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HOW IMPORTANT ARE JOB ATTITUDES? META-ANALYTIC COMPARISONS OF INTEGRATIVE BEHAVIORAL OUTCOMES AND TIME SEQUENCES

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Drawing on the compatibility principle in attitude theory, we propose that overall job attitude (job satisfaction and organizational commitment) provides increasingly powerful prediction of more integrative behavioral criteria (focal performance, contextual performance, lateness, absence, and turnover combined). The principle was sustained by a combination of meta-analysis and structural equations showing better fit of unified versus diversified models of meta-analytic correlations between those criteria. Overall job attitude strongly predicted a higher-order behavioral construct, defined as desirable contributions made to one's work role ($r = .59$). Time-lagged data also supported this unified, attitude-engagement model.

Job attitudes and job performance are perhaps the two most central and enduring sets of constructs in individual-level organizational research. Yet, a longstanding debate persists about the nature and the strength of relationships between these fundamental predictors and criteria (Austin & Villanova, 1992; Brief, 1998; Johns, 1998; Judge, Thoreson, Bono, & Patton, 2001). An elemental question remains: How important are job attitudes for predicting and understanding job performance in particular, and work role–directed behaviors in general?

Authors of early qualitative reviews concluded that only weak support existed for the relationship between one principal attitude, job satisfaction, and supervisor ratings or output measures of job performance (e.g., Brayfield & Crockett, 1955). A common inference in those reviews was that job attitudes were more strongly related to absence, turnover, and other forms of work role withdrawal than they were to in-role performance (e.g., Herzberg, Mausner, Peterson, & Capwell, 1957; Vroom, 1964). Subsequent quantitative reviews also failed to show job attitudes as having strong predictive utility. One meta-analysis reported a lackluster value ($\hat{\rho} = .17$) as the best estimate of the correlation between satisfaction and performance (Iaffaldano & Muchinsky, 1985). Another review showed organizational commitment bore a weaker relationship to job performance ($\hat{\rho} = .14$) than to at least one withdrawal behavior, turnover ($\hat{\rho} = -.28$; Mathieu & Zajac, 1990). Consequently, the pendulum of causal potency has swung away from job attitudes (at least until recently; see Judge et al. [2001]). One widely held view is that attitudes are inconsistent or epiphenomenal forces in work behavior (e.g., Locke & Latham, 1990): they explain only 3–4 percent of performance variance and have little practical importance for managers.

The current article subjects that view to empirical scrutiny via comprehensive and comparative tests. In doing so, we attempt to contribute to management knowledge in five ways. First, we investigate and more fully map the individual-level criterion space (i.e., a set of work behaviors valued by organizations [Austin & Villanova, 1992]) by bringing four original meta-analyses to the literature, estimating the connections between contextual performance and (1) lateness, (2) absence, (3) turnover, and (4) focal (in-role) performance. Second, we cre-

ate a multivariate matrix of meta-analytic correlations between pairs of these five behavioral criteria and the two most commonly studied job attitudes: job satisfaction and organizational commitment. This effort involves combining our new meta-analyses with clarified results of 17 existing meta-analyses, a process resulting in 21 estimates of bivariate relationships in adult working populations. Third, we use the ensuing meta-analytic matrix to compare the fit of competing theoretical models that specify relationships between attitudinal predictors and (different structures among) behavioral criteria. Fourth, we assess the time sequencing among job attitudes and behaviors, comparing predictive with "postdictive" time-lagged designs. Fifth and most importantly, we attempt to answer the question posed in our title by estimating links between predictors and criteria defined at increasingly compatible levels of generality, an effort culminating in a broad *attitude-engagement model* that connects overall job attitude with overall individual effectiveness.

PREDICTORS: JOB SATISFACTION, ORGANIZATIONAL COMMITMENT, AND OVERALL JOB ATTITUDE

Job satisfaction, although defined in many ways, has often been thought of as an emotional state resulting from the evaluation or appraisal of one's job experiences (Locke, 1976), or as a psychological state simultaneously represented by cognitive and affective indicators (Brief & Weiss, 2002; cf. Schleicher, Watt, & Greguras, 2004). The consensual portion of organizational commitment's definition is that it is a feeling of sharing beliefs and values with one's entire organization—itself a positive emotional state (e.g., Meyer & Allen, 1991). That is, despite conceptual and empirical distinctions (e.g., Tett & Meyer, 1993), it is clear that job satisfaction and organizational commitment have theoretical and empirical commonalities. Both satisfaction and commitment are nonspecific with regard to the actions prescribed. In Meyer and Allen's (1991) three-dimensional reconceptualization, *affective* commitment is the most strongly overlapping in constitutive and operational definition with *attitude*. Indeed, recently it has been termed "attitudinal commitment" (Riketta, 2002). Hulin (1991) also noted considerable theoretical overlap between affective commitment and overall job satisfaction, remarking that the only clear difference between the two is their conceptual target. The target of job satisfaction is one's position or work role; the target of affective commitment is the entire organization (Hulin, 1991: 489).

In addition to the evidence for a shared conceptual domain, there is evidence of these constructs having a great deal of shared variance. Mathieu and Zajac (1990) showed that measures of commitment from the Organizational Commitment Questionnaire (OCQ) were more strongly connected to overall satisfaction than to facet-specific (pay, coworker, supervision, etc.) satisfaction. Satisfaction and affective commitment measures have a strong correlation (e.g., meta-analytic $\hat{\rho} = .65$ [Meyer, Stanley, Herscovitch, & Topolnytsky, 2002]). In fact, the correlation between overall job satisfaction and affective commitment is stronger than many of the relationships between indicators typically taken as representing a single underlying construct. Moreover, the correlation between affective commitment and job satisfaction is stronger than the correlations between pairs of (affective, normative, and continuance) facets of Meyer and Allen's (1991) commitment construct (Meyer et al., 2002), and stronger than relationships between indicators of other general constructs (see du Toit & du Toit, 2001). Thus, it is reasonable to treat job satisfaction and attitudinal commitment as specific reflections of a general attitude, as each is a *fundamental evaluation of one's job experiences*. Hence, we extend the work of Judge and coauthors (2001) and argue we can conceptualize *both* job satisfaction and organizational commitment as indicating an underlying overall job attitude.

CRITERIA: FOCAL VERSUS CONTEXTUAL PERFORMANCE

Another major issue in a comprehensive test of attitude-behavior relationships at work is the breadth of the criterion space. For the past two decades, scholars have systematically expanded individual-level behavioral criteria, responding in part to the early and fairly gloomy reviews of attitude-performance connections (e.g., Organ, 1977). Organ and his colleagues have defined organizational citizenship behavior (OCB) using elements of work activity not fully captured by traditional (focal performance, task completion) concepts (Bateman & Organ, 1983; Organ, 1997; Smith, Organ, & Near, 1983). Borman and Motowidlo further abstracted these behaviors (1993) into contextual performance, a more inclusive criterion dimension. Such behaviors were seen as more interpersonally oriented (Motowidlo, 2000; Van Scotter & Motowidlo, 1996), more discretionary, and more "extra-role" (e.g., helping coworkers, encouraging or improving morale, and endorsing, supporting, and defending organizational objectives), than what has been characterized as "in-role" performance (Or-

gan, 1988; Organ & Paine, 1999). We suggest contextual performance is now an important part of what Fisher (1980: 607) called the "total set of work-related behaviors," and examining this construct fulfills recommendations to study broader, more abstract criteria (see Hanisch, Hulin, & Roznowski, 1998; Judge et al., 2001).

Past studies have focused on attitudinal predictors of contextual performance (Organ & Ryan, 1995). Research on links between contextual performance and other criterion dimensions (e.g., lateness, absenteeism, and turnover) is more recent. Of equal importance, the position of contextual performance in the *temporal progression* of behavioral responses to negative attitudes has not been made explicit. Below, we review and develop formal hypotheses supporting such links. Those hypotheses serve as conceptual bases of four new meta-analyses, which themselves are necessary for completing the meta-analytic matrix of pairwise correlations between all commonly studied behavioral criteria and job attitudes.

