

## Five-Factor Model of Personality and Employee Absence

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The present study investigates the degree to which dimensions of the 5-factor model of personality (often termed the *Big Five*) are related to absence. On the basis of previous descriptions of the Big Five traits and drawing from prior research, the authors hypothesized that neuroticism and extraversion would positively predict absence and conscientiousness would negatively predict absence. Also, they hypothesized that absence history (absence proneness), measured by the absence that occurred the year prior to the study, would partly mediate the relationship between the personality characteristics and subsequent absenteeism. Data were collected from a sample of 89 university employees. Results suggest that extraversion and conscientiousness predicted absenteeism and that part, but not all, of the relationship between these traits and absence was mediated through absence history.

A recent trend in organizational research is dispositional explanations for the attitudes individuals display at work and their subsequent effects on employee behavior. This body of research has led to renewed debate over the relative effects of dispositional versus situational variables on work attitudes, roles, and behaviors. Therefore, whereas some argue that dispositional constructs are relevant to understanding human behavior (House, Shane, & Herold, 1996), others suggest that situational variables are more useful predictors of people's attitudes and behaviors in organizational settings and that the search for dispositional effects likely will prove unproductive

(Davis-Blake & Pfeffer, 1989). However, in spite of the criticisms issued by the situationalists, considerable evidence has accumulated in support of the dispositional approach (George, 1992; House et al., 1996).

Porter and Steers (1973) argued that employees with extreme levels of emotional instability, anxiety, low-achievement orientation, aggression, independence, self-confidence, and sociability are more likely to be absent than employees with more moderate levels of these personality traits. Bernardin (1977) tested this hypothesis on the basis of a sample of male sales professionals and found support only for the effects of extreme anxiety levels on absence. Other researchers argued (Ferris, Bergin, & Wayne, 1988; Froggatt, 1970a, 1970b) that absence reflects inherent and long-standing personality characteristics that account for the stability of absence over time and across situations. *Absence proneness* emerged as the explanatory concept. However, unlike most other personality characteristics, which are measured through conventional psychological scales, absence proneness typically has been inferred through less conventional methods. For example, Froggatt (1970c) inferred absence-proneness effects by comparing theoretical distributions used to characterize absence data, concluding that the negative binomial distribution represents absence proneness. Furthermore, others have inferred absence proneness from the relationship between prior absence and subsequent absence, arguing that those who tend to be absent more in a given period will continue to be absent in later periods (Breugh, 1981; Garrison & Muchinsky, 1977; Landy, Vasey, & Smith, 1984).

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On the basis of past research, the role of personality in explaining absence is equivocal at best, particularly in the case of inferring personality effects that are based on past absence. However, as most people curious about the causes of absence would ask, "What generated the past absenteeism in the first place?" Whereas prior absence has been established as an efficient predictor of future absence (Breugh, 1981), the problem of inferring the personological basis of absence remains. Past research is of little help here, as there is no research that has investigated the relationship between personality traits and absence proneness.

Thus, there is only limited research on the dispositional basis of absenteeism and on the relationship between personality and the construct of absence proneness. One of the factors that might explain this lack of research attention is that, until recently, personality research lacked an accepted framework describing the structure and nature of personality. There are literally hundreds of dispositional variables that have been invented in the history of personality research. When specific traits have been selected for inclusion in absence research, it generally has been in a piecemeal fashion. When multiple traits have been included, absence research generally has used a "broadside approach," where "predictors are hurled against criteria in the hope that some will stick" (Schneider & Hough, 1995, p. 87). The ensuing inconsistent results are predictable.

Within the last decade, however, consensus has emerged that a five-factor model of personality, often termed the *Big Five* (Goldberg, 1990), can be used to describe the most salient aspects of personality. The factors the Big Five comprises are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. These five factors have been recovered from all personality measures in widespread use, and the five-factor model accounts for the shared variance in the trait adjectives of many languages (e.g., Digman & Shmelyov, 1996). Evidence also indicates that the Big Five traits are heritable (Costa & McCrae, 1995). Although the five-factor model has had increasing acceptance among personality psychologists, its application to industrial-organizational psychology is incipient. One of the areas in which the five-factor model has not been adequately investigated is employee withdrawal. Despite several studies linking isolated dispositions to absence, only limited research has related any of the Big Five traits to absenteeism, and we are aware of no study that has linked the entire five-factor model to absence behavior.

Thus, the purpose of our field study was to examine the relationship between personality and absenteeism. Specifically, we examined the degree to which three dimensions from the five-factor model of personality (Neuroticism, Extraversion, and Conscientiousness) were related to employee absence. We did not hypothesize rela-

tionships of Openness and Agreeableness to absence as there was no theoretical or empirical basis for such linkages. However, our null expectation with respect to these two facets of the five-factor model will be tested. In addition to the personality traits, we investigated whether prior absence or absence history would mediate the relationship between the personality variables and subsequent absence. Justification for the hypothesized linkages between the three traits and absenteeism is provided in the Hypotheses section. Hypotheses are grouped by each of the traits. For each hypothesized relationship, we begin by describing the nature of the trait and its conceptual relationship to absenteeism. We then review the limited empirical data suggestive of such a relationship.

