

RELATIONSHIP OF PERSONALITY TRAITS AND COUNTERPRODUCTIVE WORK BEHAVIORS: THE MEDIATING EFFECTS OF JOB SATISFACTION

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This study used path analysis to test a model that posits that relevant personality traits will have both direct relationships with counterproductive work behaviors (CPBs) and indirect relationships to CPBs through the mediating effects of job satisfaction. Based on a sample ($n = 141$) of customer service employees, results generally supported the hypothesized model for both boss- and self-rated CPBs. Agreeableness had a direct relationship with interpersonal counterproductive work behaviors (CPB-I); Conscientiousness had a direct relationship with organizational counterproductive work behaviors (CPB-O); and, job satisfaction had a direct relationship to both CPB-I and CPB-O. In addition, job satisfaction partially mediated the relationship between Agreeableness and both CPB-O and CPB-I. Overall, results show that personality traits differentially predict CPBs and that employees' attitudes about their jobs explain, in part, these personality–behavior associations.

In order to further the science of personnel selection, researchers have called for the development of models of work behavior that posit linkages among individual difference constructs and components of work performance (e.g., Borman, White, Pulakos, & Oppler, 1991; Campbell, 1990; Schmidt & Hunter, 1992; Viswesvaren & Ones, 2000). An important class of behavior that represents one component of employees' work performance is counterproductive work behaviors (CPBs). These voluntary behaviors violate organizational norms, are detrimental to the interests of the organization, and hinder the attainment of organizational goals. Such behaviors have been variously conceptualized as deviance (Hollinger, 1986; Robinson & Bennett, 1995), maintaining personal discipline [reversed] (Campbell, 1990), antisocial behavior

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(Giacalone, Riordon, & Rosenfeld, 1997), unruliness (Hunt, 1996), and destructive/hazardous behaviors (Murphy, 1993). Counterproductive activities at work include relatively minor behaviors such as spreading rumors, inappropriate Internet use, and littering, as well as more severe behaviors such as harassment, sabotaging equipment, employee theft, and acts of physical violence. These deviant behaviors are pervasive and costly both to organizations and to employees' well being. For example, 58% of women report experiencing potentially harassing behaviors and 24% report having experienced sexual harassment at work (Ilies, Hauserman, Schwochau, & Stibal, 2003). Further, according to a recent survey, approximately 25% of companies have fired employees for misuse of the Internet (American Management Association, 2005). Moreover, almost all (95%) organizations are targets of employee theft and fraud (Case, 2000). These behaviors cost U.S. businesses approximately \$50 billion annually and may account for as many as 20% of failed businesses (Coffin, 2003). Although more difficult to quantify, the negative psychological impact of workplace deviance can translate into reduced employee morale, higher rates of absenteeism and turnover, and lower productivity (Hoel, Einarsen, & Cooper, 2003; Keashly & Jagatic, 2003). For these reasons, there is great interest in understanding the antecedents and consequences of CPBs (e.g., Hogan & Hogan, 1989; Robinson & Greenberg, 1998).

CPBs represent a class of behaviors that are discretionary. That is, individuals make conscious choices about whether to engage in behaviors such as playing mean pranks, swearing at coworkers, falsifying expense reports, and sabotaging the work of others. As such, CPBs are more likely to be influenced by individuals' personality traits than by ability factors. Indeed, previous research has demonstrated that there are meaningful linkages between employees' personality characteristics and deviant behavior at work (e.g., Bennett & Robinson, 2003; Dalal, 2005; Douglas & Martinko, 2001; Salgado, 2002). Thus, one major purpose of the present study is to examine further personality-CPB linkages. As we discuss in later paragraphs, we extend previous research by examining whether there are differential relationships between personality traits and two related, but distinct, types of CPBs (interpersonal and organizational). We also examine whether these relationships hold when CPBs are rated from different perspectives (self and boss).

Like all behaviors, deviant behavior is influenced by factors other than an individual's personality traits. We propose that one such factor is a person's general attitudinal evaluation of his/her work—job satisfaction. We believe that job satisfaction has a direct relationship to CPBs, such that those who are more dissatisfied will engage in more deviant behavior. Further, in our view, employees' job satisfaction plays an important role in

understanding CPBs as it partially mediates the relationship between personality characteristics and CPBs. That is, employees' reactions to work experiences and work environment features are influenced by individuals' personality traits, which in turn influence CPBs. Thus, personality-counterproductive behavior linkages should be explained, in part, through attitudinal constructs that more proximally reflect individuals' reactions to their work environment and experiences.

In their review of the literature on the antecedents of CPBs (i.e., workplace deviance), Bennett and Robinson (2003) noted that the streams of research that (a) considered deviance as a reaction to experiences at work and (b) examined deviance as a reflection of employees' personality have been relatively distinct. The present study addresses this void in the literature by proposing and testing an integrative model that considers both personality traits (characteristics of the individual) and attitudinal evaluations (reflective of the job) as predictors of CPBs. Importantly, in this model, we hypothesize that job satisfaction (an attitudinal evaluation of the job) explains, in part, the relationship between personality traits and CPBs. This is important in that it tests a mediated relationship that reflects a psychological process connecting personality with behavior. Theoretically, counterproductive behavior can be seen as a form of adaptation, which suggests that such behavior represents a cathartic means of adjusting to, or restoring control over, a frustrating or dissatisfying job (Bennett & Robinson, 2003).

Furthermore, following the distinction between individual- and organization-targeted behaviors from the discretionary work behavior literature (e.g., Bennett & Stamper, 2002; Dalal, 2005), we propose and test differential effects of specific personality traits on interpersonal and organizational CPBs. Interpersonal CPBs are behaviors directed at others in the organization such as bosses, coworkers, or customers that are intended to provide emotional or physical discomfort or harm. Organizational CPBs are actions directed toward the organization that are harmful to its legitimate interests. (Each of these is described in more detail below.) Testing such differential effects is important because it can further justify the distinction between interpersonal and organizational CPBs and further our understanding of the CPB construct. It can also suggest avenues for future research and practical ways for reducing CPBs in organizations. In the paragraphs that follow, we discuss the definition and dimensionality of counterproductive behavior at work; summarize relevant research linking CPBs, personality traits, and job satisfaction; discuss research pertaining to job satisfaction and CPBs; and, formulate our expectations for the relationships between these constructs. We then describe a study designed to test our hypothesized model and present its results.

Definition and Dimensionality of CPB

Robinson and Bennett (1995) defined workplace deviance as “voluntary behavior of organizational members that violates significant organizational norms, and in so doing, threatens the well-being of the organization and/or its members” (p. 556), and this definition has been adopted by organizational research that followed (e.g., Lee & Allen, 2002; see also Martinko, Gundlach, & Douglas, 2002, and Sackett, 2002). More recently, Gruys and Sackett (2003) defined CPBs as “any intentional behavior on the part of an organizational member viewed by the organization as contrary to its legitimate interests.” Further, like Robinson and Bennett, they specify that their definition “encompasses behavior that is targeted at both individuals and the organization as both types of actions can have severe consequences on the organization” (p. 30). In this article, we follow Robinson and Bennett (1995) and Gruys and Sackett (2003) in distinguishing between individual- and organization-targeted CPBs. Though counterproductive behaviors at work can also be described along other dimensions (e.g., task relevance [Gruys & Sackett]; seriousness [Robinson & Bennett]), the interpersonal-organizational dimension has consistently emerged in recent conceptual and empirical work on CPB and, in our view, is most relevant for analyses aimed at elucidating the processes through which personality influences counterproductive behaviors at work.

Bennett and Robinson (2000) conducted a comprehensive review of the literature, and used an extensive development and refinement process involving multiple samples, to develop a self-report instrument that assesses the extent to which individuals engaged in counterproductive behavior. The instrument consists of two scales: one pertaining to organizational deviance (CPB-O) and another pertaining to interpersonal deviance (CPB-I). CPB-O refers to actions directed toward the organization such as withholding effort, abusing break times, theft, and violating organizational policies. CPB-I is interpersonally oriented and includes behaviors such as making fun of others, playing mean pranks, making racial slurs, cursing at others, and being rude. Though conceptually distinct, the CPB-I and CPB-O factors are not orthogonal because behaviors indicating these two factors tend to co-occur. Indeed, a recent meta-analysis (Dalal, 2005) examining voluntary behaviors at work found a moderately high correlation between these two factors ($\hat{\rho} = .52$); however, the magnitude of this value is not as high as to suggest that the two factors are indistinguishable from one another. As noted, we believe that uncovering differential relationships with antecedents would further attest to the distinctiveness between these two types of behavior, which we attempt to accomplish in this study. A more detailed discussion of CPBs is provided below in the development of hypotheses pertaining to personality traits and job satisfaction.

Hypothesized Relationships: Main Effects

Trait influences on CPBs. First, we consider the relationships between personality traits and the two components of workplace deviance, CPB-I and CPB-O. Specifically, we focus on the five-factor model (FFM) of personality as this model has achieved widespread (though not universal) acceptance as a meaningful description of the structure of personality traits. These traits depict enduring emotional, interpersonal, experiential, and motivational styles that explain behavior in different situations (e.g., McCrae & Costa, 1987; Saucier & Goldberg, 2003). This structure has been found using different instruments, in different cultures, and with ratings from different sources (e.g., Digman, 1990; Goldberg, 1990; Mount, Barrick, & Strauss, 1994; Saucier & Ostendorf, 1999). The five personality factors are commonly known as Extraversion (e.g., sociable, talkative, and ambitious), Conscientiousness (e.g., responsible, dependable, and achievement oriented), Emotional Stability (e.g., viewed from the negative pole, tense, nervous, and high strung), Agreeableness (e.g., good natured, cooperative, and trusting), and Openness to Experience (e.g., imaginative, cultured, and nontraditional).

