–avoidance goals focus on avoiding failure. Amotivation orientation (also called impersonal orientation) influenced the choice of performance–avoiding goals and control orientation influenced the choice of both performance–approach goals and performance–avoidance goals.

People with a performance–approach orientation tended to set more difficult goals while people with a performance–avoidance orientation tended to set less difficult goals. Goal level was positively related to performance. All three types of goal orientation predicted mental focus, which is the degree to which one is able to concentrate and become absorbed in an activity, with performance–avoidance goals being negatively related to mental focus. Mental focus directly influenced both course enjoyment (i.e., satisfaction) and performance. Mastery goal orientation also had a direct influence on satisfaction.

Comparing Lee et al.’s (2003) model to the general model underscores the importance of understanding terminology, because at first glance the models appear to be somewhat contradictory. Lee et al. refer to different types of goal orientation as forms of self-regulation, which would suggest that self-regulation leads to goal-setting rather than the other way around. Our definition of self-regulation (higher-level cognitive processes that guide the allocation of attention, time, and effort across activities directed toward attaining a goal) is more like Lee et al.’s definition of mental focus, which is predicted by goal orientation. The different types of goal orientation are what we would consider task-related motives (see Figure 3.2). Therefore, the two models are really quite consistent, as personality influences task-related motives (goal orientation), which influence goals/intentions (goal level), which influence performance.
Both models also propose self-regulation (mental focus) as a direct determinant of performance, but they diverge in the relationship between self-regulation (mental focus) and goals/intentions (goal level). Lee et al. (2003) propose no relationship, whereas we propose that self-regulation both mediates and moderates the relationship between goals and performance. The mediating relationship is between goal commitment and performance (those who are more committed to a goal are likely to work harder at maintaining goal-directed action), however, and goal commitment was not measured by Lee et al. Future research on Lee et al.’s model could focus on examining the moderating effect of mental focus on the relationship between goal level and performance. It is important to note that the measure of mental focus was not a direct measure, but rather a measure of the extent to which students expected to be able to concentrate on studying for the upcoming exam. A more appropriate measure of self-regulation or mental focus would assess the extent to which students actually were able to concentrate on studying.

In a laboratory study, Hendricks and Payne (2007) studied goal orientation as a mediator of the relationship between personality and leadership effectiveness. Like Lee et al. (2003), personality predicted different types of goal orientation, which predicted different components of motivation. The motivation variables had direct effects on leader effectiveness.

The results of Lee et al. (2003) and Hendricks and Payne (2007) suggest possible changes to the general model. The concept of task-oriented motives was similar to Barrick et al.’s (2003) accomplishment striving construct, which is a generalized intention to exert effort and work hard. This concept could be expanded to include the different types of goal orientation. This change would also result in adding a direct path from task-oriented motives to self-regulation, as the type of goal orientation would be expected to influence the type of self-regulatory activities one engages in while maintaining goal-directed behavior.

Leadership

Chan and Drasgow (2001) introduced a construct called motivation to lead (MTL), which has antecedents of various personality traits, g, sociocultural values, past leadership experience, and leadership self-efficacy (LSE). They created a measure of MTL consisting of three factors (affective-identity MTL, noncalculative MTL, and social-normative MTL), based on Fishbein and Ajzen’s (1975) determinants of behavior: (a) valences associated with an act, (b) beliefs about the outcomes associated with engaging in the behavior, and (c) social norms related to the behavior. As explained previously, valences and beliefs about outcomes are represented by expectancies and social norms are represented by concepts from trait activation theory in the general model (see Figure 3.3). Also consistent with Chan and Drasgow, the general model has experience as antecedent to both self-efficacy and expectancies.