## Hypotheses

### *Neuroticism*

Neuroticism refers generally to a lack of positive psychological adjustment and emotional stability. Persons scoring high on measures of neuroticism are frequently characterized as fearful, anxious, and depressed. It seems likely that such tendencies may make employees who are high on neuroticism more likely to engage in withdrawal behaviors, such as failing to come to work on a frequent basis. Furthermore, some definitions of neuroticism advance the idea of an impulsivity component. In an early review of the absenteeism literature, Porter and Steers (1973) suggested that employee absenteeism be viewed as an impulsive, spontaneous form of behavior.

There is some disagreement among personality researchers as to the proper placement of impulsivity within the five-factor model. On the basis of results from factor analytic studies, impulsivity is alternatively classified under Neuroticism, Extraversion, or (low) Conscientiousness. For example, Costa and McCrae (1992a) reported that the impulsiveness subfacet of the NEO Personality Inventory—Revised (NEO PI-R) Neuroticism scale loaded approximately equally (factor loadings of .48 and .47, respectively) on Neuroticism and Extraversion factors. On the other hand, using a different measure of personality, these same authors found that impulsivity loaded equally on Extraversion and Conscientiousness factors (loadings of .43 and -.43, respectively). A full investigation as to the appropriate location of impulsivity within the five-factor framework is beyond the scope of this article. As did Costa and McCrae (1992b), we treat impulsivity as a specific manifestation of Neuroticism but acknowledge that it could also be used to justify links between Conscientiousness and Extraversion and absence.

Beyond impulsivity, a few researchers have attempted to relate neuroticism to absence behaviors. Cooper and Payne (1966) found positive correlations (Kendall's  $\tau$ s = .19 and .16, respectively) between neuroticism and two

measures of absence (frequency and total days absent) among a sample of 113 female tobacco packers. Other researchers have attempted to predict absence behaviors using a strong component of neuroticism, anxiety. Sinha (1963) noted a strong, positive correlation ( $r = .39$ ) between manifest anxiety and absence behavior in a sample of industrial workers in India. Likewise, Bernardin (1977) found that the Anxiety factor from the 16PF predicted absence in two samples of salesmen ( $r_s = .25$  and  $.21$  in the two samples). As a result of the conceptual foundations of the neuroticism construct and the limited empirical evidence linking this construct to undesirable work-related behaviors, we expected that Neuroticism would be positively related to absenteeism.

Hypothesis 1: Neuroticism will be positively related to absence.

### *Extraversion*

Extraversion, a construct originally advanced by Eysenck (1990), can broadly be construed as sociability. Extroverts are more talkative, active, and assertive than their introverted counterparts. Furthermore, extraversion is typically characterized by gregariousness and excitement-seeking behavior. Extroverts are highly social. They frequently display a great deal of commitment to social groups and activities. Although extroverts may view the workplace as merely another place to socialize, they may also see work in general as an obstacle to spending time with family and friends and to their involvement in other leisure activities. Similarly, extraversion frequently implies the seeking out of exciting new situations and activities (Costa & McCrae, 1992b). To the extent that work is often repetitive, extroverts may characterize work as dull and routine. Thus, we expected a positive correlation between extraversion and absenteeism.

Previous empirical research provides some limited support for the existence of a positive relationship between extraversion and absence behavior. We are aware of only one published study that has directly linked extraversion to absenteeism, reporting a positive relationship between the two constructs (Cooper & Payne, 1966). Though not assessing extraversion per se, another study found that sociability was negatively associated with an index of employee reliability in a study reanalyzing previous data (Hogan & Hogan, 1989). Thus, although there are limited empirical data, this evidence and the nature of extraversion caused us to suggest a positive relationship between Extraversion and absence behavior.

Hypothesis 2: Extraversion will be positively related to absence.

### *Conscientiousness*

Conscientiousness is characterized by personal competence, dutifulness, self-discipline, and deliberation. Con-

scientious individuals are frequently described as purposeful, strong willed, determined, punctual, and reliable. Furthermore, there is evidence that the Conscientiousness construct is closely related to achievement orientation and has been labeled by some researchers as the *will to achieve* (Digman & Takemoto-Chock, 1981). Finally, the notion of self-control is regarded as a key component of Conscientiousness (Costa & McCrae, 1992b). Because of their achievement orientation, conscientious persons are motivated to perform on the job. It is likely that frequent absences at work would hinder effective job performance. In addition, research suggests that conscientiousness is closely linked to honesty and integrity (Murphy & Lee, 1994). Workers scoring high on integrity tests have been found less likely to engage in a host of counterproductive behaviors on the job, including frequent absenteeism (Ones, Viswesvaran, & Schmidt, 1993).