Most reviews of personality-CPBs relationships have concluded that Conscientiousness, Emotional Stability, and Agreeableness are the strongest predictors (e.g., Cullen & Sackett, 2003; Ones, Viswesvaran, & Schmidt, 2003), with Conscientiousness being the most consistent predictor (Sackett & DeVore, 2001). For example, Salgado (2002) conducted a meta-analysis of the relationship between the Big Five personality dimensions and measures of CPBs, and found that Conscientiousness best predicted a composite measure of deviant behavior that consisted of measures theft, admissions of theft, disciplinary problems, substance abuse, property damage, organizational rule breaking, and other responsible behaviors ($r = -.16$, $\hat{\rho} = -.26$). Salgado (2002) also reported that Agreeableness also was a valid predictor ($r = -.13$, $\hat{\rho} = -.20$) of this composite of deviant variables. In another study, Dalal (2005) conducted a meta-analysis of the relationship between Conscientiousness and CPBs, defined as workplace behavior that was harmful to the legitimate interests of the organization or its employees, and found a moderately strong correlation ($r = -.29$, $\hat{\rho} = -.38$). (The authors did not examine relationships with the other personality traits.) Based on their review of the literature, Cullen and Sackett (2003) state that one or more of the three traits (Conscientiousness, Agreeableness, and Emotional Stability) or their facets have been shown to predict (negatively) CPBs such as absenteeism (Judge, Martocchio, & Thoresen, 1997), turnover (Barrick & Mount, 1996), delinquency (Hough, 1992), workplace violence (Ones & Viswesvaran, 2001), substance abuse and property damage (Schmidt, Viswesvaran, & Ones, 1997), and a wide

variety of behaviors related to violent and nonviolent criminal behaviors (Collins & Schmidt, 1993; Eysenck & Gudjonsson, 1988).

There has been very little research that has directly examined the relationship between personality traits and the two components of CPBs—interpersonally based and task based. However, meta-analytic studies of the relationships between personality and performance have shown that the two most consistent personality predictors of work performance are Emotional Stability and Conscientiousness (e.g., Barrick, Mount, & Judge, 2001; Hurtz & Donovan, 2000; Salgado, 1997). The Barrick et al. (2001) study, which was a meta-analysis of previous meta-analyses, found that Conscientiousness and Emotional Stability were the only personality predictors whose validities generalized in the prediction of overall work performance. Thus, they concluded that Conscientiousness and Emotional Stability are universal or generalizable predictors of behaviors that are under volitional control. By inference, this suggests that because both CPB-I and CPB-O are influenced by volition, Conscientiousness and Emotional Stability should predict both types of deviance.

Further, with respect to the interpersonal aspect of counterproductive behavior, the meta-analysis by Mount, Barrick, and Stewart (1998) showed modest but non-zero relationships, between Conscientiousness and Emotional Stability and supervisory ratings of how well people interacted with others. Likewise, in their meta-analysis, Hurtz and Donovan (2000) reported that Conscientiousness and Emotional Stability predicted the criterion of interpersonal facilitation. With respect to organizational, task-based counterproductive behaviors, several meta-analyses have shown that both personality dimensions predict task-based criteria such as overall performance (e.g., Barrick & Mount, 1991; Barrick et al., 2001; Hurtz & Donovan, 2000) and quantity and quality of work (Mount & Barrick, 1995). Of the two dimensions, however, Conscientiousness has the stronger relationship with task-based criteria. Thus, when criteria are under volitional control, both Conscientiousness and Emotional Stability have been found to be generalizable predictors of both task-based and interpersonally based criteria and for behaviors that promote the attainment of organizational goals as well as behaviors that hinder the attainment of organizational goals. Therefore, based on deductive reasoning, we expect that Conscientiousness and Emotional Stability will correlate negatively with both CPB-O and CPB-I.

The Barrick et al. (2001) meta-analysis also found that other FFM traits (Extraversion, Agreeableness, and Openness to Experience) predict performance but only for certain types of criteria and/or jobs. These personality traits are contingent predictors because they predict performance only when the personality traits are related to specific criteria. Important for our purpose, Agreeableness has been found to be a valid predictor of criteria that pertain to interpersonal performance such as forming cooperative

relationships and social facilitation such as teamwork and customer service (e.g., Mount et al., 1998). Viewed from the low end, disagreeable people are self-centered, noncooperative, inconsiderate, manipulative, vengeful, argumentative, and insulting (Goldberg, 1999). Not surprisingly, the interpersonal relationships of disagreeable people are characterized by conflict and discord (Graziano, Jensen-Campbell, & Hair, 1996; Jensen-Campbell, Gleason, Adams, & Malcom, 2003; Jensen-Campbell & Graziano, 2001). Therefore, we expect that Agreeableness should be negatively related to engaging in harmful or destructive interpersonal relationships.

Low Agreeableness also has implications for understanding task-based CPBs, although the relationships are not likely to be as strong as for interpersonal criteria, an issue to which we will return shortly. People low in Agreeableness are uncooperative, manipulative, tend not to follow rules, and cheat to get ahead (Goldberg, 1999). Meta-analytic studies have demonstrated that Agreeableness, along with Conscientiousness and Emotional Stability, is related to counterproductive workplace behavior directed toward the organization (Hough, 1992; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Ones, 1993; Ones, Viswesvaran, & Schmidt, 1993; Salgado, 2002). Taken together, we expect that Agreeableness will be negatively related to CPBs that are directed toward the organization (CPB-O).

Thus, theory and research on the links between personality traits and behaviors at work lead us to predict that of the five FFM traits, Conscientiousness, Emotional Stability, and Agreeableness will negatively predict both CPB-I and CPB-O. As mentioned, we believe that testing whether CPB-I and CPB-O have differential relationships with dispositional antecedents can further validate the interpersonal–organizational distinction. Though we cannot make a prediction with respect to the relative validity of Emotional Stability for explaining these two types of counterproductive behavior, with respect to Conscientiousness and Agreeableness there are strong empirical and conceptual reasons for expecting that these traits will differentially predict individual and organizational-targeted counterproductive behaviors. First, Agreeableness is considered an interpersonal trait in virtually all trait models of personality (Costa & McCrae, 1992; Graziano & Eisenberg, 1997; Wiggins, 1991; Wiggins & Trapnell, 1996; Wiggins & Trobst, 1999), and agreeable individuals are concerned with others' welfare (Ashton & Lee, 2001). Indeed, Agreeableness has been found to predict aspects of job performance that involve interpersonal interactions (e.g., Ilies, Scott, & Judge, *in press*; Mount et al., 1998), but it is not considered a consistent predictor of task performance (Barrick et al., 2001). It follows that Agreeableness should be more strongly (negatively) related to CPB-I than to CPB-O. In contrast, among the FFM traits, Conscientiousness is the most relevant to task performance (Barrick et al., 2002) and it is largely impersonal (Lee, Ashton, & Shin, 2005). Therefore,

we expect Conscientiousness to be more closely associated with CPB-O than to CPB-I.

Job satisfaction and CPBs. Job satisfaction can be defined as "... a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976; p. 1304). From a conceptual perspective and based on inductive reasoning, it follows that individuals who have a negative appraisal of their job or job experiences would be more likely to engage in CPBs. From a theoretical perspective, although several theories offer conceptual support for such a link, we take a motivational approach in explaining it. Two related conceptual arguments that are especially relevant to understanding the relationship of job satisfaction to CPBs are social exchange theory (Gould, 1979; Levinson, 1965) and the norm of reciprocity (Gouldner, 1960). Social exchange theory predicts that individuals who perceive that they are receiving unfavorable treatment are more likely to feel angry, vengeful, and dissatisfied. Consistent with the norms of reciprocity, when individuals are dissatisfied with the organization or their boss, they may reciprocate with negative work behaviors such as withholding effort, arriving late at work, taking longer break times, leaving early, and so on. All of these are examples of CPBs directed at the organization. In addition, (or alternatively), the individual may exchange their dissatisfaction with coworkers by engaging in counterproductive behaviors directed at them, such as playing mean pranks, cursing at them, or even sabotaging their work. In summary, these theoretical models predict that employees retaliate against dissatisfying conditions and unjust workplaces by engaging in behavior that harms the organization or other employees.

A recent meta-analysis examined relationships between job satisfaction and CPBs. Based on 25 studies and a sample size of 6,106, Dalal (2005) reported a correlation of $r = -.28$ ($\hat{\rho} = -.36$) between overall job satisfaction and a measures of deviant behavior. This is similar in magnitude to the estimated true score correlation between job satisfaction and job performance ($\hat{\rho} = -.30$) obtained by Judge, Thoresen, Bono, and Patton (2001) based on 312 samples and a combined sample of 54,417. Furthermore, in a recent repeated-measures (longitudinal) field study, Judge, Scott, and Ilies (2006) found that employees reported engaging in more behaviors that are deviant on days when they were less satisfied with their jobs, compared to days when they were more satisfied. However, neither of these studies examined whether the type of performance component (i.e., interpersonal or task-based) moderated the relationships. Logic would dictate that there should be a significant inverse relationship between job satisfaction and both types of CPBs, whereby those people who are less satisfied with their jobs are more likely to engage both in interpersonal and organizational counterproductive behaviors at work. Nonetheless, at

present, this is an unanswered question in the literature. Based on the reasoning above, we hypothesize that job satisfaction will have significant negative correlations with both interpersonal and organizational deviance. We also examine whether satisfaction is more strongly related to one type of deviance than the other, but we make no specific hypotheses about this.

Personality–job satisfaction relationships. Judge, Heller, and Mount (2002) conducted a meta-analysis of relationships between personality and job satisfaction. Based on 334 correlations from 163 independent samples, their results showed that individuals' dispositions are important in understanding job satisfaction. The estimated true score correlations with overall job satisfaction for the three personality traits of interest in this study were Emotional Stability .29 (labeled Neuroticism in their study, reverse scored), Conscientiousness .26, and Agreeableness .17. (For each correlation, the 90% confidence interval did not include zero.) Thus, we expect that each of the three personality traits of interest in the study will have significant correlations with job satisfaction.