Hendricks and Payne (2007) tested MTL and LSE as determinants of leader effectiveness, adding goal orientation to the Big Five as antecedents of these variables. Following a team manufacturing task in a laboratory setting, they found that affective-identity MTL and noncalculative MTL were significantly and positively related to team ratings of leader effectiveness beyond the Big Five and previous leader performance. Social-normative MTL was negatively related to leader effectiveness, contrary to expectations. They did not test MTL as a mediator of the relationship between LSE and leader effectiveness, but they did find evidence suggesting that LSE partially mediated the relationship between learning goal orientation (same as mastery goal orientation) and both affective-identity MTL and social-normative MTL.

Ng et al. (2008) tested LSE as a mediator of the relationship between personality (specifically, neuroticism, extraversion, and conscientiousness) and leader effectiveness. Ng et al. found that this mediating effect was moderated by job demands and job autonomy. For neuroticism, extraversion, and conscientiousness, the mediating effect was present for leaders with low job demands but not
for leaders with high job demands. For neuroticism and conscientiousness, the mediating effect was present for leaders with high job autonomy but not for leaders with low job autonomy. This is not entirely inconsistent with the general model, because both job demands and autonomy are aspects of the work context that are recognized as potential moderators of the relationship between goals/intentions and performance (goals/intentions mediates the relationship between self-efficacy and performance in the general model). If this relationship is weak under conditions of low autonomy or high job demands, there could not be a mediating effect between personality and performance. Nevertheless, the general model could be amended to reflect the possibility of moderated mediation effects like this.

Van Iddekinge, Ferris, and Heffner (2009) developed their own model of leader performance and tested it in a sample of 471 noncommissioned officers in the U.S. Army. They proposed leadership knowledge, skills, and abilities (KSAs) as the most proximal determinant of leader performance. We consider ability to be an indirect determinant of performance and keep knowledge and skill separate as direct determinants. Examining the KSA measures Van Iddekinge et al. used, however, suggests that there was really no difference between leadership ability and leadership skill. They combined their measures into a single KSA variable to keep the model parsimonious, so there is little disagreement between the two models at this point.

Van Iddekinge et al. (2009) proposed cognitive ability, leadership experiences, and MTL as the determinants of leadership KSAs. The general model includes ability and experience but not motivation as determinants of knowledge and skill. Van Iddekinge et al. tested alternative models that allowed for (a) a direct effect of MTL on performance, and (b) both a direct effect and an indirect effect through leadership KSAs. The direct effect alternative model did not fit as well as the original model and the partial mediating effect alternative model was not significantly better than the original model. This result is limited to the type of motivation measured in this study, which was the affective-identity factor of Chan and Drasgow’s (2001) measure. Affective-identity MTL is a measure of the affect associated with being a leader and does not measure the components of motivation we expect to directly determine performance (goal level, goal commitment, and self-regulation). It does make sense that those with a preference for leading would tend to seek out opportunities to gain knowledge and skill relevant to leading. This is consistent with Colquitt, LePine, and Noe’s (2000) model of training motivation, in which personality influences self-efficacy and valence, which influence motivation to learn, which influences knowledge and skill acquisition. This suggests that the general model could be amended to include direct paths from expectancies to both knowledge and skill.

Another difference between the models is that Van Iddekinge et al. (2009) considered personality to influence leadership KSAs only through the mediating variables of leadership experiences and MTL, whereas we consider personality to be a direct influence on knowledge and skill and do not consider a mediating effect of experience. When testing alternative models, however, Van Iddekinge et al. found that the indirect effect of personality on performance was primarily through leader KSAs rather than through experience or MTL. In fact, the direct effect of personality (conscientiousness and extraversion) on performance was larger than the indirect effect. The direct effects likely influence performance through unmeasured motivational variables. Thus, Van Iddekinge et al.’s results were highly consistent with the general model.