Although past research has not examined the relationship between specific measures of conscientiousness and absenteeism, several studies are suggestive. For example, Bernardin (1977) noted a strong correlation between "superego strength" (closely related to self-discipline) and absence behaviors in two samples of salesmen ( $r_s = -.40$  and  $-.21$ ). Some research has focused on the aspects of conscientiousness linked to employee responsibility and integrity in attempting to predict a variety of counterproductive employee behaviors (including absence from work). Hogan and Hogan (1989) found a positive relationship between responsibility and a composite of employee dependability ( $r = .29$ ). Frost and Rafilson (1989) noted that scores on the Personnel Reaction Blank (Gough, 1972), a measure of integrity and dependability, predicted levels of a composite of counterproductive workplace behaviors ( $r = .26$ ; reverse scored). The achievement-orientation component of conscientiousness has also received some attention in the absence literature. Mowday and Spencer (1981) found that self-reported need for achievement correlated negatively with personal absence, whereas Hogan and Hogan (1989) found a positive relationship between achievement striving and employee dependability. Thus, no research has directly investigated the relationship between Conscientiousness and absence. However, the nature of the construct, and several suggestive studies, support the expectation of a negative relationship between Conscientiousness and absence.

Hypothesis 3: Conscientiousness will be negatively related to absence.

### *Individual Absence History*

To isolate the effects of the personality variables described in this study on employee absenteeism, research suggests the need to control for reliable individual differences in absence behavior. Previous research pointed to

the conclusion that absence proneness within individuals shows significant stability over time. In general, the reliability of individual absence behavior increases as absence measures are aggregated over a longer time span. Breugh (1981) found strong evidence for test–retest consistency within individuals in absenteeism in terms of various measures of absence. Likewise, Hammer and Landau (1981) noted test–retest correlations of absenteeism ranging from  $r = .14$  (1-month interval) to  $r = .58$  (15-month interval). Furthermore, another study (Keller, 1983) found a positive correlation between prior and recent absences, even after controlling for a number of demographic and personal variables known to influence work attendance. Thus, past research has clearly established a link between absence proneness and subsequent absence. What are the implications of this relationship for the hypothesized relations between personality and absence? Although absence proneness has been described as a dispositional variable (Froggatt, 1970c; Garrison & Muchinsky, 1977), it is much more likely a dispositional state, subject to both dispositional and situational influences, than an inherent trait. As such, the state properties of absence proneness might be similar in meaning to George's (1989) distinction between dispositional trait affect (affective disposition) and affective states (mood at work). Like mood at work, absence proneness is likely influenced by dispositions yet represents a more proximal influence on subsequent behavior than the traits that influence it. In other words, absence proneness is a behavioral manifestation of personality and therefore should have the most proximal influence on subsequent absence. Thus,

Hypothesis 4: Absence history will partly mediate the relationship between personality and subsequent absence.

### Relative Merits of Specific Versus General Facets

Although the five-factor model has widespread acceptance among personality psychologists, there have been important criticisms (see Block, 1995). One of the most prominent criticisms of the five-factor model is that it provides too coarse a description of personality (Hough, 1992). When predicting specific behaviors, it has been argued, the Big Five are too broad and may mask important linkages between specific personality traits and specific behaviors (Schneider & Hough, 1995). A comprehensive review of this debate is well beyond the scope of this article. However, because absence is a relatively specific behavior, it is important to compare the relative predictive power of specific traits as opposed to the generalized five factors. Accordingly, in addition to testing the hypotheses, we provide an analysis of this issue.

### Control Variables

In addition to investigating the relationships between specific personality traits and absence, we took into ac-

count several additional variables on the basis of their demonstrated relationships with absence in past research. First, we controlled for subjective health, which is an individual's self-report of his or her present overall physical condition. Personal illness has been found to be among the most salient reasons for absence advanced by employees (Morgan & Herman, 1976). Furthermore, research indicates that both subjective estimates of health problems and objective indicators of health, such as doctor visits, are positively related to absence (Manning, Osland, & Osland, 1989; Spector & Jex, 1991). Thus, we expected that subjective health would be negatively related to absence. Second, we controlled for employee age because Martocchio's (1989) meta-analysis of the age–absence relationship demonstrated that older employees were absent less than younger employees. Accordingly, we expected that age would be negatively related to absence. Third, past research has indicated that kinship responsibilities are positively related to absence (Morgan & Herman, 1976; Primoff, 1997; Rhodes & Steers, 1990). Thus, we expected that the number of dependent children would be positively related to absenteeism. Finally, we controlled for hours worked. Fichman (1989) argued that the reward value of attendance decreases over time, making absence more likely. In addition, it seems reasonable to expect that employees who generally work longer hours might be absent more because there are more hours during which they have the potential to be absent. Thus, we predicted that the number of hours worked would be positively related to absence.