Hypothesized Relationships: Mediated Effects

As noted, our general hypothesis is that personality traits influence CPBs, in part, through job satisfaction evaluations. The model that we propose builds on previous research, which has shown that personality traits are distal variables that influence behaviors through the mediating effects of proximal motivation processes (e.g., Barrick, Mount, & Strauss, 1993; Judge & Ilies, 2002; Kanfer, 1990). That is, we attempt to explain why employee personality predicts CPBs by proposing that one-way personality traits influence individuals' attitudinal reactions to their job and work experiences. In turn, these attitudinal evaluations of the job influence employees' level of engagement in CPBs through the motivational mechanisms explained above. Given the relationships between the two personality traits, job satisfaction and CPBs, and because attitudes are considered more proximal influences antecedents of behavior compared to personality traits (e.g., Barrick et al., 1993; Judge & Larsen, 2001), we propose that personality traits influence CPBs through their effect on job satisfaction. Job satisfaction, of course, should not be expected to fully mediate the personality–CPBs relationships as other processes or constructs (e.g., injustice, Fox, Spector, & Miles, 2001; affect, Lee & Allen, 2002) may explain these relationships. Furthermore, job satisfaction should explain additional variance in CPBs (over and above the variance explained by personality traits) because job satisfaction reflects nondispositional factors such as events and affect at work (Weiss, Nicholas, & Daus, 1999) or other job influences.

Baron and Kenny (1986) and Aiken and West (1991) outline the conditions in which mediators should be tested: (a) the independent variable (personality traits, in our study) should be related to the dependent variable (CPBs), (b) the independent variable should be related to the mediator (job satisfaction), and (c) the mediator should be related to the dependent variable. Partial mediation is shown when the independent variable (personality traits) and the mediating variable (job satisfaction) each significantly predict CPBs. The literature reviewed above shows that the mediation conditions apply to this study: (a) relevant personality traits are valid predictors of CPBs, (b) personality traits are related to satisfaction, and (c) job satisfaction is related to CPBs. Thus, it is plausible to expect that job satisfaction partially mediates the relationship between relevant personality traits and CPBs.

It is common practice to test alternative models in order to determine which best explains relationships among the study variables. Therefore, we test three path models: a fully mediated model (which specifies that job satisfaction fully explains the relationships between the personality traits and CPBs), a partially mediated model (which specifies that personality traits and satisfaction jointly explain CPBs), and a direct effects (no mediation, which posits that personality traits and satisfaction have independent effects) model. For the reasons noted above, the partially mediated model is our hypothesized model; the fully mediated and the direct effect models are the alternative models that we will test.

Although there are several partial mediation models that could be tested, we examined one that is parsimonious, theoretically grounded, and for which there is empirical support. In formulating our model, we took into consideration previous research, which has shown that Conscientiousness, Emotional Stability, and Agreeableness are moderately correlated with each other. In fact, in a meta-analytic study, Mount, Barrick, Scullen, and Rounds (2005) found that the average true score intercorrelation among the three dimensions was $\hat{\rho} = .43$. This is important to formulation of our hypothesized model because path coefficients are partial correlation coefficients. Due to the moderately high correlations, it is unlikely that each personality trait will account for significant unique variance when used jointly with the other traits to predict the same outcome variable (e.g., CPB-I or CPB-O). Accordingly, the hypothesized partial mediation model contains only those paths that based on theory, deductive reasoning, and/or previous empirical work, would be expected to have significant, unique linkages. A strength of this model is it is parsimonious, as it tests relationships among three important sets of constructs in applied psychology, FFM traits, job satisfaction, and CPBs. However, as we acknowledge later, future research may wish to include other variables (perceptual and situational) in the model.

The hypothesized model that we test contains direct paths from the personality variables to job satisfaction, and paths from job satisfaction to both CPB-I and CPB-O. Because Agreeableness is primarily oriented toward interpersonal behaviors, there is a direct path from Agreeableness to CPB-I. Likewise, because Conscientiousness is primarily oriented toward task behaviors, there is a direct path from Conscientiousness to CPB-O. This different pattern of direct and mediated effects for Agreeableness and Conscientiousness is in line with our expectation that Agreeableness is primarily oriented toward interpersonal behaviors and Conscientiousness is primarily oriented toward task behaviors. Further support for this expectation will be sought by comparing the total effect (the sum of direct and indirect effects) of Agreeableness and Conscientiousness on the two types of counterproductive behavior.

As we explain below, one strength of the study is that we examine the relations in the model using both self-reports and supervisor reports of deviant behaviors. Therefore, all three models are tested using both self- and boss ratings of CPBs.

Hypothesized Relationships: The Influence of the Rating Perspective

CPBs can be assessed through both self-ratings and ratings made by others. Using self-ratings for both personality traits and behaviors, for example, may artificially inflate the traits-behaviors relationships because of common method bias (see Podsakoff, McKenzie, Lee, & Podsakoff, 2003). Using boss ratings of behavior greatly minimizes, if not eliminates, the common rater bias problem that has plagued previous research in this area, whereby both predictor and criterion variables are collected via self-report. Because individuals are unlikely to exhibit CPBs like theft, fighting with coworkers, shirking, and so forth when the boss is watching, it is likely that boss ratings of CPBs are limited by the restricted opportunities that supervisors have to observe such counterproductive behaviors. Furthermore, because of such restricted observational opportunities, the correlation between boss-rated dimensions of CPB is likely to be inflated by halo error (e.g., Dalal, 2005; Sackett, 2002). Therefore, self- and supervisor ratings of counterproductive behaviors at work complement each other: Whereas supervisory ratings may suffer from limited observational opportunities and halo bias, the self-report approach is limited due to rater bias. More substantively, research has shown that boss and self-ratings capture different aspects of the employee's performance (Scullen, Mount, & Goff, 2000; Viswesvaran, Ones, & Schmidt, 1996); therefore, for both substantive and methodological reasons, we believe that it is important to examine CPBs at work with both self- and boss-rated scores. Furthermore, based on recent meta-analytical evidence that showed negative correlations

between personality traits and more objective indicators of withdrawal or counterproductive behavior (e.g., absenteeism, turnover; Salgado, 2002), we contend that personality is related to counterproductive behavior at the construct level. Further, we believe that measuring the construct of counterproductive behavior with indicators that are admittedly imperfect but are reflective of multiple rating perspectives is an important step in supporting this contention.

With respect to both direct and mediated effects, we have no theoretical reasons to believe that the nature of the linkages between personality, satisfaction, and CPBs will differ when boss ratings are used rather than self-ratings. However, consistent with the findings of Podsakoff et al. (2003), we expect the direct effects to differ in magnitude, such that the relationships based on self-ratings of CPBs will be substantially stronger than those based on boss ratings.

Method

Participants

Participants were 141 employees in customer service positions in 10 fast food stores of a large national chain. The median number of employees per store was 15. They were 65% female and 88% Caucasian. The mean age was 32 years ($SD = 4.6$). Eighty percent of the participants had been employed by the organization between 1 and 3 years. Probationary employees were excluded (i.e., those with less than 90 days with the company). All employees who were eligible to participate in the study completed the questionnaires during regularly scheduled work hours. Primary job responsibilities include taking customer orders, filling orders, serving customers, working as members of a team with coworkers, conducting transactions using the cash register, and performing routine maintenance duties.

Measures

Counterproductive work behaviors. The Workplace Deviance Scale developed by Bennett and Robinson (2000) was administered at the work site to the employees during regularly scheduled work time. It measures two broad, theoretically derived measures of counterproductive behaviors in the workplace. The first scale consists of 12 items that assess deviant behaviors directly harmful to the organization (CPB-O). Examples of items are: "Taken property without company permission"; "Dragged out work in order to get overtime"; "Used an illegal drug or alcohol on the job"; "Taken an additional or longer break than is acceptable in your workplace." The second scale consists of seven items that assess deviant behaviors directly

harmful to other individuals within the organization (CPB-I). Examples are: "Makes fun of someone at work"; "Makes an ethnic, religious, or racial remark at work"; "Played a mean prank on someone at work."

In order to ensure that the items that comprised the two deviance scales were relevant to the customer service job examined in this study, we conducted interviews with supervisors and job incumbents. A list of the 19 deviance items was shown to the area general manager, three store managers, and three store employees. Based on their responses, the consensus was that the item "Discussed confidential information with an unauthorized person" should be eliminated as it was not viewed as applicable. Subsequently, a second item "Used an illegal drug or alcohol on the job" was eliminated because there was essentially no variability in participants' responses. All other items were deemed appropriate for the customer service job.

All participants rated themselves on the 17 CPB items on a 5-point Likert scale: 1 = *never*, 2 = *once*, 3 = *several times a year*, 4 = *weekly*, and 5 = *daily*. In addition, participants were rated by their direct supervisor on each of the 17 CPB items (without knowledge of the self-ratings). Evidence presented by Bennett and Robinson (2000) showed that the two scales have acceptable internal reliabilities, and they also provided evidence from confirmatory analyses showing that a two-factor structure has acceptable fit. In this study, coefficients alpha for self-ratings were .74 and .84 for CPB-O and CPB-I, respectively, and for boss ratings were .72 and .86, respectively.

Personality. The FFM personality constructs were assessed by the Personal Characteristics Inventory (PCI; Barrick & Mount, 1999) that was administered to the employees during their regularly scheduled shift. The PCI contains items that are rated on a 3-point Likert scale (1 = *disagree* and 3 = *agree*). Examples of items (paraphrased due to copyright protection) for each FFM scale are: (1) Conscientiousness (30 items)—I like to plan and organize my work; I put a great deal of effort into tasks; (2) Emotional Stability (30 items)—I just don't care much about anything; I often feel vulnerable or insecure (both reverse scored); (3) Agreeableness (20 items)—I am a considerate person; I enjoy helping others; (4) Extraversion (30 items)—I am a very talkative person; I find it easy to meet new people; (5) Openness to Experience (20 items)—I enjoy philosophical discussions; I tend to take an imaginative approach to problem solving. The PCI scales have adequate reliability as well as convergent validity and divergent validity with other measures of the FFM. Coefficients alpha in this study for the five FFM measures ranged from .72 to .84.