The general model suggests many avenues for future research in explaining the relationship between personality and leadership effectiveness. None of the studies reviewed here included all components of motivation through which personality is expected to influence performance, so future research should focus on more fully explicating the motivation domain. Ng et al. (2008) used trait activation theory (Tett & Burnett, 2003) to formulate hypotheses on moderated mediation effects involving job demands and autonomy, and these effects would also be expected for motivation components other than self-efficacy. In addition, other mediators such as skill and knowledge could be tested for moderated mediation effects.
**Burnout**

The general model includes stress as a direct influence on work attitudes based on research showing that work stress mediated the relationship between personality and attitudes (Day et al., 1998; Vanden Berg & Feij, 2003). We also included stress as a direct determinant of self-regulation, based on Sinclair and Tucker’s (2006) model of individual differences in Soldier performance under stress, in which stress constrains the amount of motivational resources that can be allocated to performance. The relationship between stress and other variables in the model could be better understood by incorporating the construct of burnout. *Burnout* is an affective response to ongoing stress, resulting in the gradual depletion over time of an individual’s energy. There are competing conceptualizations of the dimensions of burnout (e.g., Halbesleben & Bowler, 2007; Maslach, Schaufeli, & Leiter, 2001; Shirom, 2003), but all incorporate exhaustion as a core component. Exhaustion manifests as emotional exhaustion, physical fatigue, and cognitive weariness (Melamed, Shirom, Toker, Berliner, & Shapira, 2006). *Emotional exhaustion* involves feeling that one does not possess the energy to invest in work relationships, resulting in interpersonal withdrawal; *physical fatigue* refers to feeling tired and having little energy to carry out daily work tasks; and *cognitive weariness* refers to slowed cognition and reduced mental agility. Two other dimensions of burnout that have repeatedly emerged in factor-analytic work are (a) *depersonalization*, meaning that individuals are negative, cynical, or detached from coworkers/clients; and (b) a reduced sense of *personal accomplishment*—feelings that one’s competence and productivity have declined.

Swider and Zimmerman (2010) studied burnout dimensions as mediators of the relationship between personality and job performance (in addition to turnover and absenteeism). They conducted a meta-analysis of the relationships between the Big Five and the burnout dimensions of emotional exhaustion, depersonalization, and personal accomplishment. They found that each Big Five personality trait had at least a moderate correlation with at least one burnout dimension, with neuroticism being highly related to all three. Based on this meta-analysis and others involving other relevant variables, Swider and Zimmerman constructed a meta-analytic correlation matrix to test alternative models of the process through which burnout influences different outcome variables. For job performance, support was found for a model in which job performance was directly influenced by personal accomplishment, which was negatively influenced by both emotional exhaustion and depersonalization. Emotional exhaustion also had an indirect effect on personal accomplishment through depersonalization. Adding these burnout dimensions to the general model would add another layer of understanding to how personality can potentially influence performance (for more coverage on personality and stress-related outcomes, see Chapter 31, this volume).

**Strategy for Researching Personality–Performance Process Theories**

In this section, we consider strategies for accelerating development of personality–performance theories (PPTs). In doing so, we consider (a) some general criteria for appraisal of scientific theories and models, (b) aspects of theories and models relevant to PPTs, (c) methods for facilitating the development of PPTs that are simultaneously rigorous and feasible, and (d) the relationship between PPTs and the dual needs of industrial/organizational (I/O) academics and professionals. We focus on building theories rather than models in this section because our ultimate goal is to create good theories with significant explanatory power.

**Metatheory and PPTs**

*Metatheory* refers to a theory of theories. For example, just as we have criteria to evaluate hypotheses specified by a theory, there are also criteria against which to evaluate theories themselves. “Good
theories” have certain characteristics on which there is reasonable agreement (e.g., Campbell, 1990b; K. J. Klein & Zedeck, 2004; Meehl, 2002). These characteristics include (a) the ability to organize and simplify a set of previously unorganized and scattered facts and data (e.g., by providing a means by which archival and new data can be interpreted and coded as in a meta-analysis); (b) clearly defined constructs; (c) thoughtful propositions that describe the nature of the relationship between constructs; (d) falsifiability; and (e) verisimilitude. This is not a comprehensive list, although all of these are important characteristics for PPTs. We include these because of their criticality for research progress, and discuss each in turn.