## Method

### *Setting, Participants, and Procedure*

We administered surveys to a random sample of nonacademic employees of a large university located in the Midwest. (Because absence is virtually impossible to track for faculty, they were excluded from the sampling frame.) Participants occupied a wide range of service positions in the university, ranging from clerical workers to construction workers to administrators. Average age of respondents was 43.4 years ( $SD = 12.6$ ). Seventy-eight percent of respondents were women, and 71% were married. Thirty-nine percent of respondents had one or more children under 18 years of age. Eighty-four percent of the respondents were white. Twenty-one percent of respondents had a high school diploma, 55% had an associate's degree or had completed some college work, and 24% had at least an undergraduate degree.

We mailed surveys to employees through campus mail in May 1995. We told participants in a cover letter that individual responses were completely confidential, and we promised a small honorarium in return for completing the survey by May 23, 1995. We also asked participants to sign an informed consent form, permitting the researchers to retrieve information about employees' absenteeism from the university's records.

We sampled participants from all departments within the uni-

versity. Initially, the sample was limited to employees who had been employed at least since January 1, 1994. We expected that being employed for at least 3 months prior to the start of the presurvey absence data collection period would allow employees to become sufficiently familiar with the university's absence policy and informal norms about absenteeism in the workplace. We included only those employees from the initial sample who returned questionnaires by the deadline, who provided informed consent, and who were employed at least through November 30. We chose this cutoff date to define a 6-month span for postsurvey absence assessment. Our choice of 6 months was deliberate. Traditionally, researchers called for 1-year aggregation periods; however, more recently, researchers have argued for shorter aggregation periods to minimize potential threats to internal validity (Harrison & Hulin, 1989). We used both time intervals: a 6-month interval to measure absence and a 12-month interval to measure absence history. Given the quasi-dispositional nature of absence history (Garrison & Muchinsky, 1977) and the desirability of temporally aggregating behavioral-dispositional measures (Epstein, 1977), we decided that a 12-month aggregation period for absence history was appropriate.

From a pool of 320 potential respondents, 89 useable surveys were returned, representing a response rate of 28%. Eighty-six percent held clerical positions, 8% held administrative jobs, and 6% held skilled or unskilled labor jobs. To determine if respondents were representative of the larger population of employees, we compared the demographic characteristics (age, race, and sex) of respondents with a sample of 500 employees drawn from university records. The respondent and population statistics were not significantly different (average age of respondents was 43 compared with 45 for the population, 84% of respondents were White compared with 87% for the population, and 78% of respondents were women compared with 80% for the population). Furthermore, respondents were compared with a random sample of nonrespondents from the same employee population with reference to the number of hours absent from work. The 95% confidence interval for the difference in means between these two groups included zero for hours missed in the period of interest prior to the survey, hours missed postsurvey, and total hours missed during the time period of interest (pre- plus postsurvey). This suggests that respondents were representative of the larger population of employees, at least with respect to these variables.

### Measures

**Absenteeism.** We collected absence data from archival records that were matched to employees' identification numbers. Absence was operationalized as the number of hours missed from work per 2-week pay period over the course of the study, excluding scheduled holidays, vacation, bereavement leave, jury duty, and military leave. The university does not attempt to distinguish types of absences, except that the absence measure excludes scheduled time off. Presurvey absence spanned a 12-month period between May 1994 and April 1995. Postsurvey absence spanned a 6-month period from June through November 1995. Because absence measures are highly skewed (Hammer & Landau, 1981; Harrison & Hulin, 1989), we computed the natural log of the absence measures prior to using them in the analyses.

**Personality.** We measured the five dimensions of personality with the 240-item NEO PI-R (Costa & McCrae, 1992b). Forty-eight items measured each personality dimension; eight items measured the six subfacets comprising each of the Big Five traits. Participants responded on 5-point scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Coefficient alphas for the personality scales were as follows: Neuroticism,  $\alpha = .91$ ; Extraversion,  $\alpha = .87$ ; Openness to Experience,  $\alpha = .92$ ; Agreeableness,  $\alpha = .82$ ; and Conscientiousness,  $\alpha = .88$ .

**Subjective health.** We measured subjective health with the health ladder (Suchman, Phillips, & Strieb, 1978). The item consists of a description of a ladder; the top of the seven-step ladder represents perfect health (coded 7), and the bottom of the ladder represents total and permanent disability (coded 1). The respondents indicate which step is most descriptive of their present overall health. The mean for this item was 5.85 ( $SD = 1.02$ ).

**Demographic and biographic variables.** We assessed age and number of dependent children through specific items on the questionnaire. Hours worked were taken from employee records, where the number of hours each employee worked was recorded on a biweekly basis. We summed the hours contained in these records over the 6-month period during which we also collected postsurvey absence measures from archival records.