Job satisfaction. Job satisfaction was measured using the average score on a five-item version of the Brayfield-Rothe satisfaction index (Brayfield & Rothe, 1951) that has been frequently used in recent job satisfaction research (e.g., Ilies & Judge, 2002; see Saari & Judge, 2004).

The Brayfield-Rothe is a measure of job satisfaction that has both affective and cognitive components (Ilies & Judge, 2004; Weiss et al. 1999). A sample item is, "Most days I am enthusiastic about my job." Participants responded using a 5-point Likert-type scale. Coefficient alpha was .84. Like the other self-reported survey measures, the job satisfaction survey was completed by the participants at work during their regularly scheduled shift.

Results

Confirmatory Factor Analyses

We first examined whether there was support for the two-factor structure of deviance identified by Bennett and Robinson (2000), as this is central to our hypothesized model, which posits differential relations between certain personality traits and organizational and interpersonal deviance. Using confirmatory factor analysis (CFA), we specified a model whereby 7 items loaded on the CPB-I scale and 10 items loaded on the CPB-O scale.

LISREL 8 (Joreskog & Sorbom, 1993) was used to assess the fit of the two-factor deviance model proposed by Bennett and Robinson (2000). Using the covariance matrix, the fit was compared to a one-factor model for both supervisor and self-ratings of CPBs. The measurement model was constructed using multiple indicators by randomly forming packets consisting of two or three items for the CPB-O and CPB-I constructs. We used maximum-likelihood estimation and report the results of several fit indices: chi-square statistic, the root-mean-square error of approximation (RMSEA), standardized root square mean residual (SRMR), goodness of fit index (GFI), comparative fit index (CFI), and the non-normed fit index (NNFI).

The fit indices for the CFA of supervisor ratings of CPBs for the two-factor model were $\chi^2(8, n = 141) = 34.04$, CFI = .96, GFI = .91, SRMR = .06, RMSEA = .17, and NNFI = .92. The fit indices for the one-factor model were $\chi^2(9, n = 141) = 105.44$, CFI = .84, GFI = .78, SRMR = .12, RMSEA = .30, NNFI = .73. A chi-square test of differences confirmed that the two-factor model is a better fit to the data than a one-factor model: $\Delta\chi^2(1, n = 141) = 71.40, p < .01$. (The fit indices for the CFAs are not shown in the tables.)

The fit indices for the two-factor model of self-rated CPBs were $\chi^2(8, n = 141) = 12.56$, CFI = .98, GFI = .98, SRMR = .04, RMSEA = .06, NNFI = .97. The fit indices for the one-factor model of CPBs were $\chi^2(9, n = 141) = 32.03$, CFI = .92, GFI = .94, SRMR = .08, RMSEA = .13, NNFI = .86. The chi-square test of differences indicated that the two-factor model of self-rated CPBs was a better fit to the data than

a one-factor model: $\Delta\chi^2(1, n = 141) = 19.47, p < .01$. Thus, the results of the CFAs showed that the two-factor model proposed by Bennett and Robinson (2000) was supported in our data for both boss and self-ratings.

Correlations

Table 1 reports means, standard deviations, coefficients alpha, and correlations among study variables. Consistent with our main effects expectations, Conscientiousness, Emotional Stability, and Agreeableness were significantly correlated with self-ratings of CPB-I and CPB-O and with job satisfaction (see correlations and 90% confidence intervals [CIs] in Table 1). The main effects of personality traits were largely confirmed for boss ratings of CPB-I and CPB-O. One finding that was not consistent with our hypothesis was that the 90% CI for the correlation between Agreeableness and boss ratings of CPB-O contained zero. Although not hypothesized, the correlations between Openness and CPB-I and CPB-O for both self- and boss ratings were different from zero based on the 90% CI. In general, correlations with the personality traits were substantially larger for self-ratings of CPBs than for boss ratings of CPBs. In addition, as expected, job satisfaction was significantly correlated with all four measures of CPBs.

Path Analyses

We used LISREL 8 based on the covariance matrix to conduct path analyses on latent constructs with single-item indicators. The values of the latent-to-manifest paths were fixed at the square root of their internal consistency reliabilities (see Table 1). To account for measurement error, the effects of random error on each manifest variable was fixed as the quantity one minus the reliability multiplied by the variance of each measure (Podsakoff, Williams, & Todor, 1986). Table 2 presents the results of the path analyses for the three models described above for boss and self-ratings, respectively. As shown by the fit statistics, Models 1 (full mediation) and 3 (direct effects) do not fit the data well, relative to Model 2 (partial mediation).

Model 2 is the hypothesized partial mediation model. In this model, all three personality traits have paths to job satisfaction, and job satisfaction has paths to both CPBs. In addition, Agreeableness has a direct path to CPB-I, and Conscientiousness has a direct path to CPB-O. In other words, this model posits that job satisfaction partially mediates the relationship between relevant personality traits and CPBs. The results show that this model fit both the data set including boss ratings (Table 2) and the data set including self-ratings (Table 2) rather well. We also conducted chi-square

TABLE 1
Means, Standard Deviations, and Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Agreeableness	2.52	.32	(72)									
2. Conscientiousness	2.50	.27	25	(79)								
3. Emotional Stability	2.24	.40	33	34	(82)							
4. Extraversion	2.27	.37	07	11	26	(84)						
5. Openness to Experience	2.35	.37	18	10	32	39	(79)					
6. Job satisfaction	3.87	.61	31	22	23	08	08	(84)				
7. CPB-O, Self	1.42	.44	-41	-44	-47	-12	-25	-43	(74)			
8. CPB-I, Self	1.64	.75	-43	-16	-24	05	-30	-41	51	(84)		
9. CPB-O, Boss	1.47	.51	-05	-22	-21	-16	-23	-20	21	32	(72)	
10. CPB-I, Boss	1.54	.82	-21	-19	-18	-03	-17	-16	23	48	73	(86)

Note. $N = 141$. $M =$ mean; $SD =$ standard deviation. Decimal points omitted for correlations. Reliabilities are in the diagonal. 90% confidence interval for correlations greater than or equal to .15 does not include zero (90% CI: .01 < .15 < .29). 95% confidence interval for correlations greater than or equal to .18 does not include zero (95% CI: .01 < .18 < .35).

TABLE 2
Summary of Fit Indices

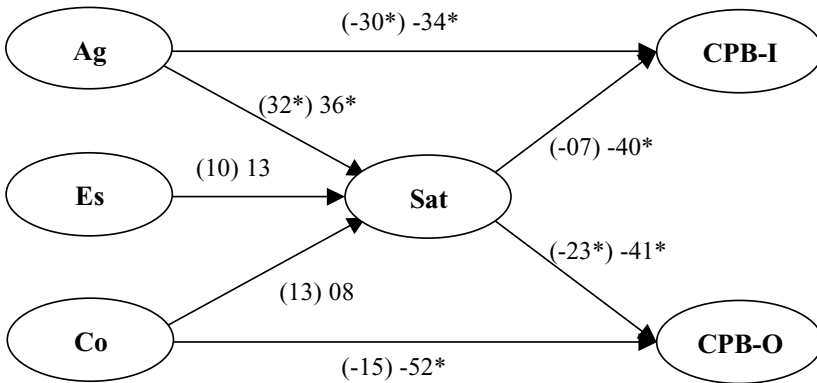
Model	df	χ^2	GFI	CFI	NNFI	RMSEA	SRMR
Fit indices for models of boss ratings of CPBs							
Full mediation	6	16.86	0.96	0.93	0.84	0.017	0.07
Partial mediation	4	4.52	0.99	1.00	0.99	0.029	0.04
Direct effects	5	21.19	0.95	0.90	0.88	0.150	0.10
Fit indices for models of self-ratings of CPBs							
Full mediation	6	47.73	0.90	0.84	0.59	0.22	0.11
Partial mediation	4	13.29	0.97	0.96	0.86	0.13	0.05
Direct effects	5	22.74	0.95	0.93	0.79	0.15	0.12

tests of difference between Models 1 and 2 and between Models 3 and 2 for both boss and self-ratings. The results for the comparison of Models 1 and 2 revealed that Model 2 was a better fit for both the boss ratings ($\Delta\chi^2(1, n = 141) = 12.34, p < .01$) and the self-ratings ($\Delta\chi^2(1, n = 141) = 34.44, p < .01$). Likewise, the results for the comparison of Models 3 and 2 revealed that Model 2 was the best fit for both the boss ratings ($\Delta\chi^2(1, n = 141) = 16.67, p < .01$) and the self-ratings ($\Delta\chi^2(1, n = 141) = 9.45, p < .01$). In sum, these results provide support for the hypothesized partial mediation model.

The standardized path coefficients for Model 2—the partially mediated model that was supported by the data—are shown in Figure 1 for both boss and self-ratings of CPBs. As shown, job satisfaction partially mediates the relationship between personality traits and CPBs. The strongest mediation effects pertain to Agreeableness, whereby there are significant path coefficients with satisfaction for both self- (.36) and boss (.32) rating sets. In turn, there are significant paths from satisfaction to CPB-O for both self (-.41) and boss (-.23) data sets. A Sobel (1982) test for the significance of the mediated path revealed that the indirect effect of Agreeableness on CPB-O was significant for self-ratings but only approached significance for boss ratings.