Contextual Performance and Turnover

Chen, Hui, and Sego (1998) proposed that avoidance of citizenship behavior may be a discretionary and primary means for employees to reduce work role inclusion. If the morale-building or relationship-enhancing actions comprising contextual performance (Van Scotter & Motowidlo, 1996) are considered "prepayment" for eventual good treatment by an employer, then avoidance of contextual performance may signal employees' intentions to "write off" these investments in a firm they plan to leave. Likewise, in their job embeddedness model, Mitchell, Holtom, Lee, Sablynski, and Erez (2001) proposed that a major factor inhibiting turnover is the depth and breadth of interpersonal relationships developed through contextual performance behaviors. Mossholder, Settoon, and Henagan (2005) also showed evidence that workers with fewer interpersonal ties were more likely to quit. Hence, contextual performance promotes the formal and informal connections that reduce an employee's likelihood of quitting.

Hypothesis 1. Contextual performance is negatively related to turnover.

Contextual Performance, Absenteeism, and Lateness

In formulating ideas about links between contextual performance, absenteeism, and lateness, we also note the role of absenteeism and lateness as means through which employees can withhold inputs from an organization. Many foundational theories of organizational behavior, including equity theory (Adams, 1965), inducements-contributions theory (March & Simon, 1958), and social exchange theory (Thibault & Kelly, 1959) suggest straightforward reasons why individuals contribute or withhold such inputs. Under their auspices, we theorize that lateness and absence are often controllable forms of input reduction, subject to the same motivations for withholding inputs as OCBs, helping behaviors, and other elements of contextual performance (cf. Harrison, Johns, & Martocchio, 2000). Those who are willing to expend the (extra-role) effort to engage in contextual performance are less apt to reduce their (in-role) effort to meet the focal demands of their work schedules. Additionally, absenteeism and lateness permit an employee to reduce the costs of an aversive job by engaging in more pleasurable activities while still maintaining the job's economic benefits. There are also fewer opportunities to enact forms of contextual performance when one spends less time at work (is late or absent). Thus,

Hypothesis 2. Contextual performance is negatively related to absenteeism.

Hypothesis 3. Contextual performance is negatively related to lateness.

Contextual Performance and Focal Performance

The connection between contextual and focal (task) performance has been given more research attention than the connection between contextual performance and withdrawal behaviors (e.g., Conway, 1999; Motowidlo & Van Scotter, 1994; Rotundo & Sackett, 2002). Task performance is typically defined as the degree to which an individual meets or exceeds expectations about focal role requirements. Recently, Hunt (2002) argued that when employees have a fixed pool of inputs or efforts, a negative relationship should be expected between contextual and focal performance. He refers to these situations as "Taylorist jobs," in which strict adherence to routinized procedures is advocated.

Most jobs, however, have become less routinized, less unidimensional, and less strictly defined (Cascio, 1998), reducing the asserted trade-off between contextual and focal performance. Additionally, for a variety of circumstances, individual difference variables have been found to produce relatively high levels of *both* task performance and citizenship behavior. These individual difference variables include conscientiousness, emotional stabil-

ity, and agreeableness (Hurtz & Donovan, 2000; LePine, Erez, & Johnson, 2002). Further, Taylorist jobs are most likely to produce negative within-person correlations of contextual with task performance, while our current focus is on between-person correlations. Given this pattern of evidence, we expect that some individuals bring higher levels of personal resources (time, energy, human capital) to their jobs, fostering higher levels of focal *and* contextual performance.

Hypothesis 4. Contextual performance is positively related to focal (task) performance.

CRITERIA: WITHDRAWAL BEHAVIORS

Alongside contextual and focal performance, withdrawal behavior is arguably a third major dimension of the individual-level criterion space. Actions such as lateness, absenteeism, and turnover have a long history of study in management, and direct bottom-line implications for firms. Although researchers have meta-analyzed connections between pairs of withdrawal behaviors (e.g., Mitra, Jenkins, & Gupta, 1992), and between each of the major withdrawal behaviors and job attitudes (e.g., Hackett, 1989), they have not been examined simultaneously or as key components of a broader criterion space.

Just as there are debates about the connections of job attitudes with performance, there are decades-old sets of opposing ideas about the nomological networks of single- and multiple-behavior forms of withdrawal (see the summary by Johns [1998]). Hulin (1984, 1991) suggested that the meanings of lateness, absence, and turnover can be found in their patterns of covariation. Rosse and Miller (1984) identified five sets of those patterns, or nomological networks, as underlying theories of relationships among withdrawal behaviors themselves, and between withdrawal behaviors and their proposed antecedents and consequences (also see their reinterpretation by Harrison and Martocchio [1998]). According to the *independent forms model* of withdrawal, lateness, absenteeism, and turnover each have a unique etiology. In its extreme form, this model is taken to predict near-zero covariances among uniquely determined withdrawal behaviors (Rosse & Miller, 1984). However, a more precise characterization of the independent forms model might be that it predicts differential connections of job attitudes to each type of withdrawal behavior. Under an independent forms model of withdrawal, a model fitted to attitude-behavior correlations that keeps lateness, absenteeism, and turnover distinct (and therefore includes no underlying withdrawal construct) should fit best.

In contrast, for the *compensatory forms* and *alternative forms models,* single withdrawal behaviors are assumed to be substitutable in specific ways for one another. Rosse and Miller (1984) described them in terms of "water under pressure"; the metaphoric flowing water is the urge to withdraw from a dissatisfying work environment (see also Johns, 1997). Under the alternate forms model, external constraints on one behavior (the turnover faucet is closed) mean that the urge will be expressed in another behavior (the absenteeism faucet is open). Under compensatory forms, enacting one form of withdrawal will have a tempering (relief valve) effect on dissatisfaction, and therefore lessen the probability of enacting another form of withdrawal. Both models are taken to predict negative within-person covariance between individual withdrawal behaviors over short periods of time (Martocchio & Harrison, 1993). The *spillover model* connects withdrawal behaviors in a positive way (Rosse & Miller, 1984). Engaging in lateness, absence, or turnover is a reflection of a general, underlying propensity to withdraw, which itself is determined by an overall, negative job attitude. What differentiates the three behaviors is merely the threshold that the underlying attitudinal propensity must breach to reveal itself in a particular action (lateness has the lowest threshold [Hulin, 1991]). This model would be operationalized with all three behaviors serving as congeneric reflections of a single withdrawal construct. The compensatory, alternative forms, and spillover models also mandate a separate dimension of withdrawal from task and contextual performance in our meta-analytic model-fitting, as all three models *specify a single underlying urge to withdraw* that is variously manifested through lateness, absenteeism, and turnover.

Finally, according to the *progression of withdrawal model,* positive covariances occur between pairs of withdrawal behaviors in a specific, cascading order (Benson & Pond, 1987; Krausz, Koslowsky, & Eiser, 1998; Mobley, 1982; Rosse, 1988). Under the progression conceptualization, all three withdrawal behaviors are presumed to be responses to negative job attitudes. But an additional requirement is that they be connected in a causal chain, generating a simplex pattern of behavior-specific correlations from lateness to absence, and then absence to turnover.

CONNECTING ATTITUDINAL PREDICTORS TO BEHAVIORAL CRITERIA

The Compatibility Principle

Over the past two decades, some researchers (e.g., Fisher, 1980; Hulin, 1991) have argued that

the apparently meager connections between job attitudes and job performance (typically measured only as focal performance) are, in fact, consistent with fundamental principles of attitudes proposed by social psychologists. These authors contend that job attitudes do not predict job behavior well because behavioral criteria are defined and treated at a different level of abstraction than attitudinal predictors. These arguments (Fisher, 1980; Fisher & Locke, 1992; Hulin, 1991; Roznowski & Hulin, 1992) are based largely on the theories of Fishbein and Ajzen (e.g., Ajzen & Fishbein, 1977, 1980; Fishbein & Ajzen, 1974, 1975), who developed the *compatibility* principle for attitudes to account for their apparently inconsistent relationships to behavior (their original term was "congruence," later renamed "compatibility" by Ajzen [1988]). They responded to extensive disputes in social psychology over the role of attitudes in determining and predicting behaviors (e.g., Mischel, 1968; Wicker, 1969), proposing that an attitude impels behavior only when the two constructs are compatible in their action, target, context, and time (see Epstein [1980] for a parallel explanation with dispositional constructs). Ajzen and Fishbein (1977) theorized and showed that attitude-behavior connections were strongest when the attitude was matched in specificity or generality to behavior. More recently, Kraus (1995) also found support for the compatibility principle in nonwork contexts, with meta-analytic correlations *(r's)* of .29 versus .62 under low and high compatibility, respectively.