### Results

Table 1 provides the descriptive statistics and intercorrelations of the factors and variables used in the analyses. Table 1 reveals that most of the Big Five traits were only moderately correlated (the mean absolute value of the correlation among the five factors was .24). Specifically, Agreeableness and Conscientiousness were negatively correlated with Neuroticism, Extraversion was positively correlated with Openness to Experience and Conscientiousness, and Agreeableness was positively correlated with Conscientiousness. These intercorrelations closely resemble those that have been found in past research (Costa & McCrae, 1992b). The Big Five are related but distinct factors—they are no more wholly independent than they are redundant (Costa & McCrae, 1995). Several other noteworthy correlations can be found in Table 1, including negative correlations of age with number of dependent children and postsurvey absence. Openness to Experience was negatively correlated with number of children. Extraversion was moderately positively correlated with both pre- and postsurvey absence, whereas conscientiousness was moderately negatively correlated with both forms of absence. Finally, consistent with past research, prior (presurvey) absence and postsurvey absence were moderate to strongly correlated.

We conducted a hierarchical regression analysis (Cohen & Cohen, 1983) to investigate the degree to which the Big Five dimensions in combination predict absence. We tested the individual hypotheses concerning Neuroticism, Extraversion, and Conscientiousness by examining the regression coefficients in the model. In the hierarchical

Table 1  
Means, Standard Deviations, and Intercorrelations of Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Hours worked	1,174.44	1,072.91	—									
2. Subjective health	5.85	1.02	.00	—								
3. Age	43.38	12.62	-.15	-.06	—							
4. Number of dependent children	0.62	0.88	-.11	-.07	-.23	—						
5. Neuroticism	122.29	20.67	-.21	-.01	-.02	-.19	—					
6. Extraversion	158.20	16.70	.04	.15	-.07	.02	-.20	—				
7. Openness to Experience	154.15	20.66	.22	.12	-.13	-.23	-.12	.34	—			
8. Agreeableness	172.93	12.97	.09	.00	.11	.12	-.46	.13	.11	—		
9. Conscientiousness	171.55	15.34	.16	.10	.01	.02	-.33	.26	.05	.38	—	
10. Prior absence (log)	6.51	0.83	-.09	-.20	.08	.22	.03	.31	.17	.20	-.24	—
11. Postsurvey absence (log)	5.32	1.21	.08	-.15	-.29	.11	-.01	.26	.01	-.13	-.23	.41

Note. *N* = 73.

regression, the control variables (hours worked, subjective health, age, and number of dependent children) were entered on the first step of the equation. The Big Five traits then were entered on the second step of the equation. At each step, we computed the incremental variance explained by each block of variables. Following the recommendations of Cohen (1994) and Schmidt (1996), we drew confidence intervals around regression coefficients to avoid some of the problems inherent in statistical significance testing. Accordingly, 95% confidence intervals were drawn around the estimated effects of the independent variables on absence. Also reported are the lower and upper limits of the confidence intervals.

Estimates from the regression equation predicting postsurvey absence are provided in Table 2. Of the control variables, only the confidence interval around age excluded zero. However, cumulatively, the control variables explained 12% of the variance in absence. Of the Big Five traits, Neuroticism did not predict absence, indicating that our first hypothesis was not supported by the data. However, Extraversion positively predicted absence, whereas Conscientiousness negatively predicted absence. Thus, Hypotheses 2 and 3 were supported. As a set, the Big Five traits explained 18% of the variance in postsurvey absence beyond the variance attributable to the control variables. Overall, the control variables and Big Five traits explained 30% of the variance in absence (adjusted  $R^2 = 20\%$ ).

These results indicate that extraversion and conscientiousness display moderate relations with absence. Although the standardized regression coefficients displayed in Table 2 provide information on the relative importance of the predictors in the equation, we also considered the unstandardized (raw) regression coefficients to estimate how the predictor variables translated into actual numbers of hours absent. Accordingly, we estimated predicted absence levels for relevant values of the two traits. Specifically, we used the raw regression coefficients to estimate changes in predicted absence for individuals one standard

deviation above the mean on Extraversion and one standard deviation below the mean on Conscientiousness. Results from this analysis predict that an employee who is one standard deviation above the mean on Extraversion would be absent 9.9 hr more than the average employee over the 6-month study period. Considering the 6-month time frame, an employee who is one standard deviation above the mean on Conscientiousness would be absent 8.0 hr less than the average employee. If one considers both traits together, being one standard deviation above the mean on Extraversion and one standard deviation below the mean on Conscientiousness (possible because these two factors are not strongly correlated), the results would predict that this employee would be absent an additional 18 hr beyond the average employee.