Job satisfaction also partially mediates the relationship between Agreeableness and CPB-I; however, the path coefficient between satisfaction and CPB-I was significant for self-ratings (-.40; the Sobel test indicated that the indirect effect of Agreeableness on self-ratings of CPB-I was significant) but not for boss ratings (-.07). The mediating effects pertaining to Emotional Stability and Conscientiousness are much weaker, due to the relatively small path coefficients between the two traits and job satisfaction for both self- and boss ratings.

Figure 1 also shows that relevant personality traits have direct paths to CPBs. There are significant direct paths between Agreeableness and interpersonal deviance (CPB-I) for both self- (-.34) and boss (-.30) ratings.



Note. * $p < .05$. Ag = Agreeableness, Es = Emotional Stability, Co = Conscientiousness, Sat = Job Satisfaction, CPB-I = Counterproductive Work Behavior – Interpersonal, CPB-O = Counterproductive Work Behavior – Organizational. Path coefficients for boss ratings of CPBs are in parentheses. Personality factors were allowed to intercorrelate; as were the two CPB criteria.

Figure 1: Path Coefficients for Model 2—Hypothesized Partial Mediation Model for Boss and Self-Ratings

There is also a strong, significant direct path between Conscientiousness and deviance directed toward the organization (CPB-O) for self-ratings ($-.52$), but this effect was weaker and statistically nonsignificant for boss ratings ($-.15$). In summary, the path coefficients for Model 2 show that job satisfaction partially mediates the relationship between Agreeableness and deviant behavior. Specifically, Agreeableness is related to job satisfaction and, in turn, job satisfaction is negatively related to CPB-O (for boss- and self-ratings) and CPB-I (for self-ratings only).

Table 3 shows the magnitude of the direct effects on CPB-I and CPB-O for both self- and boss ratings, as well as the indirect effects through job satisfaction, computed as the product of the two estimates on the indirect path. Focusing on the total effects (sum of direct and indirect effects) in Columns 5 and 6, it can be seen that Agreeableness has a much larger effect on interpersonal deviance, whereas Conscientiousness has a much stronger effect on organizational deviance. These results confirm our expectations with respect to the differential effects of Agreeableness and Conscientiousness on the interpersonal- and organizational-targeted behaviors. Importantly, this pattern of results was observed for both self- and boss ratings of CPBs, although the average magnitude of effects was stronger for self-ratings compared to boss ratings of deviance. This further validates the distinction between the two types of behavior but

TABLE 3
*Direct, Indirect and Total Effects for Model 2—Hypothesized Partial
 Mediation Model*

	Direct		Indirect		Total	
	CPB-I	CPB-O	CPB-I	CPB-O	CPB-I	CPB-O
Self-ratings of CPBs						
Agreeableness	.34	–	.14	.14	.48	.14
Conscientiousness	–	.52	.03	.03	.03	.55
Emotional Stability	–	–	.05	.05	.05	.05
Job satisfaction	.40	.41	–	–	.40	.41
Boss ratings of CPBs						
Agreeableness	.30	–	.02	.07	.32	.07
Conscientiousness	–	.15	.01	.03	.01	.18
Emotional Stability	–	–	.01	.02	.01	.02
Job satisfaction	.07	.23	–	–	.07	.23

also suggests that results should be interpreted based on both self- and boss ratings.

Discussion

Because CPBs are pervasive in the workplace, costly to organizations, and detrimental to employees' quality of work life, there is keen interest in understanding their antecedents. Indeed, in recent years, several studies have examined zero-order correlations between personality traits and CPBs (e.g., Salgado, 2002), between personality traits and attitudes toward work (e.g., Judge et al., 2002), and between job satisfaction and CPBs (e.g., Dalal, 2005). These studies yielded useful correlational information about the personality and attitudinal predictors of CPBs and provided a foundation upon which further research could build. In our view, the next step in this area of research is to examine a model that investigates the joint effects of these variables. Accordingly, we formulated and tested an integrative model that examines relationships among personality traits, attitudes toward work, and two components of CPBs based on ratings obtained from self- and boss perspectives.

The present findings contribute in several ways to understanding workplace deviance. First, the results of the zero-order correlations show that Agreeableness, Conscientiousness, and Emotional Stability have meaningful relationships with CPBs, which is generally consistent with the findings in prior research (e.g., Hough, 1992; Hough et al., 1990; Ones, 1993; Ones et al., 1993; Salgado, 2002). In addition, however, the present results extend previous research by revealing the nature and magnitude of the relations for two types of deviance, interpersonal and organizational,

and by assessing deviance from two perspectives, self and boss. Viewing the zero-order correlations across rating perspectives, the results show that Agreeableness best predicts interpersonal CPBs, and Conscientiousness and Emotional Stability best predict organizationally based CPBs. (Somewhat different results were obtained based on path coefficients, especially for Emotional Stability, and are discussed below.)

The results also contribute to the literature by showing that job satisfaction is related to both interpersonal and organizational CPBs. We found that the magnitude of the zero-order correlations was approximately the same between job satisfaction and both types of deviance (although correlations were higher for self-ratings compared to boss ratings of CPBs). This means that individuals who are dissatisfied are likely to engage in both interpersonal deviance and organizational deviance. These results extend the meta-analytic findings of Dalal (2005), who found a correlation of $r = -.28$ ($-\hat{\rho} = -.36$) between overall job satisfaction and a measures of deviant behavior, by showing that satisfaction predicts both interpersonal and organizational CPBs. Thus, one reason dissatisfied people are poor performers is that they are more likely to engage in more interpersonal and organizational counterproductive behaviors at work.

The main contribution of our study pertains to the results of the path model, which examined the joint relationships among personality traits, job satisfaction, and the two types of CPBs based on both self- and boss ratings. Because path coefficients are partial correlations, they reveal the unique effect of the traits and job satisfaction on the two types of CPBs, something meta-analytic studies do not do. An important finding was that job satisfaction not only has a direct relationship to both interpersonal and organizational deviant behavior, but also it partially mediates the relationship between relevant personality traits and CPB. The strongest mediating link was between the personality trait of Agreeableness and CPBs, whereby Agreeableness had a moderately strong relationship with job satisfaction, which in turn was significantly related to CPB-O for both self- and boss ratings. Thus, part of the explanation for why Agreeableness is related to CPBs is because there is an indirect link whereby it is related to job satisfaction, which, in turn, is related to CPB-O. The linkage was quite robust, as the results were consistently strong for both self- and boss ratings. Further, partial support (i.e., using the self-ratings, but not the boss ratings) was found for the expected linkage whereby job satisfaction mediated the relationship between Agreeableness and CPB-I. These findings demonstrate that relevant personality traits predict CPBs because they predispose employees to react in certain ways to their job situation and experiences, as reflected in their attitudinal evaluations of their job. In other terms, personality influences job satisfaction, which in turn, has an effect on CPBs. The finding that employees' attitudinal evaluations of their jobs explain, in part, the influence of their personality on counterproductive

behavioral manifestations is an important first step in understanding the mechanisms through which personality influences such behaviors at work. Future research should study the mediating paths through which personality influences CPBs with more fine-grained analyses to disentangle various explanations subsumed by job satisfaction.

An equally important finding was that job satisfaction did not fully mediate the traits-behaviors relationships; that is, personality traits had a direct relationship with deviant behavior that was independent of one's appraisal of the job and working conditions. Agreeableness had a moderately strong direct relationship with interpersonal deviance, in addition to its indirect effect through job satisfaction. This effect was found for both boss and self-ratings. These results coupled with those for the indirect, mediating results discussed above show that Agreeableness has a much stronger effect on interpersonal deviance than on organizational deviance. In fact, the total of the indirect and direct effects for Agreeableness are 3-4 times greater on CPB-I compared to CPB-O. Thus, all else equal, disagreeable people are more likely to engage in interpersonal deviance than organizational deviance. These results show that Agreeableness influences CPBs through other mechanisms (than job satisfaction) as we speculated in the introduction. Those who score high in Agreeableness are predisposed to strive toward communion (being part of a community, striving for inclusion; Wiggins, 1991) and they are willing to serve the needs of the group (Graziano & Eisenberg, 1997). It is then possible that high-Agreeableness employees perceive the fulfillment of their relatedness needs (through interacting with others at work), and thus they are less likely to engage in CPBs. In this sense, needs fulfillment (e.g., relatedness, autonomy, and competence; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000) may represent another mechanism that explains the personality-CPBs links (need fulfillment should be related to, yet distinct from, job satisfaction). Examining such mechanisms would likely be a fruitful area for future research.

At a more basic level, these findings are noteworthy because whereas most research has examined Agreeableness in the context of predicting helpful, cooperative behaviors such as teamwork and providing customer service (e.g., Mount et al., 1998), our results suggest that it is useful to examine the characteristics associated with the low end of Agreeableness. The low-Agreeableness people are self-centered, uncooperative, inconsiderate, manipulative, vengeful, and argumentative (Goldberg, 1999). As noted, research has shown that people low in Agreeableness have interpersonal relationships that are characterized by conflict and discord (Graziano et al., 1996; Jensen-Campbell et al., 2003; Jensen-Campbell & Graziano, 2001). For example, Jensen-Campbell et al. (2003) report that among children, the relationship between Agreeableness and destructive relationship tactics was more robust across situations and methods than the relationship between Agreeableness and constructive tactics. They also report that

children low in Agreeableness are rated by teachers as having difficulty controlling impulses. Further, Robins, John, and Caspi (1994) found that Agreeableness was negatively related to adolescents' antisocial personality and self-reported delinquency. Miller, Lyman, and Lukefield (2003) examined relationships among three traits in the FFM, Agreeableness, Conscientiousness, and Neuroticism, and five outcome measures representative of antisocial behavior (stability of conduct problems, variety of conduct problems, onset of conduct problems, aggression, and antisocial personality disorder symptoms). Based on a community sample of 481 adults, they found that facets from all three domains were significant predictors, but the facets of Agreeableness were most consistently related to the five outcomes. Overall, the three personality traits that stood out as being the best predictors were low straightforwardness and low compliance (both facets of low Agreeableness) and low deliberation (low Conscientiousness). Thus, our findings that low Agreeableness is related to deviant behavior at work are consistent with findings that Agreeableness is related to antisocial behavior in non-work settings.