In applying the compatibility principle to the present question, it should be noted that job satisfaction and organizational commitment are attitudes that connote a broad target, but not an action, context, or time. According to attitude theory, such attitudes should kindle a general, undifferentiated force to engage in (positive or negative) behaviors that express or manifest the attitude. Such attitudes should therefore predict wide *sets* or aggregates of behaviors directed toward one's role that are not limited to a specific task dimension, social environment, or type of activity at work. This idea, also found in Fisher's assertion about attitude-behavior compatibility, that "general satisfaction measures should be related to the favorableness or unfavorableness of an individual's total set of work-related behaviors" (1980: 607), has not been fully tested. If this idea were correct, as researchers define behavioral criteria at increasingly higher levels of abstraction (e.g., actions contributing to aspects of one's job or work role), the empirical connection between overall job attitudes and such criteria should become stronger.

In keeping with the compatibility principle,

Judge and colleagues (2001) disregarded effects of job facet satisfaction and concluded that overall satisfaction had a much stronger meta-analytic relationship with overall job performance than previously believed ($\hat{\rho} = .30$). Their conclusion was followed by a call for research on relationships of job attitudes to even broader behavioral criteria: "Issues of construct generality and correspondence have fundamental effects on the nature and magnitude of the relationships between attitudes and behaviors . . . but have rarely been considered in the satisfaction-performance literature" (Judge et al., 2001: 392). Responding to this suggestion and taking their work a step further, we explicitly considered those issues in the present research. Using structural equation modeling of meta-analytic correlations between pairs of job attitudes and behavioral criteria (Viswesvaran & Ones, 1995), we tested the fit of models of the consequences of overall job attitude. As those models move from theorizing more specific to more general behavioral criteria*, we expected they would show better fit to existing data.* In addition to assessing model fit, we examined the connection between overall job attitude and behavioral criteria. Following the compatibility principle, we expected the attitude-behavior connection to grow progressively stronger as behavioral criteria were defined in broader, more inclusive ways. We termed the most general form of these criterion dimensions *individual effectiveness,* the tendency to contribute desirable inputs toward one's work role.

Attitude-Behavior Relationships: Specific Models

As we have noted, withdrawal, contextual performance, and focal (task) performance have not been drawn together in a comprehensive empirical analysis involving attitudinal predictors. However, several theoretical models of the structure of these behavioral criteria exist. Many comprehensive models (Campbell, 1990; Murphy, 1990; Van Scotter & Motowidlo, 1996) do not explicitly address the possibility that correlations among criterion dimensions could reflect a higher-order or more general effectiveness construct. However, Viswesvaran and Ones (2000) noted that meta-analytic evidence indicated a positive manifold, or sharedness, among the various conceptions of performance dimensions: task performance, contextual performance, counterproductivity, and so on. They interpreted this overlap as a higher-order performance or "p-factor" (Arvey, 1986; Viswesvaran, 1993), a substantively meaningful construct not simply due to idiosyncratic rater halo error (Viswesvaran & Ones, 2000: 223).

In the present article, we organize these ideas about criterion structure in ways that correspond with increasing fidelity to the compatibility principle reviewed above. Specifically, we move from conceptualizations of the criterion space that might be characterized as *diversified,* treating multiple responses to job attitudes as unique behaviors or sets, to those that might be characterized as *unified,* treating all behavioral dimensions as parts of an overall effectiveness construct. The former models—including those that mandate a distinct criterion dimension for each form of withdrawal behavior—treat elements of the criterion space as more behaviorally specific, and the latter treat them as more general. According to the compatibility principle, the latter models should show stronger connections between overall job attitude and the (shared) variance in behavioral criteria. Differences between diversified and unified theoretical models stem mainly from how they arrange elements of task performance, contextual performance, and withdrawal behaviors relative to one another. We describe those models below and show them in Figure 1.

Model A: Diversified criteria. Job performance has been defined as behaviors that are under individual control and that affect the goals of the employing organization (Campbell, 1990). As we mentioned above, a diversified model of the criterion space would specify no general, higher-order factor underlying the various dimensions of work behavior or performance. According to this model, sets of actions such as lateness, absenteeism, turnover, and contextual performance are determined in different ways and in different strengths by job attitudes. The criteria do not share a single etiology. Instead, performance-related behaviors reflect how much individual control or discretion each one entails. Contextual performance is associated with the level of effort or persistence that an individual exerts beyond what is required. Absenteeism and lateness, as the reduction of effort, are somewhat less discretionary, with controls on their expression that vary across jobs (Johns, 1991). Focal performance is the least discretionary. Typically in-role or expected, it serves as the basis for the distribution of formal organizational rewards (Borman & Motowidlo, 1993). The discretionary component of turnover depends upon the external labor market and information about alternative job opportunities.

Such a conceptualization also implies that overall job attitude has a stronger connection to contextual performance, lateness, and absence, than to focal performance and (perhaps) turnover (e.g., Chen et al., 1998). That is, when individual control

is considered, overall job attitude is predicted to have unique effects on each criterion dimension (see Figure 1, top panel). The independent forms model of job withdrawal (Rosse & Miller, 1984) would fall under this rubric, as it rests on different strengths of predictors for lateness, absence, and turnover (including a version that supposes one behavior is a function of unfavorable job attitude while the others are not [Johns, 1998]).
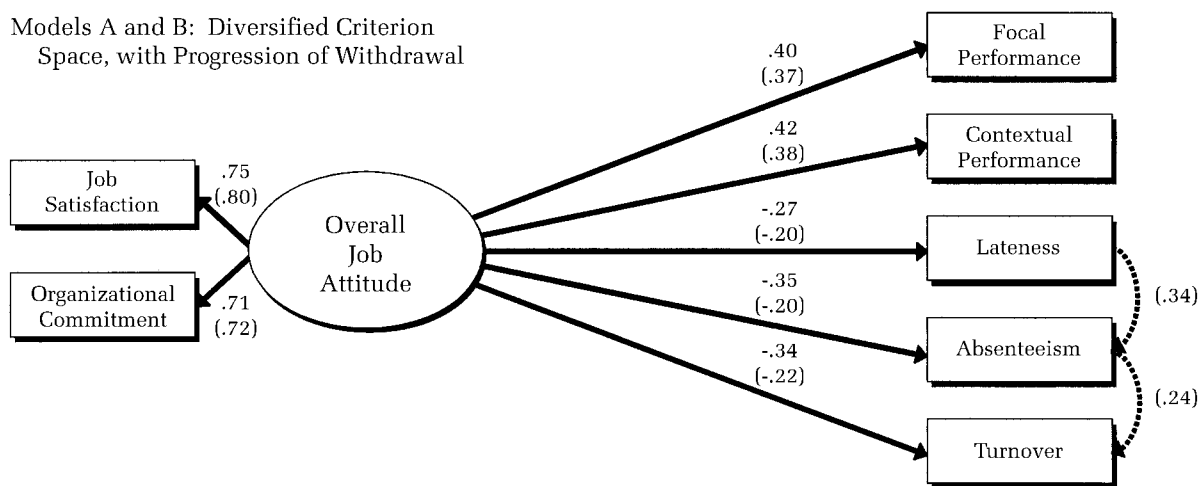
Model B: Diversified criteria, plus progression of withdrawal. Within the diversified criterion model, relationships among single withdrawal behaviors can be structured to be consistent with one or more of the withdrawal theories reviewed earlier. In particular, overall job attitude can relate in a unique way to each behavior within the criterion space, while the withdrawal behaviors inside that space are interrelated in a predefined way. In keeping with the progression of withdrawal hypothesis, we propose a model of a diversified criterion space that overlays an ordered sequence among withdrawal behaviors, moving from lateness to absenteeism to turnover (see the dotted arrows in Figure 1, top panel).