To investigate our fourth hypothesis, that absence proneness will partly mediate the relationship between the personality variables and subsequent absence, we esti-

Table 2  
Regression Estimates Predicting Postsurvey Absence

Independent variable	$\beta$	$R^2$	Lower 95% CI	Upper 95% CI
Step 1: Control variables				
Hours worked	.04		-.20	-.28
Subjective health	-.17		-.39	.05
Age	-.29*		-.52	-.05
Number of dependent children	.03		-.21	.27
$\Delta R^2$		.12		
$R^2$		.12		
Step 2: Big Five traits				
Neuroticism	-.07		-.32	.18
Extraversion	.38*		.15	.61
Openness to Experience	-.14		-.38	.10
Agreeableness	-.05		-.30	.20
Conscientiousness	-.32*		-.56	-.08
$\Delta R^2$		.18		
$R^2$		.30		

Note.  $R^2$  values are unadjusted. CI = confidence interval; lower = lower bound of 95% CI; upper = upper bound of 95% CI.

\* Coefficients with CIs excluding zero.

mated another hierarchical regression. After entry of the same control variables as in the earlier equation in Table 2, prior absence was entered on the second step. On the third step, we entered into the equation the two nonzero personality effects found in the earlier analysis, Extraversion and Conscientiousness. Table 3 provides the results from this regression. As the table reveals, prior absence explained 17% of the incremental variance in postsurvey absence. When entered into the equation on the third step, Extraversion and Conscientiousness continued to display nonzero effects on postsurvey absence. However, their effects were weaker—the two factors explained only 5% of the incremental variance in absence when the control variables and prior absence were taken into account. If one compares the coefficient estimates for Extraversion and Conscientiousness in Table 3 with those in Table 2, the results show that 45% of the relationship between Extraversion and absence was mediated by absence history (presurvey absence), whereas 34% of the relationship between Conscientiousness and absence was mediated by absence history. Thus, prior absence mediated a substantial amount, but not a majority, of the relationship between these personality traits and absence. Overall, 34% of the variance in postsurvey absence was explained by the regression equation (adjusted  $R^2 = 27\%$ ).

Although not hypothesized, it is possible that the specific subfactors of the five-factor model (as measured in the NEO inventory) displayed stronger relations with absence than the composite five factors. To test this possibility, we undertook several analyses. We confined these analyses to Extraversion and Conscientiousness because these were the Big Five traits, at the composite level, that

were related to absence. First, we computed the variance explained by the general composite measures of Extraversion and Conscientiousness in two separate regressions. We then computed the variance explained by the six NEO subscales that comprise Extraversion and Conscientiousness by entering the six subscales into two separate regressions. Comparisons of the variance explained by the single composite with the variance explained by the six subscales of the composite provide useful information about the relative merits of general versus specific trait measures of Extraversion and Conscientiousness in predicting absence. We also computed the simple correlations between each of the six Extraversion and Conscientiousness subscales and absence. The results of these analyses are provided in Table 4. The table shows that the general and specific measures explain roughly equivalent amounts of variance in absence. For Extraversion, the general composite explains somewhat more variance in absence than the specific facets, whereas for Conscientiousness, this pattern is reversed. In both cases, though, the variance explained is comparable. It should be noted that when estimates are corrected for shrinkage, the adjusted  $R^2$  values representing the variance explained by the specific facets are much smaller than the incremental unadjusted  $R^2$  values reported in Table 4 (i.e., the adjusted  $R^2$  value for the Extraversion facets is 0.04%, and for the conscientiousness facets, adjusted  $R^2 = 2.4\%$ ). Thus, although the unadjusted incremental variance estimates for the two general factors and the specific facets are similar, if corrections for shrinkage are considered, the adjusted  $R^2$  values for the general factors are much higher than for the specific facets. This makes sense in light of the fact that using the specific facets in predicting absence requires using six predictor variables compared with a single predictor for each of the general factors.

Table 4 also shows the correlations between the specific facets and absence. Of the Extraversion facets, excitement seeking and gregariousness positively correlated with absence. For the Conscientiousness facets, deliberation, dutifulness, and self-discipline negatively correlated with absence. Thus, it appears both general and specific aspects of Extraversion and Conscientiousness are associated with absence.

## Discussion

Our results generally supported the proposition that absenteeism can successfully be predicted by employees' personalities as described by the five-factor model. Extraversion and Conscientiousness were moderately strong predictors of absence. It appears, at least within the confines of this sample, that the carefree, excitement-seeking, hedonistic nature of extroverts, and the dutiful, rule-bound, and reliable nature of conscientious employees led

Table 3  
*Regression Estimates Predicting Postsurvey Absence Including Prior Absence*

Independent variable	$\beta$	$R^2$	Lower 95% CI	Upper 95% CI
Step 1: Control variables				
Hours worked	.04		-.20	.28
Subjective health	-.17		-.39	.05
Age	-.29 <sup>a</sup>		-.52	-.05
Number of dependent children	.03		-.21	.27
$\Delta R^2$		.12		
$R^2$		.12		
Step 2: Prior absence				
Prior absence	.43 <sup>a</sup>		.21	.65
$\Delta R^2$		.17		
$R^2$		.29		
Step 3: Big Five trait				
Extraversion	.21 <sup>a</sup>		.01	.42
Conscientiousness	-.21 <sup>a</sup>		-.01	-.43
$\Delta R^2$		.05		
$R^2$		.34		

Note.  $R^2$  values are unadjusted. CI = confidence interval; lower = lower bound of 95% CI; upper = upper bound of 95% CI.