**Ability to Organize and Simplify Facts and Data**

Simonton (2006) observed the following:

According to Kuhn (1970), the researchers in preparadigmatic disciplines are engaged in random fact gathering. Because no formal theoretical position separates wheat from chaff, all facts become equally important. Accordingly, findings gather helter-skelter, without rhyme or reason. In contrast, in highly paradigmatic disciplines scientists are engaged in “puzzle-solving” research that closely follows theoretical dictates, and thus the collective research effort is more strongly coordinated, and the results more cohesive and cumulative.

The first part of this quotation seems, to a large extent, to describe I/O personality research prior to the widespread acceptance of the Five-Factor Model (FFM) that coalesced in the early 1990s. Prior to FFM coalescence, I/O personality research was badly in need of a paradigm and was not progressing very efficiently, if at all. Indeed, in the face of Mischel’s (1968) situationist critique of personality psychology, some began to wonder whether personality traits were worthy of investigation at all. One does not have to subscribe fully to the FFM to reach the conclusion that it has served as a useful organizing framework if nothing else, and has facilitated progress in I/O personality research, albeit somewhat crudely. By the early 1990s, the person-situation debate had essentially run its course (cf. Kenrick & Funder, 1988), and many appeared ready to accept the FFM taxonomy (cf. Barrick & Mount, 1991; Goldberg, 1990; McCrae & Costa, 1987; but see Block, 1995, and Hough, 1992).

At approximately the same time that acceptance of the FFM taxonomy was coalescing, Campbell (1990b) proposed a broad taxonomy of job performance dimensions and a model of the performance prediction problem. Campbell’s job performance taxonomy and general model of performance prediction have been highly generative. Each of the process models reviewed in this chapter can trace their origins to Campbell’s model. Indeed, the last 20 years have seen the emergence of a nascent paradigm in I/O personality research that has resulted in a cumulative research record that would have made a chapter such as this one unthinkable 20 years ago. Researchers now have a good sense of what variables to include in their PPT research and some sense of the nomological net making up PPTs.

**Clear Definition of Constructs**

Requiring clarity in the definitions of PPT constructs has slowed the field down because traits, performance constructs, and other PPT constructs are inherently inexact phenomena that are difficult to pin down. Meehl (1978) pointed out that constructs in fields such as ours are “open concepts,” the operational indicators of which are not finite, are probabilistically related to their theoretical constructs, and usually have definitions that are partly derived from relationships with other constructs within the overall nomological network. He also noted that, as a result of refinement
of measures and corresponding revision of construct definitions, psychological constructs are subject to psychometric drift over time, whereby the meaning of the construct changes.

There are two types of fallacies that are related to the openness of psychological constructs. The **jingle fallacy** occurs when the same name is given to two different constructs. The **jangle fallacy** occurs when different names or labels are given to the same construct (see Block, 1995, pp. 209–210, for a discussion of these fallacies in relation to the FFM). Construct openness, psychometric drift, and the jingle and jangle fallacies can slow our scientific progress by making meta-analytic findings more difficult to interpret and making the language we use to communicate findings ambiguous.

Increasing scientific precision takes time and much effort, however, which can slow our ability to make progress in addressing research questions upon which having some type of taxonomy (such as the FFM) is important. One way of addressing this problem is to be as clear as possible in the text of original research reports regarding the definition of the constructs studied. Similarly, meta-analysts must be vigilant in their coding and cumulation of data, noting and mitigating to the extent possible any ambiguities.