We found mixed effects for the hypothesized indirect and direct effects for Conscientiousness and Emotional Stability. The expected mediation effects whereby Conscientiousness and Emotional Stability related to CPB-O through their relationship to job satisfaction were weak (i.e., both sets of indirect effects were .05 or less), although they were in the hypothesized direction. Likewise, the mediation effects whereby Conscientiousness and Emotional Stability related to CPB-I through their relationship to job satisfaction were also weak (i.e., both sets of indirect effects were .05 or less), although they were stronger when CPB-I was based on self-ratings. In fact, it should be noted that Emotional Stability did not play a substantive role in our path model, as the only hypothesized link was to job satisfaction, and that path was essentially zero. We included Emotional Stability in our model because there were compelling theoretical and empirical reasons to do so; in fact, the zero-order correlations showed that Emotional Stability was significantly related to both types of CPBs and for both rating perspectives. However, because path coefficients are partial correlations coefficients, Emotional Stability did not account for significant unique variance after accounting for the relationships with Conscientiousness and Agreeableness. Nonetheless, in future research, it may be beneficial to investigate models that explain the mediating effects of job satisfaction without including Emotional Stability.

The expectation that Conscientiousness would more strongly predict CPB-O than CPB-I was confirmed by the data. In fact, the total of the direct and indirect effects for Conscientiousness were 16–17 times larger for CPB-O compared to CPB-I for both self- and boss ratings of CPBs. In addition as expected, the effects were more than three times larger for

self-ratings compared to boss-ratings (path coefficients are $-.52$ and $-.15$, respectively). Collectively, these results illustrate that Conscientiousness predicts task-based CPBs better than interpersonal CPBs. Two sets of traits that are commonly used to describe Conscientious people are dependability (dutiful, reliable, and rules-compliant) and achievement orientation (hardworking, persistent, and goal-directed). Traits associated with dependability are relevant to CPB-O because they pertain to the tendency to follow rules and conform to the norms of the organization (i.e., falsifying expense reports, theft, lack of punctuality, and abusing break times) and society at large. For example, Mount and Barrick (1995) found that the dependability component of Conscientiousness was correlated $r = .27$ ($\hat{\rho} = .47$) with a composite criterion variable called reliability that included supervisor ratings of following and abiding by rules. The common theme among the traits associated with achievement orientation is the willingness to exert effort. Indeed, the meta-analysis conducted by Mount and Barrick (1995) revealed a strong relationship between the achievement component of Conscientiousness and supervisor ratings of effort $r = .33$ ($\hat{\rho} = .51$). Effort is an essential component of all forms of discretionary behavior, and all else equal, greater effort leads to better performance (e.g., Judge & Ilies, 2002; Kanfer, 1990). Because, organizational deviance includes behaviors related to exerting effort (i.e., withholding effort and shirking), the present results suggest that a main reason people low on Conscientiousness engage in more organizational deviance is because of they are less likely to follow rules and more likely to shirk their duties and withhold effort.

The results of the study also contribute to the literature by providing additional evidence regarding the construct validity of CPBs. The results of the CFAs that we support Bennett and Robinson's (2000) seminal research, which conceptualized that CPBs are comprised of two related but distinct components. Aside from Bennett and Robinson's initial work, subsequent research had provided mixed support (e.g., Lee & Allen, 2002) for the two-factor structure. Our results not only support Bennett and Robinson's model but also extend it by showing that the two-factor structure generalizes to both self- and boss ratings of CPBs. We believe these finding underscore a strength of this study, which is that interpersonal and organizational deviance are related but distinct types of deviance and that studies that fail to distinguish among the two types may yield incomplete findings. Further, it is important to examine the relationships in ways that allow for the co-occurrence of both CPB-I and CPB-O because this realistically models the fact that, although CPB-I and CPB-O are distinct, individuals can exhibit both types of deviance.

One noteworthy finding pertaining to CPBs was that the correlations between self- and boss ratings for CPB-I (.48) were more than twice as

large as for CPB-O (.21). Thus, individuals and their bosses agree more on the frequency of deviant behaviors directed at other individuals than they do on the frequency of behaviors directed at the organization. One possible explanation for this is that behaviors associated with interpersonal deviance such as playing mean pranks, being rude to others, cursing, and so forth are more observable than behaviors associated with organizational deviance such as shirking, theft, and abusing break times.

The present findings have numerous practical implications. An obvious implication is for employee selection, as the results show that selecting employees on Conscientiousness, Emotional Stability, and Agreeableness is likely to reduce the occurrence of CPBs. One set of findings for the zero-order correlations that was unexpected, yet may have practical implications pertained to Openness to Experience. We found that people who were low in Openness engaged in more deviant behavior, and these results were true for both interpersonal and task-based CPBs and when assessed by both self- and boss ratings. To our knowledge, previous research has not reported these findings. In retrospect, inspection of the traits associated with Openness suggests that these findings may not be so surprising. Individuals who are low on Openness tend to be traditional, conventional, intolerant of ambiguity, narrow-minded, inflexible, creatures of habit who prefer the status quo and dislike changes, or surprises (Goldberg, 1999). When these individuals are confronted with others who are different from them, when they experience novel situations at work such as a change in policy, or when they believe the policies of the organization are unfair, it is likely that their intolerance and preference for the status quo may motivate them to engage in counterproductive behaviors. These behaviors could include making racial slurs, playing mean pranks, being rude and/or withholding effort, abusing break times, stealing, and so forth. Clearly, these results need to be replicated, and the mechanisms by which Openness influences CPBs need to be explored, as these findings have not been reported previously in the literature. Nonetheless, the results suggest that one possible explanation for the disappointing criterion related validity evidence reported for Openness in meta-analytic studies (e.g., Barrick et al., 2001) is that Openness may predict CPBs better than the other two components of performance, task behaviors and citizenship behaviors. Thus, it is possible that if organizations select employees on Openness they may reduce the incidence of CPB. McCrae (1993) observed that Openness to Experience is the most controversial, least well understood, and least researched of the Big Five. The present findings suggest that a fruitful direction for future research would be to include Openness in models that seek to explain dispositional antecedents of CPBs.

Our findings also have implications for organizational training programs. For example, training programs should include a component that conveys to managers the pervasiveness and expense associated with CPBs,

and explains the nature of the behaviors that comprise CPBs. Our findings show that there are two related, but distinct, types of deviance, and individuals who engage in one type of CPB may not engage in the other. The results also have implications for rating employee performance, as our results showed that there is a large amount of halo in supervisor's ratings of the two types of CPBs, which may be due, in part, to managers' mistaken belief that deviant behavior is unidimensional. In a related vein, this has practical implications for detection of CPBs by the manager and the organization. Organizations may benefit from the development of electronic monitoring systems specifically designed to detect CPB-Os (theft, sabotage, and abusing break times), which are less observable and more difficult to detect than CPB-Is (e.g., fighting, arguing, and racial slurs). Further, it is important to train managers about the importance of employee's job satisfaction. Our results show that dissatisfied employees are likely to retaliate against the organization and its members, both of which are costly financially and personally. Thus, organizational interventions designed to increase employees' job satisfaction, such as increasing the mental challenge in the job (Judge, 2000) are also likely to reduce the frequency of CPBs. Finally, those organizations that are team based are especially susceptible to the adverse effects of interpersonal deviance. One implication might be to create a peer rating system whereby team members rate each other (anonymously) on the CPB-I items and receive averaged feedback about their performance on these counterproductive behaviors. This is based on the idea that peers may be in the best position to observe deviant behavior, especially in team environments.

Limitations

There are several limitations of the study. Although the results of our model provide a useful, parsimonious framework for other researchers to build on, like all models in behavioral sciences, ours is underspecified (James, 1980). For example, the personality traits in the study were measured at the FFM level rather than the facet level. Some researchers argue that the use of multiple, narrow personality trait measures offers greater fidelity, for example, more precision and better prediction, than using fewer, broader measures based on the FFM (e.g., Hough, 2003). To the extent this is true, our model is underspecified in that specific facets may predict job satisfaction and/or CPBs differently than traits measured at the FFM level. However, not all researchers agree with this, as one problem with the use of facets of the Big Five is that there is no agreement about their lower order structure—that is, how many facets are there, and what are they? Based on a comprehensive review of the literature, this was the conclusion by Ozer and Benet-Martinez (2006) in the *Annual Review of Psychology*: “there is no consensus about what might constitute even the beginning of

a comprehensive list of narrow traits" (p. 8.3). Thus, once a lower-order structure of personality traits emerges, it may be useful to include them in models such as ours that seek to explain personality–attitude–performance relationships.

Another way that our model may be underspecified is that perceptual variables could moderate some of the relationships. One area of research that appears to be relevant to understanding CPBs is organizational justice, that is, employees' perceptions of unfairness at work (e.g., Ambrose, Seabright, & Schminke, 2002; Conlon, Meyer, & Nowakowski, 2005; Giacalone et al. 1997; Greenberg, 1993; Judge et al., 2006). The meta-analysis by Colquitt, Conlon, Wesson, Porter, and Ng (2001) showed that different justice perceptions (e.g., distributive and procedural justice) were related uniquely to variables of interest in this study such job satisfaction and CPBs (a set of behaviors they called negative reactions that included employee theft and retaliatory behaviors). In addition, Judge et al. (2006) present evidence supporting their contention that interpersonal justice influences workplace deviance through job dissatisfaction. Thus, although we believe that individuals' attitudinal reactions to their job and work experiences (job satisfaction) play a central motivational role in explaining employees' engagement in CPBs, perceptual variables such as organizational justice and organization commitment may also play an important explanatory role.