Model C: Diversified criteria, but unitary withdrawal. As suggested in reviews of the consequences of job satisfaction and organizational commitment (Herzberg et al., 1957; Mathieu & Zajac, 1990; Vroom, 1964), we specified a model in which task and contextual performance are distinguished from withdrawal as criteria (see Figure 1, middle panel). In terms of specific versus general approaches to the criterion space, this intermediate, three- rather than five-dimensional model, groups lateness, absenteeism, and turnover together as outcroppings of an underlying withdrawal construct (see Hanisch & Hulin, 1991; Hanisch, Hulin, & Rosnowski, 1998; Rosse & Hulin, 1985). This model is also consistent with withdrawal as spillover (Rosse & Miller, 1984).

Model D: Unified criterion. Moving from three dimensions to a single, general *effectiveness* dimension involves moving from a diversified to a unified behavioral criterion. Such a model is consistent with the hierarchical perspective of a p-factor in the criterion space (Viswesvaran and Ones [2000]; see Figure 1, bottom panel). Hulin (1982) implied a similar structure decades earlier. The unified model implies that overall job attitude is associated with the shared or empirically overlapping portions of behavioral criteria at work. In terms of attitude theory, this model represents the greatest attitude-behavior compatibility (Fishbein & Ajzen, 1997). Both constructs are treated at the highest level of generality or abstraction. Overall job attitude is generic with respect to actions, con-

FIGURE 1
Models of Relationships between Individual Job Attitudes and Work Behavior

Models A and B: Diversified Criterion
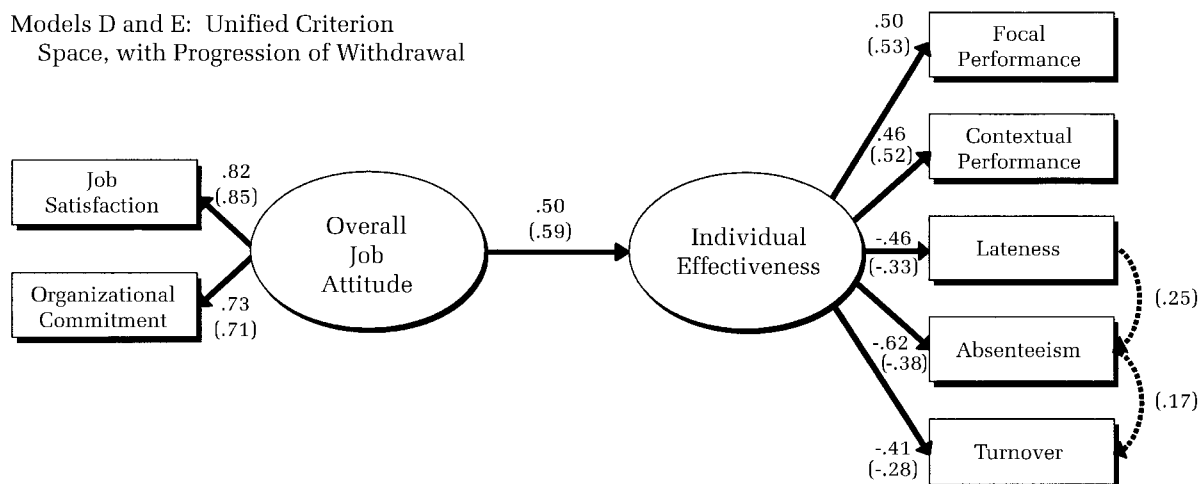Space, with Progression of Withdrawal

Model C: Diversified Criterion
Space with Unitary Withdrawal
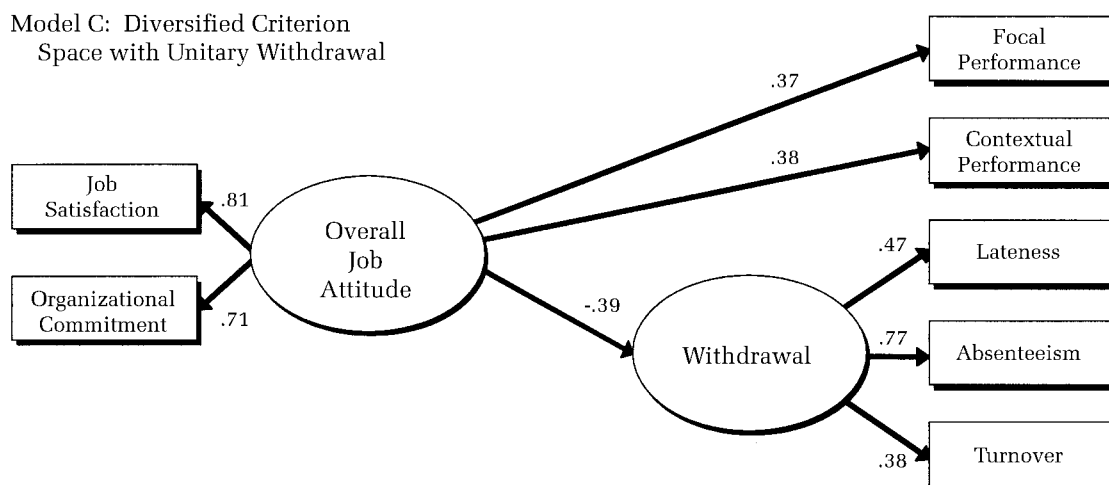
Models D and E: Unified Criterion
Space, with Progression of Withdrawal

texts, and times. We contend that *positive job attitude creates a tendency to engage or contribute desirable inputs to one's work role, rather than withhold them.* Each behavioral criterion is a reflection of this general tendency.

Model E: Unified criterion, plus progression of withdrawal. Finally, it is possible that both the compatibility principle and the progression of withdrawal model operate simultaneously (Rosse, 1988). In this specification, individual withdrawal behaviors owe a major portion of their covariation to the general effectiveness criterion. At the same time, there is a dependency structure between pairs of withdrawal behaviors (see Figure 1, bottom panel, dashed arrows).

METHODS

To test the compatibility principle, and therefore estimate the importance of overall job attitude for predicting a higher-order job behavior construct, we applied the models described above to a meta-analytic matrix of relationships among specific job attitudes and behaviors that have frequently appeared in past research. These behaviors included focal performance (task or in-role performance, typically measured by supervisor ratings), contextual performance (typically measured as OCB), lateness, absenteeism, and turnover. Although published meta-analytic estimates were available for bivariate relationships between attitudes (job satisfaction and organizational commitment) and each specific criterion dimension, one of the contributions of our study is to review and estimate meta-analytic relationships between contextual performance and other criteria. We derived meta-analytic correlations between contextual performance and turnover (Hypothesis 1), absenteeism (Hypothesis 2), lateness (Hypothesis 3), and focal performance (Hypothesis 4).

In many of the primary studies included in our search, contextual and task performance ratings were taken from the same source (e.g., supervisors). Therefore, to be commensurate with the other meta-analytic values that were not subject to bias by common method variance or percept-percept inflation (cf. Organ & Ryan, 1995), we separated original studies on the basis of whether data for the two variables came from a common source. Non-common source estimates were used in our tests of competing models.

Meta-Analyses of Links between Contextual Performance and Other Job Behaviors

Rules for inclusion. We selected studies for contextual performance meta-analyses that used samples of employed adults. This procedure was consistent with previous meta-analyses represented in our attitude-behavior matrix (Judge et al., 2001). Primary studies sampled people working in natural settings and estimated individual-level effects. Effect sizes for relationships with turnover measures were restricted to those articles and papers reporting actual separations from an organization, rather than turnover intentions or withdrawal cognitions.