### Describing Clearly How and Why Constructs Are Linked

PPTs require clear specification of the nomological net that links constructs in the personality and job performance taxonomies. In particular, attention must be given to “explaining what construct leads to what, when, how, and why” (K. J. Klein & Zedeck, 2004, p. 932). Of course, this quotation describes a program of research that may take many years. This process is highly iterative; is both exploratory and confirmatory; and likely involves multiple samples, multiple methods, multiple points in time, and evaluation of many competing explanations. PPTs require specification of the functional form of the relationships (e.g., linear, quadratic, monotonically increasing or decreasing) as well as the direction of causal arrow(s) (bidirectionality should be specified if there is mutual influence). The approximate magnitude of expected relationship(s) between constructs, appropriately contextualized, should also be stated, most likely as an interval of effect sizes.

Boundary conditions (e.g., type of situation, organizational characteristics, population, job family, stage in the organizational socialization process, and career stage) should also be explicitly stated to the extent that they may be expected to affect the existence and/or magnitude of construct relationships. The role of time should be considered, when appropriate (George & Jones, 2000). Time may be thought of as a special type of boundary condition. For example, does one construct affect another construct instantaneously or only after a period of time has elapsed and certain critical events have transpired? In the case of bidirectionality, is the mutual influence between constructs one of increasing intensity in an upward or downward direction over time, such that some type of exponential relationship in three dimensions is required for an adequate description (e.g., spiraling)? As a general rule, more specific theories are better. Propositions should be stated clearly and specifically enough that they can be replicated by other researchers. The more knowledge that we gain, the more elaborate the propositions should become.

Mediation and moderation are particularly salient to PPTs, as they specify important aspects of the path from personality to performance. Mediation can be viewed as an explanation of causality and moderation can be viewed as a qualification of causality. Baron and Kenny (1986) specify a relatively straightforward sequence of multiple regressions to provide evidence for mediation. Caution should be exercised, however, so that looking for mediation does not become a routine exercise that can be reduced down to a series of steps. Understanding mediated relationships requires extensive knowledge of the process under study and a careful and thoughtful analysis of the data (Kenny, 2008). Mediation has an implicit assumption of causation in the mediation chain, but Baron and Kenny’s technique does not permit causal inference by itself. Causal inference must be established using theory, randomized experimental studies, and qualitative methods.
Processes in Personality–Performance Relationships

(MacKinnon et al., 2007). Longitudinal data also bolster causality evidence if temporal precedence can be established with respect to the variables in the mediation chain.

Falsifiability and Verisimilitude

We discuss the criteria of falsifiability and verisimilitude simultaneously because they are conceptually related. Karl Popper emphasized the importance of falsifiability of scientific theories. According to Popper, “insofar as a scientific statement speaks about reality, it must be falsifiable; and insofar as it is not falsifiable, it does not speak about reality” (Miller, 1985, p. 91). While one may prove a mathematical theorem (which does not relate to reality, but only furnishes tools to investigate reality), the truth of an empirical scientific theory can never be proven. Meehl (1978) focused attention on the importance of this idea for psychology. Falsification occurs if a theory predicts an outcome and the outcome is not observed in an experiment designed to test the theory. If this occurs, the theory is considered to be refuted by the logical syllogism known as modus tollens (i.e., if A, then B/not B/therefore, not A).

Meehl (1978) noted that refutation by modus tollens is difficult due to auxiliary theories. Auxiliary theories are independently testable hypotheses, or conjunctions of hypotheses, relevant to the derivation of the theoretical outcome that can account for an apparent refutation by modus tollens (Miller, 1985). (Essentially, if A + C, then B/not B/therefore, not A + C; the conclusion of “not A” does not follow.) Examples of other factors that can account for an apparent refutation of the theory are (a) certain systematic factors not accounted for in the experiment; (b) flawed experimental instrumentation (e.g., tests); and/or (c) experimental conditions that were not the same (note the importance of clear and specific postulates, as described above, to mitigate this). As noted by Meehl (1990), refutation of a theory by modus tollens can only occur if the conjunction of auxiliary hypotheses and alternative explanations (sometimes referred to as the “protective belt” around the core theoretical postulates) can be ruled out.