Moreover, situational variables may also influence personality–job satisfaction–CPB relationships and would be useful for future researcher to examine. These include leadership style, organization culture, presence of electronic monitoring, and reward systems (e.g., Marcus & Schuler, 2004; Martinko et al., 2002). We believe our model provides a parsimonious framework that is theoretically and empirically grounded for other researchers to build on, but we recognize that the inclusion of perceptual and situational variables may be useful and could change the path estimates that we obtained.

Further, because our data are cross sectional, it is not possible to draw true causal inferences from the results of the path analysis. Our approach was to develop a parsimonious model that was grounded in both theory and previous research, and then test whether the hypothesized model is a plausible explanation for the proposed relationships compared to two alternative models (a direct effects model and a fully mediated model). Our results showed that the hypothesized model is a plausible explanation for the joint relationships of personality and job satisfaction on CPBs, and the results were strengthened by the fact that the model fit well for both self- and boss ratings of CPBs. However, due to the cross-sectional nature of our data, caution must be exercised about inferring causal relationships.

Finally, the deviance measures that we used in the study are subjective, that is, they are based on ratings of deviant behavior. Although a strength of the study is that we used both self- and boss ratings to alleviate problems associated with common source variance and limited observational opportunities, it would be beneficial to supplement the analyses using objective indices of deviant behavior such as turnover (Bannister & Griffeth, 1986), absenteeism (e.g., Hackett, 1989), theft (e.g., Greenberg, 1993), or accidents (Salgado, 2002). For example, Salgado reported that the correlations of the Big Five with objective indicators of CPBs were quite low for absenteeism (between $-.00$ and $-.08$) and for accidents (between $-.09$ and $.08$). This is important because if objective indicators of CPBs are used, the relationships among personality traits, job satisfaction, and CPBs may differ from those obtained in this study.

Conclusion

This study heeds the call of researchers that we develop and examine models of job performance that posit linkages between individual difference variables and components of job performance. Accordingly, the major purpose of the study was to test a model that seeks to explain relationships among three major constructs in the personnel psychology field—personality traits, job satisfaction, and CPBs. In general, results showed that relevant personality traits and job satisfaction predict both interpersonal and organizational deviance. Further, job satisfaction partially mediates the relationship between personality traits and counterproductive behavior at work. The personality trait of Agreeableness was found to play a critical role in the prediction of CPBs, as it had direct effects to interpersonal deviance and indirect effects to interpersonal and organizational deviance through its relationship to job satisfaction. Further, Conscientiousness was found to play a critical role in the prediction of organizational deviance, and its effect was primarily direct rather than indirect.

REFERENCES

- Aiken LS, West SG. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage.
- Ambrose ML, Seabright MA, Schminke M. (2002). Sabotage in the workplace: The role of injustice. *Organizational Behavior and Human Decision Processes*, 89, 947–965.
- American Management Association. (2005). *Electronic monitoring and surveillance survey*. New York: AMA/ePolicy Institute Research.
- Ashton MC, Lee K. (2001). A theoretical basis for the major dimensions of personality. *European Journal of Personality*, 15, 327–353.
- Bannister BD, Griffeth RW. (1986). Applying a causal analytic framework to the Mobley, Horner, and Hollingsworth (1978) Turnover Model: A useful reexamination. *Journal of Management*, 12, 433–443.

- Baron RM, Kenny DA. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Barrick MR, Mount MK. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *PERSONNEL PSYCHOLOGY*, *44*, 1–26.
- Barrick MR, Mount MK. (1996). Effects of impression management and self-deception on the predictive validity of personality constructs. *Journal of Applied Psychology*, *81*, 261–272.
- Barrick MR, Mount MK. (1999). *The personal characteristics inventory*. Libertyville, IL: Wonderlic.
- Barrick MR, Mount MK, Judge TA. (2001). Personality and job performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, *9*, 9–30.
- Barrick MR, Mount MK, Strauss JP. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. *Journal of Applied Psychology*, *5*, 715–722.
- Bennett RJ, Robinson SL. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, *85*, 349–360.
- Bennett RJ, Robinson SL. (2003). The past, present and future of workplace deviance research. In Greenberg J (Ed.), *Organizational behavior: The state of the science* (2nd ed., pp. 247–281). Mahwah, NJ: Erlbaum.
- Bennett RJ, Stamper CL. (2002). Corporate citizenship and deviancy: A study of discretionary work behavior. In *Strategies and organizations in transitions* (pp. 265–284). Oxford, UK: Elsevier Science.
- Borman WC, White LA, Pulakos EB, Oppler SH. (1991). Models of supervisory job performance ratings. *Journal of Applied Psychology*, *76*, 863–872.
- Brayfield AH, Rothe HF. (1951). An index of job satisfaction. *Journal of Applied Psychology*, *35*, 307–311.
- Campbell JP. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In Dunnette MD, Hough L (Eds.), *Handbook of industrial and organizational psychology* (Vol. 2, pp. 687–732). Palo Alto, CA: Consulting Psychologists Press.
- Case J. (2000). *Employee theft: The profit killer*. Del Mar, CA: John Case & Associates.
- Coffin B. (2003). Breaking the silence on white collar crime. *Risk Management*, *50*, 8.
- Colquitt JA, Conlon DE, Wesson MJ, Porter CO, Ng KY. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, *86*, 425–445.
- Collins JM, Schmidt FL. (1993). Personality, integrity, and white collar crime: A construct validity study. *Personnel Psychology*, *46*, 295–311.
- Conlon DE, Meyer CJ, Nowakowski JM. (2005). How does organizational justice affect performance, withdrawal, and counterproductive behavior? In Greenberg J, Colquitt J (Eds.), *Handbook of organizational justice* (pp. 301–327). Mahwah, NJ: Laurence Erlbaum.
- Costa PT Jr., McCrae RR. (1992). *Revised NEO personality inventory (NEO-PI-R) and NEO five-factor (NEO-FFI) inventory professional manual*. Odessa, FL: PAR.
- Cullen MJ, Sackett PR. (2003). Personality and counterproductive behavior workplace behavior. In Barrick M, Ryan AM (Eds.), *Personality and work*. New York: Jossey-Bass-Pfeiffer.
- Dalal RS. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology*, *90*, 1241–1255.

- Digman JM. (1990). Personality structure: Emergence of the five-factor mode. *Annual Review of Psychology*, 41, 417–440.
- Douglas SC, Martinko MJ. (2001). Exploring the role of individual differences in the prediction of workplace aggression. *Journal of Applied Psychology*, 86, 547–559.
- Eysenck HJ, Gudjonsson GH. (1988). *The causes and cures of criminality*. New York: Plenum Press.
- Fox S, Spector PE, Miles D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior*, 59, 291–309.
- Giacalone RA, Riordan CA, Rosenfeld P. (1997). In Giacalone R, Greenberg J (Eds.), *Antisocial behavior in organizations* (pp. 109–129). Thousand Oaks, CA: Sage.
- Goldberg LR. (1990). An alternative “description of personality”: The Big Five factor structure. *Journal of Personality and Social Psychology*, 59, 1216–1229.
- Goldberg LR. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In Mervielde L, Deary I, De Fruyt F, Ostendorf F (Eds.), *Personality psychology in Europe* (Vol. 7, pp. 7–28). Tilburg, The Netherlands: Tilburg University Press.
- Gould S. (1979). An equity-exchange model of organizational involvement. *Academy of Management Review*, 4, 53–62.
- Gouldner AW. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161–178.
- Graziano WG, Eisenberg N. (1997). Agreeableness: A dimension of personality. In Hogan R, Johnson J, Briggs S (Eds.), *Handbook of personality psychology* (pp. 767–793). San Diego, CA: Academic Press.
- Graziano WG, Jensen-Campbell LA, Hair EC. (1996). Perceiving interpersonal conflict and reacting to it: The case for Agreeableness. *Journal of Personality and Social Psychology*, 70, 820–835.
- Greenberg J. (1993). Stealing in the name of justice: Informational and interpersonal moderators of theft reaction to underpayment inequity. *Organizational Behavior and Human Decision Processes*, 54, 81–103.
- Gruys ML, Sackett PR. (2003). The dimensionality of counterproductive work behavior. *International Journal of Selection and Assessment*, 11, 30–42.
- Hackett RD. (1989). Work-attitudes and employee absenteeism: A synthesis of the literature. *Journal of Occupational Psychology*, 62, 235–248.
- Hoel H, Einarsen S, Cooper C. (2003). Organizational effects of bullying. In Einarsen S, Hoel H, Zapf D, Cooper C (Eds.), *Bullying and emotional abuse in the workplace: International perspectives on research and practice*. London: Taylor & Francis.
- Hogan J, Hogan R. (1989). How to measure employee reliability. *Journal of Applied Psychology*, 74, 273–279.
- Hollinger RC. (1986). Acts against the workplace: Social bonding and employee deviance. *Deviant Behavior*, 7, 53–75.
- Hough LM. (1992). The “Big Five” personality variables—construct confusion: Description versus prediction. *Human Performance*, 5, 139–155.
- Hough LM. (2003). Emerging trends and needs in personality research and practice: Beyond main effects. In Barrick MR, Ryan AM (Eds.), *Personality and work: Reconsidering the role of personality in organizations* (pp. 289–325). San Francisco, CA: Jossey-Bass.
- Hough LM, Eaton NK, Dunnette MD, Kamp JP, McCloy RA. (1990). Criterion-related validities of personality constructs and the effect of response distortion on those validities. *Journal of Applied Psychology*, 75, 581–595.