Identification of studies. Studies for the present meta-analyses were located through electronic and manual searches of databases, bibliographies from quantitative and qualitative reviews, and conference proceedings. Initially, we searched the PsycINFO, ERIC, and ABI/Inform databases from 1983 (the first year in which a paper on OCB was published) through October 2004, using the subject terms "citizenship behavior," "contextual performance," "prosocial behavior," and "extra-role behavior." The focus of the literature review was on published articles and chapters, unpublished doctoral dissertations, conference papers, and cited but unpublished manuscripts. The abstracts from all studies identified by the databases were searched manually for references to absenteeism, sick leave use, attendance, turnover, retention, quitting, lateness, promptness, tardiness, performance, and in-role behavior. We also posted messages on listservs (e.g., RMNet, HRDivNet) asking for unpublished or forthcoming studies. Even with this broad search, there were relatively few studies to cumulate that correlated contextual performance with each of the three withdrawal behaviors. However, we were able to obtain at least five independent samples for each new estimate, a number that compares favorably to those in other recent meta-analyses (e.g., Martocchio, Harrison, & Berkson, 2000). Table 1 reports the number of studies *(k)* and total number of individuals *(N)* for each new meta-analytic estimate. Because one of the prior meta-analytic estimates (lateness with focal performance, from Koslowski, Sagie, Krausz, and Singer [1997]) was based on fewer than five original studies, we also report an updated estimate for it in Table 1.

Meta-analytic procedures. Following the method used to derive the prior correlations included in our eventual meta-analytic matrix of attitude-behavior connections, we employed Hunter and Schmidt's (2004) corrections for attenuation due to unreliability. Such corrections are often viewed as conservative (Hunter & Schmidt, 2004). Many of the primary studies did not report correlations with contextual performance, but only facet-specific correlations (e.g., with the "sportsmanship" facet of OCB). We combined correlations from these dimensional measures to form a

TABLE 1
Results of Meta-Analyses for Contextual Performance

	Uncorrected r	k	Total N	95% Confidence Interval	Corrected r	Percentage of Variance Accounted for by Sampling Error
Contextual performance						
Turnover	−.20	5	1,619	−.12 to −.36	−.22	21%
Lateness	−.11	5	578	−.03 to −.28	−.15	70
Absenteeism	−.22	8	957	−.16 to −.27	−.26	100
Focal performance	.20	24	9,912	.16 to .24	.23	20
Lateness						
Focal performance	−.20	7	1,879	−.13 to −.50	−.26	12

unit-weighted composite correlation between all dimensions of contextual performance (e.g., OCB) and the respective criterion.

In contrast to the other job behaviors, turnover was treated as having a reliability of unity (Griffeth, Hom, & Gaertner, 2000). Interrater or internal consistency estimates of reliability were often not reported for lateness, absenteeism, and in-role performance. We substituted the average reliability estimate from the other studies that did provide it, which is a form of imputation.

Analytic Framework for Fitting and Comparing Diversified versus Unified Models

Data for estimating the fit of models A through E were obtained by bringing together the four new meta-analytic estimates described above with 17 other meta-analyses estimating bivariate relationships between job attitudes and work behaviors. Use of meta-analytically derived matrices for structural equation models was advised by Viswesvaran and Ones (1995) and Shadish (1996) and has been reported many times in the human resources and organizational behavior literatures (e.g., Bhaskar-Shrinivas, Harrison, Shaffer, & Lau, 2005). A series of meta-analyses published since 1989 provided estimates for the input correlation matrix (see the footnotes for Table 2). In this approach, the structural equation model uses manifest indicators without correction for measurement error, as these corrections have already been accomplished through meta-analysis.

We acknowledge that comparisons between nonnested models are somewhat arbitrary, and their use prohibited us from pinpointing specific paths that accounted for between-model differences in fit. Further, these models are limited by our necessary reliance on correlation (rather than covariance) estimates as input for the modeling procedure. Structural equation models based on a correlation matrix can produce incorrect standard errors when the standard deviation varies across input variables (Cudeck, 1989). Fortunately, these standard errors are often overestimated (Cudeck, 1989: 323), making significance tests of individual parameters conservative.

Other Adjustments to the Meta-Analytic Correlation Matrix

One limitation we discovered in previous meta-analyses involving job attitudes and behavioral criteria was failure to appropriately specify the level of analysis of primary studies involved in the calculation of the final meta-analytic estimate (Ostroff & Harrison, 1999). For example, one of the prior meta-analytic estimates in the literature was based on a total N of approximately 3,000, but 1,244 of the data points were from Angle and Perry's (1981) unit-level rather than individual-level analysis. In several cases, inclusion of this correlation created significant bias in the published estimate. Thus, we removed Angle and Perry's (1981) result from the meta-analytic estimates that included it, permitting our final model to reflect individual-level relationships. Additionally, for the correlation between organizational commitment and job satisfaction, we combined the results of Mathieu and Zajac (1990) with those of Meyer and colleagues (2002), as those meta-analyses were based on independent sets of original studies.

Time Sequencing

Our use of directional arrows in Figure 1 carries with it a set of implicit and often disregarded hypotheses about the temporal ordering among variables (Mitchell & James, 2001). All of the models implicitly specify that job attitudes are temporally prior to behavioral criteria, and the progression of withdrawal models (models B and E) implies a temporal sequence from lateness to absence to turn-

TABLE 2
Meta-Analytic Correlations between Job Attitudes and Job-Related Behaviors[a]

Construct	1	2	3	4	5	6
1. Job satisfaction						
2. Organizational commitment	.60[b]					
k studies	112					
N total observations	39,187					
3. Focal performance	.30[c]	.18[d]				
k studies	312	87				
N total observations	54,471	20,973				
4. Contextual performance	.28[e]	.25[f]	.23[g]			
k studies	32	42	24			
N total observations	16,348	10,747	9,912			
5. Turnover	−.19[h]	−.22[i]	−.15[j]	−.22[k]		
k studies	67	66	72	5		
N total observations	24,566	26,296	25,234	1,619		
6. Lateness	−.11[l]	−.15[m]	−.26[n]	−.15[o]	.09[p]	
k studies	15	7	7	5	5	
N total observations	3,767	1,896	1,879	578	1,310	
7. Absenteeism	−.17[q]	−.16[r]	−.29[s]	−.26[t]	.30[u]	.38[v]
k studies	25	30	49	8	33	24
N total observations	4,741	5,748	15,764	957	5,316	6,769

[a] All correlations are disattenuated for unreliability. Turnover correlations are not corrected for base rate. If more than one meta-analysis reported on the same relationship, we used the estimate reflecting the greatest amount of data (in all cases, this was the most recent estimate). When more than one set of estimates was given, correlations with absence frequency were used.

The letter superscripts in the body of the table indicate the sources of the meta-analytic correlations as follows: "s," Bycio (1992); "h," "i," "j," Griffeth et al. (2000); "q," Hackett (1989); "c," Judge et al.; "l," "m," "v," "p," Koslowsky et al. (1997); "e," "f," LePine et al. (2002); "b," "r," Mathieu and Zajac (1990), composited with Meyer et al. (2002); "u," Mitra et al. (1992); and "d," Riketta (2002).

Original analyses include "g," "k," "n," "o," and "t." A correlation from Angle and Perry (1981) was removed from estimates "i," "m," "p," and "v."

over. Our review of relationships between contextual performance and withdrawal behavior (Hypotheses 1–3) further implies that citizenship behaviors are withheld prior to the decision to miss work (Chen et al., 1998).

Because the published meta-analyses on which our meta-matrix is based did not distinguish primary studies with regard to time (except Bycio [1992]), we returned to the original data to differentiate studies with predictive designs (e.g., job satisfaction measured before absenteeism) from those with postdictive designs (e.g., absenteeism measured before job satisfaction). A finding of stronger predictive than postdictive effect sizes would be consistent with the temporal order implied by models A to E.