Considered in this light, refutation may seem problematic. Given the complexities of PPTs and many other psychological theories, however, refutation probably should be a difficult proposition. For example, a high-potential theory should not be abandoned as a result of one negative result. We should keep the baby and discard the bathwater rather than the other way around. To this point, Popper’s methodology of conjecture and refutation was enriched by the work of Lakatos (Meehl, 1990). Lakatosian methodology states that theories that have already accumulated a number of successes, defined as corroborating evidence of risky predictions, should be slower to be discarded than other theories. Lakatos also formulated the concept of a degenerating research program, which generally involves much ad hoc theorizing to address dis corroborating evidence. By contrast, if exploration of a theory’s protective belt is “content increasing, empirically successful, and in some sense inspired by the leading ideas of the theory (rather than alien elements pasted on), the research program is said to be progressive” (Meehl, 1990, pp. 111–112).

Constructing a crude index of a theory’s track record requires a shift from falsification to verisimilitude, or the extent to which the theory approximates the phenomena that it seeks to address. Strong corroborations occur when a theory predicts a point value within a confidence interval and succeeds. A less favorable, but still positive, appraisal occurs when a theory misses, but comes reasonably close. “Reasonably close” would be an interval, typically justified rationally. Risky predictions corroborated by evidence are key to the evaluation of the verisimilitude of a psychological theory and the growth of scientific knowledge. Riskiness can take a number of forms. Edwards and Berry (2010) note the desirability of increasing the precision of theoretical predictions and offer useful guidelines for making theories more precise. These include (a) setting upper and lower limits for prediction, based, for example, on the role of the concepts being related in the theory’s nomological net; (b) making “non-nil predictions” that specify the range of values that would constitute support for a theory, with narrower ranges constituting riskier tests; (c) development of contingent predictions, such as
those that incorporate moderator variables specifying boundary conditions; and (d) specifying the functional form relating constructs in a theory.

An especially important suggestion made by Edwards and Berry (2010) involves making comparative predictions (e.g., predicting that one effect will differ from another effect by an amount that falls within a specified range). A powerful form of comparative prediction was articulated by Platt (1964), who argued that the growth of scientific knowledge occurs through studies that permit “strong inference,” which consists of the following steps: (1) devising alternative hypotheses; (2) devising a crucial experiment (or several of them) with alternative possible outcomes, each of which will exclude one or more of the hypotheses as nearly as possible; (3) carrying out the experiment so as to get a clean result; and (4) recycling the procedure, making subhypotheses or sequential hypotheses to refine the possibilities that remain.

Consistent with the foregoing, Greenwald, Pratkanis, Leippe, and Baumgardner (1986) argued that theoretical progress is enhanced by adopting a disconfirmatory methodology, including devising alternative hypotheses in addition to those that would corroborate a theory. Both Greenwald et al. and Nickerson (1998) noted the potential for confirmation bias to influence theory evaluation and inhibit theoretical progress. Confirmation bias is “the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand” (Nickerson, 1998, p. 175). Greenwald (1980) linked the tendency toward confirmation rather than disconfirmation in theory evaluation to egocentricity, in that subjecting one’s theory to possible disconfirmation is a threat to one’s ego. Greenwald et al. (1986) suggested that one way around this dilemma is to adopt a problem-centered approach to scientific progress as opposed to a theory-centered approach, a suggestion echoed by Campbell (1990b).

A problem-centered approach would greatly benefit the broad research program involving illumination of processes linking personality to job performance, though certainly parts of that approach will involve development and rigorous empirical evaluation of both taxonomic theories and process theories linking both personality and performance taxonomies. Crucial tests, risky hypotheses, willingness to discard theories when a series of studies reveal clear signs of a degenerating research program, and coordinated focus on theories that studies suggest constitute progressive research programs will result in greater, and a more rapid path to, verisimilitude.