- Hunt ST. (1996). Generic work behavior: An investigation into the dimensions of hourly job performance. *PERSONNEL PSYCHOLOGY*, *49*, 51–83.
- Hurtz GM, Donovan JJ. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology*, *85*, 869–879.
- Ilies R, Hauserman H, Schwochau S, Stibal J. (2003). Reported incidence rates of work-related sexual harassment in the United States using meta-analysis to explain reported rate disparities. *PERSONNEL PSYCHOLOGY*, *56*, 607–631.
- Ilies R, Judge TA. (2002). Understanding the dynamic relationships among personality, mood, and job satisfaction: A field experience-sampling study. *Organizational Behavior and Human Decision Processes*, *89*, 1119–1139.
- Ilies R, Judge TA. (2004). An experience-sampling measure of job satisfaction: Its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work and Organizational Psychology*, *13*, 367–389.
- Ilies R, Scott BA, Judge TA. (in press). The interactive effects of personal traits and experienced states on intra-individual patterns of citizenship behavior. *Academy of Management Journal*.
- James LR. (1980). The unmeasured variables problem in path analysis. *Journal of Applied Psychology*, *65*, 415–421.
- Jensen-Campbell LA, Gleason KA, Adams R, Malcolm KT. (2003). Interpersonal conflict, Agreeableness, and personality development. *Journal of Personality*, *71*, 1059–1085.
- Jensen-Campbell LA, Graziano WG. (2001). Agreeableness as a moderator of interpersonal conflict. *Journal of Personality*, *69*, 323–362.
- Joreskog KG, Sorbom D. (1993). *LISREL 8 user's reference guide*. Chicago: Scientific Software.
- Judge TA. (2000). Promote job satisfaction through mental challenge. In Locke EA, (Ed.) *Handbook of Principles of Organizational Behavior* (pp. 75–89). Malden MA: Blackwell.
- Judge TA, Heller D, Mount MK. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, *87*, 530–541.
- Judge TA, Ilies R. (2002). Relationship of personality to performance motivation: A meta-analytic review. *Journal of Applied Psychology*, *87*, 797–807.
- Judge TA, Larsen RJ. (2001). Dispositional affect and job satisfaction: A review and theoretical extension. *Organizational Behavior and Human Decision Processes*, *86*, 67–98.
- Judge TA, Martocchio JJ, Thoresen CJ. (1997). Five-factor model of personality and employee absence. *Journal of Applied Psychology*, *82*, 745–755.
- Judge TA, Scott BA, Ilies R. (2006). Hostility, job attitudes, and workplace deviance: Test of a multi-level model. *Journal of Applied Psychology*, *91*, 126–138.
- Judge TA, Thoresen CJ, Bono JE, Patton GK. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, *127*, 376–407.
- Kanfer R. (1990). Motivation theory and industrial and organizational psychology. In Dunnette MD, Hough LM (Eds.), *Handbook of industrial and organizational psychology* (Vol. 1, pp. 75–170). Palo Alto, CA: Consulting Psychologists Press, Inc.
- Keashly L, Jagatic K. (2003). By any other name: American perspectives on workplace bullying. In Einarsen S, Hoel H, Zapf D, Cooper C (Eds.), *Bullying and emotional abuse in the workplace: International perspectives on research and practice*. London: Taylor & Francis.
- Lee K, Allen NJ. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, *87*, 131–142.
- Lee K, Ashton MC, Shin KH. (2005). Personality correlates of workplace anti-social behavior. *Applied Psychology: An International Review*, *54*, 81–98.

- Levinson H. (1965). Reciprocation: The relationship between man and organization. *Administrative Science Quarterly*, 9, 370–390.
- Locke EA. (1976). Job satisfaction and job performance: A theoretical analysis. *Organization Behavior and Human Performance*, 5, 484–500.
- Marcus B, Schuler H. (2004). Antecedents of counterproductive behavior at work: A general perspective. *Journal of Applied Psychology*, 89, 647–660.
- Martinko MJ, Gundlach MJ, Douglas SC. (2002). Toward and integrative theory of counterproductive workplace behavior: A causal reasoning perspective. *International Journal of Selection and Assessment*, 10, 36–50.
- McCrae RR. (1993). Openness to experience as a basic dimension of personality. *Imagination, Cognition, and Personality*, 13, 39–35.
- McCrae RR, Costa PT. (1987). Validation of the 5-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81–90.
- Miller JD, Lyman D, Lukefield C. (2003). Examining antisocial behavior through the lens of the five-factor model of personality. *Aggressive Behavior*, 29, 497–514.
- Mount MK, Barrick MR. (1995). The Big Five personality dimensions: Implications for research and practice in human resource management. *Research in Personnel and Human Resources Management*, 13, 153–200.
- Mount MK, Barrick MR, Scullen SE, Rounds J. (2005). Higher order dimensions of the Big Five personality traits and the Big Six interests. *PERSONNEL PSYCHOLOGY*, 58, 447–478.
- Mount MK, Barrick MR, Stewart GL. (1998). Five factor model of personality and performance in jobs involving interpersonal interactions. *Human Performance*, 11, 145–165.
- Mount MK, Barrick MR, Strauss JP. (1994). Validity of observer ratings of the Big Five personality dimensions. *Journal of Applied Psychology*, 79, 272–280.
- Murphy KR. (1993). *Honesty in the workplace*. Belmont, CA: Brooks/Cole.
- Ones DS. (1993). *The construct validity of integrity tests*. Unpublished doctoral dissertation, Iowa City: University of Iowa.
- Ones DS, Viswesvaran C. (2001). Integrity tests and other criterion-focused occupational personality scales (COPS) used in personnel selection. *International Journal of Selection and Assessment*, 9, 31–39.
- Ones DS, Viswesvaran C, Schmidt FL. (1993). Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology*, 78, 679–703.
- Ones DS, Viswesvaran C, Schmidt FL. (2003). Personality and absenteeism: A meta-analysis of integrity tests. *European Journal of Personality*, 17, 39–66.
- Ozer DJ, Benet-Martinez V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology*, 57, 401–421.
- Podsakoff PM, MacKenzie SB, Lee JY, Podsakoff NP. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Podsakoff PM, Williams LJ, Todor WD. (1986). Effects of organizational formalization on alienation among professionals and nonprofessionals. *Academy of Management Journal*, 29, 820–831.
- Reis HT, Sheldon K, Gable SL, Roscoe J, Ryan R. (2000). Need satisfaction, social activity, and daily well-being. *Personality and Social Psychology Bulletin*, 26, 419–435.
- Robins RW, John OP, Caspi A. (1994). Major dimensions of personality in early adolescence. In Halverson CF, Kohnstamm GA, Martin RP (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 267–291). Hillsdale, NJ: Erlbaum.

- Robinson SL, Bennett RJ. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38, 555–752.
- Robinson SL, Greenberg J. (1998). Employees behaving badly: Dimensions, determinants and dilemmas in the study of workplace deviance. In Rousseau DM, Cooper C (Eds.), *Trends in organizational behavior* (Vol. 5, pp. 1–23). New York: Wiley.
- Saari L, Judge TA. (2004). Employee attitudes and job satisfaction. *Human Resource Management*, 43, 395–407.
- Sackett PR. (2002). The structure of counterproductive work behaviors: Dimensionality and relationships with facets of job performance. *International Journal of Selection and Assessment*, 10, 5–11.
- Sackett PR, DeVore CJ. (2001). Counter productive behaviors at work. In Anderson N, Ones D, Sinangil C, Viswesvaran C (Eds.), *International handbook of work psychology* (pp. 145–164). Thousand Oaks, CA: Sage.
- Salgado JF. (1997). The five factor model of personality and job performance in the European community. *Journal of Applied Psychology*, 82, 30–43.
- Salgado JF. (2002). The Big Five personality dimensions and counterproductive behaviors. *International Journal of Selection and Assessment*, 10, 117–125.
- Saucier G, Goldberg LR. (2003). The structure of personality attributes. In Barrick MR, Ryan AM (Eds.), *Personality and work: Reconsidering the role of personality in organizations* (pp. 1–29). San Francisco: Jossey-Bass.
- Saucier G, Ostendorf F. (1999). Hierarchical subcomponents of the Big Five personality factors: A cross-language replication. *Journal of Personality and Social Psychology*, 76, 613–627.
- Schmidt FL, Hunter JE. (1992). Causal modeling of processes determining job performance. *Current Directions in Psychological Science*, 1, 89–92.
- Schmidt FL, Viswesvaran V, Ones DS. (1997). Validity of integrity tests for predicting drug and alcohol abuse: A meta-analysis. *NIDA Res Monogr*, 170, 69–95.
- Scullen SE, Mount MK, Goff M. (2000). Understanding the latent structure of job performance ratings. *Journal of Applied Psychology*, 85, 956–970.
- Sobel ME. (1982). Asymptotic intervals for indirect effects in structural equations models. In Leinhardt S (Ed.), *Sociological methodology 1982* (pp. 290–312). San Francisco: Jossey-Bass.
- Viswesvaran C, Ones DS. (2000). Perspectives on models of job performance. *International Journal of Selection and Assessment*, 8, 216–226.
- Viswesvaran C, Ones DS, Schmidt FL. (1996). Comparative analysis of the reliability of job performance ratings. *Journal of Applied Psychology*, 81, 557–574.
- Weiss HM, Nicholas JP, Daus CS. (1999). An examination of the joint effects of affective experiences and job beliefs on job satisfaction and variations in affective experiences over time. *Organizational Behavior and Human Decision Processes*, 78, 1–24.
- Wiggins JS. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In Cicchetti D, Grove W (Eds.), *Thinking critically in psychology: Essays in honor of Paul E. Meehl* (pp. 99–113). New York: Cambridge University Press.
- Wiggins JS, Trapnell PD. (1996). A dyadic-interactional perspective on the five-factor model. In Wiggins JS (Ed.), *Five-factor model of personality: Theoretical perspectives* (pp. 88–162). New York: Guilford.
- Wiggins JS, Trobst KK. (1999). The fields of interpersonal behavior. In Pervin LA, John OP (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 653–670). New York: Guilford.

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