

## Personality as Predictor of Work-Related Outcomes: Test of a Mediated Latent Structural Model<sup>1</sup>

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The role of personality in predicting work-related outcomes was examined using structural equation modeling. Data were taken from a national United States sample ( $n = 1,098$ ) of accounting professionals. Latent personality constructs based on scales from the California Psychological Inventory (Gough, 1957) were specified and tested in a confirmatory measurement model, along with the attitudinal constructs of communication adequacy, role stress, job satisfaction, and propensity to quit. The results of confirmatory factor analyses indicated that the hypothesized personality constructs of extraversion, control, and flexibility were adequately supported by the data, as were each of the attitudinal constructs. Results from the tested structural model indicated that personality effects on propensity to quit were fully mediated by role stress and job satisfaction. Results are discussed in terms of successfully modeling completely latent, multifaceted personality constructs and better understanding the propensity to quit.

Interest in the role of personality for understanding organizational behavior has recently undergone a resurgence (George, 1992). Much of this surging interest has focused on relationships between general personality factors and job performance (e.g., Day & Silverman, 1989; Tett, Jackson, & Rothstein, 1991). As a consequence, a clearer picture has emerged, suggesting that higher order personality factors, such as Conscientiousness and Agreeableness (Digman, 1990), are more robust predictors of job performance than are individual personality traits. Following from these findings, the present study tests two competing models of the possible relationship between broad personality factors and turnover intentions.

To date, relatively few studies have examined a possible empirical relationship between personality and the propensity to terminate employment (i.e., quit or turn over). This is a potentially interesting topic of study, for

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theoretical and practical reasons. From a theoretical perspective, evidence that personality is systematically related to turnover would help to bolster the claim that self-report dispositional variables can be used to reliably predict behavior. Practically, turnover has a negative impact on an organization's costs, so any programs that effectively reduce turnover (e.g., using propensity to screen out prospective employees with a propensity to quit) can lead to bottom-line financial improvements (Phillips, 1996).

Early research has shown little or no correlation between personality and turnover intentions (e.g., Muchinsky & Tuttle, 1979); however, more recent research has revealed significant differences among women leavers and stayers in the AT&T system (Jacobs, 1992). Those women who left the system were significantly higher on the California Psychological Inventory (CPI; Gough, 1987) scales of achievement via independence, tolerance, responsibility, and intellectual efficiency than were those who stayed. No significant differences among male leavers or stayers in the same organizational system were found. Thus, results tend to be weak or mixed regarding a direct link between personality and turnover. It should be noted that the bulk of this research was conducted prior to current interest in general personality factors. Thus, contemporary approaches to conceptualizing personality might be helpful in better understanding behavioral intentions to stay or leave.

Beyond a focus on specific personality traits, a possible reason for the generally disappointing results of previous research is that personality typically has been hypothesized to be directly predictive of withdrawal decisions. In the case of withdrawal intentions, there may be variables that mediate proposed personality-outcome relationships (Weiss & Adler, 1984). Previous research studying withdrawal intentions or propensity to quit has demonstrated the predictive importance of role stress and job satisfaction (e.g., Bedeian & Armenakis, 1981; Netemeyer, Burton, & Johnston, 1995; Netemeyer, Johnston, & Burton, 1990). Specifically, role stress was considered to have direct effects on propensity to quit, as well as indirect (i.e., mediated) effects through job satisfaction. From these previous findings it is plausible to consider a theoretical model in which personality directly influences the work attitudes of role stress and job satisfaction which, in turn, influence turnover intentions. Thus, a primary purpose of the present study is to test two competing mediational models (i.e., full or partial mediation) of personality effects on turnover intentions. Consistent with contemporary thinking, these models incorporate the effects of three higher order personality factors drawn from the CPI (Extraversion, Control, and Flexibility). Because the modeling of multifaceted personality constructs within a predictive network is relatively rare (Bagozzi & Heatherton, 1994), our second purpose is to illustrate this technique using a completely latent modeling approach.

### Work-Related Predictors of Propensity to Quit

Numerous individual difference variables have been examined as potential work-related predictors of turnover intentions (i.e., propensity to terminate employment or quit). Of these, job satisfaction and role stress have proven to be the most robust (Bedeian & Armenakis, 1981; Netemeyer et al., 1990, 1995). *Job satisfaction* has typically been defined as affective reactions to intrinsic and extrinsic components of one's job. Prior research indicates that employees with higher job satisfaction report a generally lower propensity to quit (demonstrated effect ranging from -.26 to -.40; Netemeyer et al., 1995). Role stress is usually defined in terms of the degree of role conflict and role ambiguity (Rizzo, House, & Lirtzman, 1970) experienced by an employee. Although there has been considerable debate over the meaning and measurement of role conflict and role ambiguity, recent empirical tests of their respective factor structures indicate that they are distinct, but correlated constructs (Smith, Tisak, & Schmieder, 1993). In general, the greater the experienced role stress (as indicated by elevated levels of role conflict and role ambiguity), the greater the hypothesized propensity to quit (Netemeyer et al., 1995).

A question considered by the present study is whether there are relevant personality influences that might result in a predisposition for experiencing job satisfaction, role stress, or intention to quit. At a general level, the research of Arvey, Bouchard, Segal, and Abraham (1989) suggests that as much as 30% of the variance in overall job satisfaction could be due to dispositional influences such as individual personality. In addition, research has indicated that there are large individual differences in resistance levels to role stress (Kahn & Byosiere, 1992). Thus, there are theoretical reasons to expect personality predictors of both job satisfaction and role stress which, in turn, predict turnover intentions. Which specific personality predictors might function in this capacity, however, is less clear.