**Theory Pruning**

One of the challenges involved in providing an adequate explanation of the “black box” linking personality taxonomies to performance taxonomies is the large number of constructs and the number and potential complexity of the relationships linking those constructs. Building on much of the meta-theoretical literature cited and described above, Leavitt, Mitchell, and Peterson (2010) proposed a process that may yield a partial solution to this problem, which they refer to as *theory pruning*. Leavitt et al. defined theory pruning as “hypothesis specification in study design intended to bound and reduce theory” (p. 644). This approach is essentially an elaboration of the strong inference argument advanced by Platt (1964). To a large extent, it is an argument that methods for disconfirming and revising theories espoused by many others should be applied routinely. Leavitt et al.’s elaboration, however, is very useful in many respects. For example, the authors note that crucial tests pitting entire theories against other entire theories are very hard to do. Noting that that there is a continuum from theory pitting of the sort envisaged by Platt to testing parts of theories, Leavitt et al. provided a framework that specifies a number of ways in which studies can be conducted that can be used to evaluate an overall theory. They also suggested initial comparisons that should be made to establish the comparability of different theories prior to conducting a true crucial test. For example, are equivalently labeled constructs truly comparable, both with respect to content and structure? Is the timeframe for relationships between constructs comparable? Do the theories apply to the same population and context?
Short of a true crucial test, Leavitt et al. (2010) suggested several alternative hypotheses that can be advanced to evaluate parts of multiple theories. For example, when evaluating relationships between constructs specified in two theories, do the constructs from one theory explain additional variance? Do they explain the same variance using fewer terms and conditions (i.e., more parsimoniously)? Does one theory explain a greater range of distinguishable phenomena than another theory?

Leavitt et al. (2010) also specified a number of statistical tests associated with the various alternative hypotheses suggested in their framework. These tests include (a) including control variables in hierarchical regression and evaluating change in variance accounted for (this could, for example, justify inclusion of additional constructs or additional content in similarly named constructs in a given theory, and determine potential boundary conditions through use of covariates); (b) using a structural equation modeling (SEM) framework to test nested models (this could, for example, point to a more parsimonious explanation); (c) specifying range-based, directional, and meaningful null hypotheses (this could, for example, be used to corroborate a portion of one or more theories); (d) conducting meta-analyses to compare differences in cumulated effect size estimates, including theoretical approach as a categorical moderator (this could, for example, be used to conduct a quasi-crucial test of differences in explanatory power between two or more theories or theoretical approaches); (e) conducting a series of studies including multiple-criteria tests with multiple timeframes (this could, for example, be used to evaluate differences between two or more theories in stability and generalizability); and (f) conducting studies in which two theories predict mutually incompatible outcomes and determining which outcome is observed (this could be a full crucial test or a crucial test of some subset of the two comparable theories, depending on how much of the theories are evaluated).

**Theory Pruning and SEM**

SEM is commonly used to test theories about how a set of variables work together to explain some process (e.g., the personality–performance process). The typical approach is to evaluate a model against arbitrary benchmarks (e.g., \(\chi^2\), GFI, CFI, NFI, and RMSEA). A good fit against these benchmarks simply means the model is one of a large pool of plausible models, and says little about the verisimilitude of the theory the model is intended to represent. Vandenberg and Grelle (2009) discuss alternative model specification (AMS) within the context of covariance structure modeling and make many of the same points as others cited in this chapter relative to the need to shift from confirmation to disconfirmation. In addition, however, they show how SEM can be used in a manner consistent with this philosophy of how to do science in general and theory pruning in particular.

Vandenberg and Grelle (2009) emphasize that greater effort should be made to specify and test alternative models that are theoretically plausible prior to data collection. The greatest scientific value is realized when one of two or more competing models emerges as the strongest over several replications. They also note that evaluating an alternative model that specifies a mediating path without an a priori theoretical plausibility and justification against a model that does not specify that path is not really putting a theory at risk. Specification of alternate models that include mediators or moderators of construct relationships specified by the focal structural model is required prior to data collection and analysis. Vandenberg and Grelle cite several examples of studies in which such a priori justification of mediators or moderators was done (e.g., Kinicki, Prussia, Wu, & McKee-Ryan, 2004).