RESULTS

Hypotheses 1–4: Links between Contextual Performance and Other Job Behaviors

Meta-analytic results for tests of Hypotheses 1 through 4 appear in Table 1. In keeping with

expectations, contextual performance was negatively related to all three withdrawal behaviors and positively related to focal performance. Corrected (for unreliability) estimates were moderate in size for relationships with turnover ($\hat{\rho} = -.22$), lateness ($\hat{\rho} = -.15$), absenteeism ($\hat{\rho} = -.26$), and focal performance ($\hat{\rho} = .23$). All 95% confidence intervals for these estimates excluded zero, supporting Hypotheses 1–4. We note again that these results are not biased by percept-percept inflation (Doty & Glick, 1998; Harrison & McLaughlin, 1996; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) as we included only those studies for which correlations were taken from noncommon sources.

For two of the hypothesized links (contextual performance with turnover and with focal performance), there was considerable variability in effect sizes not accounted for by sampling error. This variability implied the presence of potential moderators, which will be discussed later. Our goal for the present study was to provide the best *summary* estimates of the links between contextual perfor-

mance and other behavioral criteria across settings. Having done so, we could proceed with tests of the compatibility principle.

Models A–E: Increasingly Compatible Job Attitude–Job Behavior Constructs

We tested the compatibility principle by comparing structural equation models (Edwards, 2001) fitted to the meta-analytic, corrected correlations shown in Table 2. Path coefficients for each model are shown in Figure 1. Fit indexes for each model are reported in Table 3. As correlations in each cell reflected different sample sizes, the model fit indexes were based on the harmonic mean across meta-analytic cells (Viswesvaran & Ones, 1995). As shown in Figure 1, organizational commitment and job satisfaction were modeled as a single, higher-order, overall attitude construct in all cases.

Models of the criterion space took several forms. These included diversified models A and B, with five separate criteria; diversified model C, with three separate criteria (lateness, absenteeism, and turnover reflecting a higher-order withdrawal construct); and unified models D and E, represented with a single, higher-order effectiveness construct for all the behavioral criteria. Model B was nested within A, and model E, within D, so that chi-square differences could be used to test changes in fit within these pairs (Hu & Bentler, 1999). The sequence of all five models was not nested; therefore, comparisons were made on other indexes. Because the various indexes differ in specific assumptions, the use of multiple indexes is recommended (Jöreskog & Sörbom, 1989). We included Bentler's (1990) comparative fit index (CFI), the Tucker-Lewis index (TLI; also known as the nonnormed fit index [Tucker & Lewis, 1973]), Jöreskog and Sörbom's (1989) adjusted goodness-of-fit index (AGFI), and Steiger's (1990) root-mean-square error of approximation (RMSEA). The last is really a "badness-of-fit" index, with larger values indicating greater misfit.

Two trends are apparent in the Table 3 results. First, models with more general or more unified conceptualizations of behavioral criteria fit better than models with more diversified criterion conceptualizations, as evidenced by all indexes. That is, model D (unified model: CFI = .92, TLI = .86, AGFI = .93, and RMSEA = .10) fits better than model C (diversified model, but unitary withdrawal construct: CFI = .87, TLI = .79, AGFI = .89, and RMSEA = .12), which in turn fits better than model A (diversified model: CFI =.77, TLI = .65, AGFI = .81, and RMSEA = .16). This finding, based on a very large sample of employees in natural settings, supports the compatibility principle. It also empirically attests to the viability of *individual effectiveness* as a higher-order criterion for overall job attitude. It is reasonable to think of job satisfaction and organizational commitment not as unique predictors of specific performance criteria or withdrawal tendencies, but as predictors of a general response that involves the overall engagement with, or contribution of favorable efforts to, one's work role.

A second trend evident in Table 3 is the superiority of models with progression of withdrawal. Model B fits much better than model A ($\Delta\chi^2$ = 648.7, df = 2, p < .01), and model E fits considerably better than model D ($\Delta\chi^2$ = 185.6, df = 2, p < .01). Even when an effectiveness construct is spec-

TABLE 3
Attitude-Behavior Model Comparisons[a]

Models	Number of Performance Dimensions	χ^2	df	RMSEA	TLI	CFI	AGFI
Model A: Diversified criteria	5	1,144.42**	14	.16	.65	.77	.81
Model B: Diversified criteria, progression of withdrawal	5	495.68**	12	.11	.81	.89	.90
Model C: Diversified criteria, unitary withdrawal construct	3	596.42**	13	.12	.79	.87	.89
Model D: Unified criterion	1	380.76**	13	.10	.86	.92	.93
Model E: Unified criterion, progression of withdrawal	1	195.15**	11	.07	.92	.96	.96

[a] Harmonic mean N = 3,120.

** p < .01

ified as the behavioral criterion for overall job attitude, fit improves as models include an ordered sequence of relationships from the unique variance of lateness to absenteeism to turnover. In fact, model E, which has the unified effectiveness criterion and progression of withdrawal, demonstrates fit that might be considered a close approximation to true structural relationships in the population (Hu & Bentler, 1999: CFI =.96, TLI = .92, AGFI = .96, and RMSEA = .07). The significant chi-square suggests there is still room for improvement, but this statistic is sensitive to trivial model departures in our very large samples, and it is also inflated by the nonnormal distributions of turnover, lateness, and absenteeism (Harrison & Hulin, 1989).

Despite the inclusion of progression of withdrawal, the unified criterion model E remains consistent with the compatibility principle of attitude theory. In this model, the structural path that joins overall job attitude with effectiveness is rather strong ($\gamma_{standardized}$ = .59, $p < .01$). As this model is based on only a single predictor and a single criterion, the standardized structural path can be taken as a correlation between latent constructs. This latent correlation is markedly stronger than even the recently updated job satisfaction–performance estimate from Judge et al. (2001; $\hat{\rho}$ = .30). Therefore, to answer the question in our paper's title, *overall job attitude has considerable importance for understanding behavioral outcomes.*

Time Sequencing of Job Attitudes and Job Behaviors

To test the time ordering between variables implied by the directed arrows in models A through E, we meta-analyzed primary studies using time-lagged designs. All correlations involving turnover were predictive (turnover was always a lagged criterion). Our literature search found 564 of the original 667 primary effects from the published and new meta-analyses. Because 50 of these failed to report enough information on the time ordering between measures, 514 were eventually coded for time sequencing. Overall, 82 effects were predictive, 139 effects were postdictive, and 292 effects were concurrent. Table 4 presents results of this analysis.

Of the 14 bivariate relationships shown in the table, 2 (focal performance with lateness and job satisfaction with contextual performance) provided no data to permit comparisons of predictive versus postdictive designs. Of the remaining 12 relationships, 10 were in the hypothesized direction (i.e., consistent with the directions of arrows in Figure 1). That is, for 10 out of 12 bivariate relationships,

the predictive effect sizes were larger than postdictive effect sizes (binomial $p = .003$). These trends, however, should not be taken as a definitive test of temporal sequence, as confidence intervals for predictive and postdictive estimates overlapped (with the exception of relationships in which absenteeism was a consequence of job attitudes). In sum, our synthesis of 221 primary studies that employed time-lagged designs gave initial evidence about attitude-behavior sequencing. It revealed a statistically significant overall trend favoring temporal precedence for attitudes and a progression of withdrawal behaviors.

DISCUSSION

This study addresses several theoretical questions that previous empirical research has left unanswered. We provide the first large-scale empirical test of the compatibility principle (Fishbein & Ajzen, 1975) for job attitudes and work behavior, following conjectures from theorists such as Fisher (1980) and Hulin (1991). By noting that job satisfaction and organizational commitment are attitudes that specify a target but do not specify any particular action, we hypothesized and demonstrated that a general *set* of actions at work—not specific behaviors—serves as the best criterion construct for overall job attitudes. According to competing theoretical positions, job attitudes should preferentially predict withdrawal behaviors (Vroom, 1964), or job attitudes serve simply as a common cause for a variety of otherwise unrelated behaviors (Johns, 1998). Instead, results of our meta-analytic study support a unified criterion model on the basis of its relative and absolute fit, and show that *when attempting to understand patterns of work behavior from attitudes such as job satisfaction and organizational commitment, researchers should conceptualize the criterion at a high level of abstraction.* A general job attitude is strongly linked to a general behavioral criterion. In our conceptualization, the higher-order effectiveness construct might be defined as a general tendency of employees to contribute desirable inputs toward their work roles rather than withhold those inputs. A simple label for such a conceptualization might be the "attitude-engagement" model of job attitudes and behaviors.