<sup>a</sup> Coefficients with confidence intervals excluding zero.

Table 4  
*Comparison of General Versus Specific Facets of Extraversion and Conscientiousness in Predicting Postsurvey Absence*

Factor	% variance in absence explained by each type of trait		Specific facet	Correlation of specific facet with absence
	General construct	Specific facets		
Extraversion	10.8	9.5	Activity	.12
			Assertiveness	.00
			Excitement seeking	.21 <sup>a</sup>
			Gregariousness	.28 <sup>a</sup>
			Positive emotions	.13
			Warmth	.17
Conscientiousness	8.8	10.2	Achievement striving	-.10
			Competence	-.11
			Deliberation	-.24 <sup>a</sup>
			Dutifulness	-.27 <sup>a</sup>
			Order	-.17
			Self-discipline	-.18 <sup>a</sup>

Note.  $R^2$  values are unadjusted. Variance explained by general construct = incremental variance each composite measure explains beyond the variance explained by the other four composite measures. Variance by specific facets = the total variance explained by the six specific facets combined.

<sup>a</sup> Correlations whose 95% confidence intervals exclude zero.

the former to be absent more and the latter to be absent less. Furthermore, analysis of the raw regression coefficients suggests that these personality factors deserve an important role in future models and investigations of absence behavior.

Although individual differences have long been considered in absence research, typically these have been attitudinal variables (Martocchio & Harrison, 1993). Furthermore, when personality variables have been considered, it often has been in an exploratory manner where the variables have played an ancillary role in the study. Although personality research has benefited from the five-factor model, its application to organizational research is still incipient. In fact, our study is the first that has linked the entire five-factor model to absence. Given the efficacy of Extraversion and Conscientiousness in predicting absence behavior and the relative neglect of dispositional variables in past absence research, further research investigating linkages between the Big Five and absence appears warranted.

It is not clear why Neuroticism was not related to absence. Perhaps one reason is that neurotic individuals, although impulsive, are more realistic in evaluating contingencies and consequences of their actions (Alloy & Abramson, 1979). Thus, because of their tendencies to worry about negative outcomes, neurotic individuals may be more attuned to the potentially negative consequences of absence. Furthermore, as was noted when discussing impulsivity in the Hypotheses section, neuroticism is not a homogeneous construct, and its specific properties are disputed. Given the potential idiosyncrasies of any spe-

cific measure of neuroticism, it seems possible a different measure could have produced a different result. Thus, more research on this relationship is warranted.

Results also suggested that absence history (measured by the previous year's level of absence) partly mediated the relationship between the personality variables and absence. The most logical interpretation of this relationship is that absence history is a quasi-dispositional characteristic that represents the more proximal influence on absence relative to personality. On the other hand, absence history mediated only a minority of the relationship between Extraversion and Conscientiousness and absence. The mediation was only partial because the relations of Extraversion and Conscientiousness with pre- and postsurvey absence were comparable (see Table 1). This places constraints on the degree to which prior absence could have mediated the influence of personality on subsequent absence. It also should be noted that our measure of absence history was collected prior to measurement of the Big Five traits. The postdictive nature of this relationship limits the ecological validity of this result. Furthermore, when entered on the last step of the hierarchical regression, absence history explained only slightly more incremental variance beyond the personality traits ( $\Delta R^2 = 6.3\%$ ) than the traits explained beyond proneness ( $\Delta R^2 = 4.9\%$ ). Thus, the results provide about as much evidence that personality mediates the effect of absence history as the hypothesis that proneness mediates the effects of personality. More research investigating the possible personological basis of absence proneness is warranted.

Results also showed that absence history was related to



absence. This is consistent with past research that showed significant relations of absence history with absence (Garison & Muchinsky, 1977; Landy et al., 1984). Given the correlations between absence history and the personality variables, part of absence history seems to be dispositionally based. Of course, because Extraversion and Conscientiousness predicted postsurvey absence, the linkage between these factors and prior absence is not surprising.

Recently, Mount and Barrick (1995) found that specific facets of Conscientiousness (achievement and dependability) generally were poorer predictors of performance than the overall measure. The only exception was when the specific facets were conceptually relevant to specific criteria (e.g., dependability and employee reliability). The results of this study are consistent with respect to absenteeism. The average validity of the specific facets constituting Conscientiousness and Extraversion was considerably lower than the validity of the general composites. However, when the specific facets were conceptually related to absence (e.g., excitement seeking, dutifulness), their validity equaled that of the general traits. Furthermore, when comparing the variance explained by the overall composite trait with the specific facets constituting the composite, the figures were comparable (although it should be noted that adjusted  $R^2$  values for the specific facets were considerably smaller). Thus, with respect to the relationship of Conscientiousness and Extraversion with absence, it appears that both general and theoretically relevant specific traits are applicable. Given the importance of achieving the proper correspondence between predictors and criteria in both personality and absence research, more attention to this issue is warranted.