Vandenberg and Grelle (2009) also addressed AMS separately for equivalent models, nested models, and nonnested models, noting differences in implications for pitting models against one another and inferring differences. The overarching theme, however, is that AMS should be based on theoretical plausibility and alternative models should be specified before data are collected and analyzed. Post hoc theorizing, while sometimes necessary, should be avoided.
Research Agenda

The general model of the personality–performance process and its submodels suggest a number of avenues for research. For example, research is necessary on specific performance dimensions to determine what elements of the model operate for different types of performance. Certain elements may be consistent across all types of performance, but many will depend on the performance dimension. Task performance dimensions seem most likely to be influenced by all elements of the model, while citizenship performance and CWB are likely to be determined by a simpler model (Johnson et al., 2008). It is necessary to determine to what extent a single model describes the performance prediction process for performance dimensions within the same broad category (e.g., different aspects of citizenship performance; cf. Ilies et al., 2009).

The general model can guide research on the relationships between specific personality traits and specific performance dimensions by helping identify theoretically relevant predictors for different criteria, which will be facilitated by the development of a nomological net linking personality variables to the various elements of the model. Meta-analyses have been conducted on personality predictors of work attitudes, proactive cognition aspects of motivation, and performance dimensions, but research linking personality to the other elements of the model is necessary to help identify likely personality predictors of specific performance dimensions.

Research is necessary to determine how the aspect of performance being studied moderates the relationship between personality and motivation. For example, certain personality traits may be highly related to motives, expectancies, self-efficacy, goal content, and goal commitment when the criterion is a dimension of citizenship performance, but have no relationship to these constructs when the criterion is a dimension of task performance. For example, Johnson et al. (2008) found that agreeableness was related to the components of motivation when predicting citizenship performance, but was not related to motivation when predicting task performance. The opposite relationship would be expected for achievement, although achievement is commonly used as a proxy for motivation for any kind of performance. Research should be directed at creating a taxonomy of personality predictors of motivation for different performance constructs that can be used to facilitate our understanding of how personality influences performance.

In this chapter, we demonstrated that most personality–performance process models are not inconsistent with each other. When these models differ, it is primarily because (a) a variable is included in one model but not another, or (b) there are definitional issues in that similar variables have different names or variables with the same name are defined differently. We recommend using the general model as a guide to what variables to include when reconciling different models or formulating new ones and for consistent construct definition. When two models suggest different explanations for observed phenomena, research should be designed to pit the competing models against each other. Hochwarter et al. (2006) is a good example of an investigation that was set up to determine which of two alternative theories better explained a relationship, in this case how understanding affects the relationship between politics perceptions and job performance. These authors designed a study that provided a fair test of the alternative explanations, and then constructively replicated the results in two additional samples.

Practitioner’s Window

Although the study of the process through which personality influences performance may be considered basic research, having an understanding of this process has several potential applications for practitioners. For personnel selection purposes, the general model could be used to choose appropriate predictors for whatever criterion construct is of interest for a particular job. Because of the situational specificity of the validity of personality measures, it is difficult to determine which personality traits
should be measured to predict performance in a given situation without having an understanding of the numerous pathways through which different personality traits can influence different types of performance.

The general model also adds significantly to our evolving understanding of the nature and antecedents of job performance. Practitioners can use this information to identify interventions that will have the greatest impact on areas of performance that are deficient in certain employees. For example, increasing citizenship performance behavior could be accomplished by focusing on increasing job satisfaction. The general model would also be effective in identifying training and/or development needs. Given a criterion construct on which an individual’s performance is in need of improvement, this model can help to identify the determinants of performance on that construct. For example, an individual possessing adequate skill and knowledge may determine that he or she must learn new self-regulatory strategies to maintain goal-directed behavior. As process model research allows us to gain more knowledge of the complexity with which personality determines job performance, both theory and practice will benefit.

References