An alternative, formative view of these behavioral criteria might characterize our models as misspecified (e.g., Jarvis, MacKenzie, & Podsakoff, 2003). In such a view, each behavior does not "reflect" an underlying construct (as in the conventional approach to constructs [Edwards & Bagozzi, 2000]), but instead, all behaviors add together to

TABLE 4
Attitude-Behavior (A-B) and Behavior-Behavior (B$_1$-B$_2$) Meta-Analytic Correlations by Temporal Order of Constructs[a]

Relationship	Uncorrected r	k	Total N	95% Confidence Interval	Corrected r	Percentage of Variance Accounted for by Sampling Error
Job satisfaction (A) with focal performance (B)						
Predictive: A measured, then B	.17	23	3,251	.14 to .20	.28	30%
Concurrent: A and B measured at same time; separate sources	.18	130	23,045	.17 to .19	.30	28
Postdictive: B measured, then A	.19	47	8,713	.17 to .21	.31	17
Organizational commitment (A) with focal performance (B)						
Predictive	.12	9	2,439	.08 to .16	.16[a]	34%
Concurrent, same source	.17	17	4,634	.14 to .20	.23	17
Concurrent, separate sources	.12	28	7,682	.10 to .15	.17	86
Postdictive	.11	16	3,602	.08 to .14	.15[a]	90
Job satisfaction (A) with absenteeism (B)						
Predictive	−.15	7	997	−.21 to −.09	−.24[a]	91%
Concurrent, same source	−.31	2	435	−.39 to −.22	−.49	n.a.
Concurrent, separate sources	−.14	1	139	−.30 to .03	−.22	n.a.
Postdictive	−.06	17	2,312	−.10 to −.02	−.10[a]	39%
Organizational commitment (A) with absenteeism (B)						
Predictive	−.12	10	3,484	−.15 to −.09	−.18[a]	38%
Concurrent, same source	.03	1	252	−.09 to .15	.04	n.a.
Concurrent, separate sources	−.21	1	114	−.38 to −.03	−.30	n.a.
Postdictive	−.05	14	1,501	−.10 to .00	−.07[a]	37%
Focal performance (B$_1$) with absenteeism (B$_2$)[b]						
Predictive: B$_1$ measured, then B$_2$	−.33	8	1,134	−.45 to −.21	−.57[a]	54%
Concurrent: B$_1$, B$_2$ measured at the same time; same source	−.20	15	7,749	−.26 to −.15	−.35	53
Concurrent: B$_1$, B$_2$ measured at the same time; separate sources	−.26	5	722	−.33 to −.19	−.45	38
Postdictive: B$_2$ measured, then B$_1$	−.11	19	4,463	−.18 to −.05	−.20[a]	25
Job Satisfaction (A) with lateness (B)						
Predictive	−.16	2	677	−.23 to −.08	−.19[a]	n.a.
Concurrent (same source)	−.09	5	1,455	−.14 to −.04	−.11	21%
Postdictive	−.14	7	1,235	−.19 to −.08	−.17[a]	52%
Organizational commitment (A) with lateness (B)						
Predictive	−.20	1	402	−.29 to −.10	−.21[a]	n.a.
Concurrent	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Postdictive	−.07	4	1,059	−.13 to −.01	−.08[a]	27%
Focal performance (B$_1$) with lateness (B$_2$)						
Predictive	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Concurrent (same source)	−.02	2	545	−.11 to .06	−.03	n.a.
Postdictive	−.25	2	1,325	−.29 to −.19	−.30	n.a.
Lateness (B$_1$) with absenteeism (B$_2$)						
Predictive	.31	1	324	.21 to .41	.44[a]	n.a.
Concurrent (same source)	.48	4	880	.42 to .53	.67	14%
Concurrent (separate sources)	.32	7	2,295	.28 to .35	.45	18%
Postdictive	.24	1	324	.14 to .34	.34[a]	n.a.
Job satisfaction (A) with contextual performance (B)						
Predictive	.22	4	807	.20 to .23	.27	100%
Concurrent, separate sources	.26	14	4,492	.22 to .30	.32	53%
Postdictive	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

TABLE 4
(Continued)

Relationship	Uncorrected r	k	Total N	95% Confidence Interval	Corrected r	Percentage of Variance Accounted for by Sampling Error
Organizational commitment (A) with contextual performance (B)						
Predictive	.21	9	2,231	.13 to .29	.28[a]	27%
Concurrent, same source	.19	24	6,288	.15 to .22	.25	66
Concurrent, separate sources	.19	16	4,060	.15 to .23	.25	67
Postdictive	.16	3	363	.10 to .22	.21[a]	100
Contextual performance (B_1) with focal performance (B_2)						
Predictive	.20	3	1,102	.09 to .31	.23[a]	26%
Concurrent, separate sources	.21	16	8,182	.17 to .25	.25	18
Postdictive	.07	5	698	−.02 to .16	.09[a]	67
Contextual performance (B_1) with lateness (B_2)						
Predictive	−.14	3	291	.02 to −.31	−.19[a]	47%
Concurrent, separate sources	−.10	1	94	n.a.	−.13	n.a.
Postdictive	−.07	1	193	n.a.	−.09[a]	n.a.
Contextual performance (B_1) with absenteeism (B_2)						
Predictive	−.21	2	339	−.20 to −.22	−.24	100%
Concurrent, separate sources	−.18	3	331	−.17 to −.19	−.21	100
Postdictive	−.26	3	287	−.12 to −.40	−.30	59

[a] Predictive-postdictive difference is in hypothesized direction.
[b] Estimates taken from Bycio (1992).

"form" a new construct. In the present context, such an argument would also maintain that overall job attitude first contributes to individual tendencies to engage in *specific* behaviors and that these behaviors then coalesce or combine (no positive covariation is necessary) to cause the general behavioral criterion. It is crucial for us to note that this formulation is theoretically at odds with the compatibility principle, which posits that the *general* tendency to behave favorably toward an object (in this case, one's work role) is caused by an overall, positive evaluation of that object. Our contention is that we tested substantive models specifying that (1) there is a general construct of effectiveness and (2) job behaviors reflect it, but not in identical ways (specific work criteria are congeneric, not parallel). Both of these statements are consistent with attitude theory (Ajzen, 1988).

In addition to validating a unified criterion for job attitudes, we found that attitudes and behaviors may occur according to a particular time-ordered sequence. For six out of seven attitude-behavior pairings, predictive correlations (attitude to behavior) were stronger than postdictive correlations (behavior to attitude). We cannot rule out the possibility that reciprocal causal processes are operating (see Locke, 1970), but the combined evidence from dozens of time-lagged studies tends to favor the attitude-behavior mechanism.

Work behaviors also appear to display a theoretically meaningful time sequence. Although we conceptualized effectiveness as a unified tendency, actions reflecting this tendency come about in a way that suggests progression of withdrawal (Rosse & Miller, 1984). Time-lagged data show that lateness tends to precede absence, and absence predicts turnover. Additionally, as Chen and coauthors (1998) explained, the withholding of contextual performance behaviors may be a part of this progression sequence (as the first signal of reduction in work role inclusion), invoked prior to tardiness or quitting. The time-lagged studies concur, again showing a (slight) tendency for contextual performance to precede lateness. To further integrate this concept with our theoretical models, we tried a modification to model E, specifying contextual performance as the first element in the progression sequence among disturbance terms (i.e., contextual performance to lateness, lateness to absence, and absence to turnover) and found a slight improvement in overall model fit ($\Delta\chi^2 = 5.1$, $df = 1$, $p < .05$). Thus, both our static model and our lagged

data analyses tend to favor a time-ordered sequence in the criterion space, and this sequence might be taken to include contextual performance. At a minimum, results help to rule out the independent forms withdrawal model reviewed by Rosse and Miller (1984). The fit of model E further suggests that progression of withdrawal can coexist with the spillover, compensatory, or alternative forms models applied *across* work behaviors (these latter two models are consistent with positive between-person covariation—i.e., the unified propensity—as long as there is coincident negative within-person covariation).