### *Limitations*

The most obvious limitation of our study is the small sample size. This raises concerns over generalizability of the results to other populations. However, that the confidence intervals for Extraversion and Conscientiousness excluded zero increases confidence that the results observed were not due to sampling error. Nevertheless, the relatively small sample size makes replication of the results particularly important.

Another potential limitation of the study relates to the nature and measurement of absenteeism. In this study, we made no distinction between voluntary and involuntary absence, although such a distinction is an important one in the literature (Hackett & Guion, 1985). Two reasons justify this decision. First, for the purposes of this study, the distinction is not a productive one because it was not clear that the personality variables would display much difference in terms of predicting voluntary versus involuntary absence. In fact, research suggests that Conscientiousness predicts voluntary and involuntary turnover equally well (Barrick & Mount, 1991; Barrick, Mount, &

Strauss, 1994). Second, the voluntariness of absence is a continuum that is difficult, if not impossible, for others to evaluate (Latham & Pursell, 1977). Thus, there were good reasons, given the purpose and context of this study, to focus our absence measure on overall absenteeism. However, because our control variables were related more to involuntary than voluntary absence (e.g., health problems, kinship responsibilities), the personality variables may reflect greater relations with voluntary than involuntary absence.

### *Implications*

Our findings suggest a number of implications for research and practice. Past research indicates that conscientiousness is negatively related to withdrawal behaviors such as turnover (Barrick et al., 1994). Results from our study suggest it is negatively associated with absence as well. Thus, conscientious individuals appear less likely to vent their dissatisfactions and frustrations in withdrawal behaviors, perhaps because of their dutifulness and rule-oriented nature (Goldberg, 1990). Or are conscientious employees less likely to be dissatisfied and frustrated to begin with? Similarly, are extroverts absent more because they are generally less satisfied, or because their assertive and impulsive nature makes them more likely to act on their frustration? Given the nature of conscientiousness and extraversion, it appears likely that conscientious employees are relatively less likely to withdraw when dissatisfied, whereas extroverted employees are relatively more likely to withdraw in this circumstance. However, given the limited knowledge about the relationship between these personality traits and job satisfaction, we can only point to these questions as important ones for future research to answer.

These results have implications for selection research and practice as well. Conscientiousness is a positive predictor of performance across different jobs (Barrick & Mount, 1991). It appears the positive attributes of conscientiousness extend to attendance as well. Thus, results from this study further attest to the utility of using measures of conscientiousness in selection decisions. The results for extraversion are less clear. It appears that extraversion is a positive predictor of performance in certain jobs (Barrick & Mount, 1991). However, extraversion, like all traits, has a negative aspect as well. For example, biological research has shown a link between extraversion and aggressive behavior (Eysenck, 1990). Thus, the positive link between extraversion and absence adds to the understanding of the construct in organizational settings. Clearly, it is beneficial to be extroverted in certain situations, but it also can be a hindrance to organizations if it leads to absence and other counterproductive behaviors.

The nature of employees' jobs may moderate the relationship between extraversion and absence. Specifically,

it is possible that extroverted individuals are more likely to be absent while performing routine tasks, as in low-level clerical jobs, because extroverts may find routine work to be more dull than introverts. Future research should investigate the moderating role of job type on the relationship between extraversion and absence. More generally, there is some evidence that personality–job performance relations depend on the type of job (Barrick & Mount, 1991). Given that personality also may vary by job type, it would be interesting to determine if the association of extraversion and conscientiousness with absence varies by job type as well. Because of our small sample size, we cannot investigate these issues here. However, they are quite relevant for future research when one considers the selection implications of our findings.

As did past research (Mount & Barrick, 1995), we found that conceptually relevant subfacets of personality were better predictors of absence than less relevant subfacets. In addition, the predictive power of the subfacets was similar to the predictive power demonstrated by their respective general personality factors. On the basis of these findings, we advocate that practitioners who include personality as a selection tool use either the general factors or conceptually relevant subfacets to better substantiate the criterion-related validity of these measures.

### Conclusion

In sum, our findings suggest that the five-factor model is a fruitful basis from which to examine the dispositional basis of absenteeism. In particular, results indicated that introverted and conscientious employees are less likely to be absent. The considerable stability, and probable genetic origins of these traits (Bergeman, Chipuer, Plomin, & Pedersen, 1993), make it unlikely that organizations can control absenteeism by changing these traits. However, selecting relatively less extroverted and relatively more conscientious employees could be a beneficial strategy to reduce absence. Furthermore, as was noted earlier, it is possible that these dispositions cause employees to respond differently to absence-control policies. Exploring the practical applications of these results, as well as investigating the processes by which these dispositions influence absence, appears to be the next logical step in this line of research.

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