Our results also have implications for the role of individual volition in the job attitude–behavior relationship, as captured by the notion that specific work behaviors share a basis in their mutual tendency to reflect *discretionary* involvement in work. Indeed, behavioral discretion or control is a central feature of theory on attitude-behavior relations (Ajzen, 1988), and it has been formally conceptualized in organizational psychology through the notion of action thresholds (e.g., Hanisch, Hulin, & Seitz, 1996). Our results are consistent with the view that focal performance, contextual performance, lateness, absence, and turnover all have similar discretionary content across organizations, although there may be interbehavior variability in discretion within organizations. More detailed theorizing and research are needed about the amount of discretion and constraint present for various job behaviors, especially if such research elaborates the temporal dynamics between job attitude and the higher-order behavioral construct—including specification of reciprocal mechanisms and causal lags.

One interpretation of the behavioral threshold argument would be that variability in organizational policies and other situational constraints on specific job behaviors across organizations would have shown up in the present study as effect size variability unaccounted for by artifacts. Estimates reported in Table 1 indicate large portions of variance still unaccounted for by such artifacts (only 70, 21, and 20 percent variance accounted for in lateness, turnover, and focal performance correlations, respectively). We contend that the associations of contextual performance with lateness, turnover, and focal performance are likely moderated by organizational norms, lateness policies, external labor markets, and other behavioral controls discussed in previous literature (Hanisch et al., 1998; Hunt, 2002). Unfortunately, the data at hand do not permit an empirical test of this contention. Thus, unaccounted variance in primary study effects remains a source of ambiguity that should be noted in

any interpretation of our results (Hedges & Olkin, 1985: 147; Hunter & Schmidt, 2004).

Aside from these situational constraints, construct validity issues may also moderate the focal performance-contextual performance correlation. Specifically, the various constructs and subdimensions that go under the labels of citizenship behavior, extra-role behavior, contextual performance, and prosocial behavior may reflect subtle variations in underlying content. Distinctions between the two types of behaviors may depend upon subjective notions of role breadth that vary with one's position in the organization (Tepper, Lockhart, & Hoobler, 2001).

Limitations and Research Directions

Although the current research focuses on testing models of the attitude-behavior connection using the best available empirical estimates of population-level correlations, we acknowledge that substantive moderators of the bivariate effects are still likely to exist. We make no contention that the effects reported in this study are free of substantive moderators—on the contrary, the median percent variance in effect sizes accounted for by artifacts in the published meta-analytic estimates on which our model is based was 28.5 percent, reflecting a strong possibility that moderators are at work (see above). These published meta-analyses offer some guidance in the search for moderating factors that influence the interrelations of job attitude and behavior, although they are markedly different across the pairwise relationships being examined. For example, Meyer and coauthors (2002) coded whether studies were conducted inside particular continents and showed the satisfaction-commitment association to be weaker outside ($\rho = .56$) than inside North America ($\rho = .67$). Likewise, Riketta (2002) found that commitment had a stronger relation to job performance when performance was assessed via supervisor ratings ($\rho = .19$) than when assessed through objective performance indicators ($\rho = .13$). Griffeth and colleagues (2000) showed that job performance had a stronger connection to turnover in samples that lacked reward contingency (the correlation between effect size and moderator was .75).

Another potential limitation of our work is that the two meta-analyses linking job attitudes to job performance (Judge et al., 2001; Riketta, 2002) made attenuation corrections based on an interrater reliability estimate from Viswesvaran, Ones, and Schmidt ($r = .52$; 1996). Although this may be the least-biased estimate of interrater reliability available, there is debate about the appropriateness of using interrater correlations to estimate reliability

(see Murphy & DeShon, 2000; Schmidt, Viswesvaran, & Ones, 2000). More recently, Sackett, Laczo, and Arvey (2002) showed a tendency for interrater reliability corrections to produce overestimates in validity coefficients when such estimates are not initially corrected for range restriction. To test the possibility that our estimates linking each job attitude to job performance were inflated, we re-ran our theorized models using recalculated meta-analytic estimates based on hypothetical interrater reliability estimates for job performance of .80. Fit indexes and parameter estimates for these models were similar to the original models reported above (RMSEA = .07, γ = .54).

Apart from the meta-analyses that were used as input for the present study, some choices we made for the path analysis itself may have influenced results. One such choice was the inclusion of only job satisfaction and organizational commitment as job attitude constructs. Other options could have been to include job involvement and/or job identification on the predictor side of our models (Brown, 1996). However, too few primary studies were available to estimate all requisite cells in the meta-analytic matrix. Likewise, the scarcity of primary studies kept us from including another potentially important element of the criterion space: counterproductive behavior (Bennett & Robinson, 2000; Collins & Griffin, 1998). We expect future research to demonstrate that these behaviors would fit well under the effectiveness umbrella, showing systematic patterns of covariance with other job behaviors and further improving the predictiveness of overall job attitude. Altogether, the addition of job attitudes and work behaviors to this scheme is indicative of what we would term an *attitude-engagement model* of personal evaluations and individual actions taken toward one's work role. Models D and E above are integrative forms of an overarching attitude-engagement model.

Another choice we made in building our alternative models was to not estimate the residual correlation between organizational commitment and turnover. Such a relationship matches some theorizing about organizational commitment (e.g., Mowday, Steers, & Porter, 1979), but it did not match our framework for assessing attitude and criterion generality. Inspection of the LISREL modification indexes for structural parameters reveals that the path from commitment to turnover would have improved the fit of even our best model, model E ($\Delta\chi^2$ difference = 35.0, df = 1), although our meta-analytic estimate of the commitment-turnover relationship might have been artificially inflated by the inclusion of primary studies that

measured commitment via the OCQ (see Bozeman & Perrewe, 2001).

Another criticism of the method used in this study is that it does not allow for clear-cut cause-effect conclusions (as time-lagged and especially cross-sectional correlations cannot definitively establish temporal precedence [Balkundi & Harrison, 2006]). Although we interpret the data at hand to support progression of withdrawal, the reader is warned of the potentially severe limitations of testing dynamic withdrawal models using inappropriate data and analyses. From our review of extant literature, we suggest future researchers employ conditional probability (Rosse, 1988) and stage-sequential analyses (Collins, Hyatt, & Graham, 2000; Lee, Mitchell, Holtom, McDaniel, & Hill, 1999)—rather than correlational analysis—in assessing progression of withdrawal. Although the current correlational evidence is consistent with an underlying progression-of-withdrawal model, it is likely that alternative formal models might be developed that are also consistent with these data, as determined by the modeler's choice of stochastic parameters (see Ilgen & Hulin, 2000).

Finally, we note that the nature of original study designs was almost always nonexperimental. Without the knowledge to influence or manipulate the attitudes of employees, studies such as the ones reviewed here may offer little in the way of fine-grained prescriptions. Although past research has dealt with the antecedents of job attitudes to a considerable degree (e.g., job characteristics [Fried, 1991]; personality [Judge, Heller, & Mount, 2002]), we feel that further work on the etiology of job attitudes is merited, perhaps via theory about affect (Brief & Weiss, 2002). Similarly, a summary of the success of organizational interventions to change general job attitudes would be useful.

Conclusion

Overall job attitude is fundamentally important for understanding work behavior. By thinking about behavioral criteria at a broad level of generality—as overall individual effectiveness—our findings are consistent with an integrative, *attitude-engagement* idea. A general, positive, job attitude leads individuals to contribute rather than withhold desirable inputs from their work roles. Our findings are also consistent with a resurgence of interest in more general human resources and organizational behavior constructs. In view of the current work, we forward that, along with general cognitive ability, a sound measurement of overall job attitude is one of the most useful pieces of

information an organization can have about its employees.

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