A common problem with personality research, in general, and with predicting job-related criteria, in particular, is dealing with the vast array of available personality measures. Most comprehensive personality inventories provide upwards of 15 to 20 scale or trait scores. As noted by Guion and Gibson (1988), even when scale scores are combined into higher order personality factors, it is critical to select psychometrically sound work-related measures when attempting to predict work-related outcomes. One such measure specifically discussed by Guion and Gibson is the CPI (Gough, 1957). The CPI was designed to measure what Gough (1995, p. 101) calls "folk concepts," which reflect terms used by people everywhere to describe their own behavior and that of others in everyday life. Examples include dominance, sociability, self-control, and flexibility. Because the CPI scales have undergone extensive cross-validation, it is not surprising that a "great strength of

the CPI is its demonstrated ability to predict behavior" (McCrae, Costa, & Piedmont, 1993, p. 3).

Gough (1987) has established that four general personality factors account for the intercorrelations among the CPI's different folk scales. Three of Gough's general personality factors appear especially relevant for predicting work-related outcomes, explaining approximately 95% of the common variance among the CPI scales. These factors are Extraversion, Control, and Flexibility. Individuals who score high in Extraversion present themselves as self-confident, outgoing, poised, and enterprising. Those who score high in Control present themselves as rule-favoring, rule-following, and self-disciplined. The Flexibility factor describes individuals who present themselves as open-minded, ingenious, and perceptive. A fourth general factor proposed by Gough is labeled Consensus. It was not included in the present study because it explains little variance in CPI scores (less than 5% of total); it is interpreted as a blend of the previous factors, describing individuals who present themselves as reliable, agreeable, optimistic, and cooperative and is denoted by the fewest number of folk concept scales (four), all but one of which loads higher on another general factor. The CPI scales that were used to indicate each of the three CPI factors incorporated in the present study are presented in Table 1.

It has been previously suggested that it is unreasonable to expect every personality factor to be predictive of every possible job-related criterion (Day & Silverman, 1989). Instead, what are needed are careful, specific linkages between individual personality factors and relevant work-related outcomes. For those personality factors included in the present study, it is hypothesized that Extraversion would be positively related to job satisfaction. Previous research has demonstrated a modest—albeit significant—positive relationship between Extraversion and job satisfaction among senior staff members in a large, multinational computer firm (Furnham & Zacherl, 1986). One possible explanation for this finding is that Extraversion is associated with positive affectivity (McCrae & Costa, 1995; Watson & Clark, 1984), which has been proposed as a core affective component of job satisfaction (George, 1992). It should also be noted that positive affectivity has been shown to be "completely unrelated to stress perceptions" (Watson, Pennebaker, & Folger, 1986, p. 151); thus, the tested model does not include a path from Extraversion to role stress.

Control is hypothesized to be negatively related to role stress. Individuals who portray themselves as having high levels of self-discipline and are generally rule-favoring (i.e., high Control) are expected to experience generally lower stress levels because of their apparent high ability to impose structure and to maintain self-control under experienced stress. As suggested by Sutton and Kahn (1987), personal control might act as an antidote to organizational stress. The present study investigates this possibility using a dispositional

Table 1

Measurement Properties for Study Constructs		Standardized loading	Reliability <sup>a</sup>	Variance extracted
Extraversion		—	.839	.491
Sociability		.890		
Social presence		.747		
Self-acceptance		.746		
Dominance		.723		
Capacity for status		.628		
Intellectual efficiency		.280		
Control		—	.806	.429
Achievement via conformance		.755		
Good impression		.751		
Well-being		.747		
Self-control		.703		
Responsibility		.575		
Tolerance		.240		
Flexibility		—	.733	.330
Tolerance		.726		
Achievement via independence		.725		
Intellectual efficiency		.574		
Psychological-mindedness		.541		
Flexibility		.469		
Capacity for status		.290		
Communication adequacy		—	.862	.722
Prompt, timely, and flow up and down		.925		
Channels well understood		.884		
Accurate and complete communications		.833		
Adequate communication and trust		.744		
Job satisfaction		—	.815	.690
Extrinsic satisfaction		.900		
Intrinsic satisfaction		.754		
Role stress		—	.653	.483
Role conflict		.625		
Role ambiguity		.759		

(table continues)

Table 1 (Continued)

Constructs and indicators	Standardized loading	Reliability <sup>a</sup>	Variance extracted
Propensity to quit	—	.912	.777
Prefer to continue working here (r)	.947		
Return here if had to quit for a while (r)	.922		
Look for a new job with another employer within next year	.764		

Note. All standardized loadings significant ( $p < .01$ ). (r) = reverse scored.  
<sup>a</sup>Denotes composite reliabilities.

Control factor to predict stress perceptions. It is also hypothesized that job satisfaction would be higher among individuals high on Control. Because of a possible relationship between the indicators of this construct and the "big-five" factor of Neuroticism (McCrae et al., 1993), it is thought that those respondents scoring high on Control would be better adjusted and have higher well-being than those scoring low on Control, which would translate into generally higher levels of reported job satisfaction.

The third personality factor of Flexibility is hypothesized to be negatively related to role stress. Individuals who see themselves as adaptable, versatile, and resourceful would be expected to be better able to cope with job stress (Jex & Beehr, 1991; Sullivan & Bhagat, 1992); thus, high Flexibility individuals are hypothesized to experience lower levels of stress because of a generally higher stress threshold than low Flexibility individuals.

Another factor included as a predictor of role stress is communication adequacy. Senatra (1980) reported that a psychological climate that fostered adequate communication was negatively related to role stress among auditors in a large public accounting firm. From a resources theory of stress (Hobfoll, 1989), open and effective communication within an organization may act as a source of resource support (Lee & Ashforth, 1996) that serves to buffer or inoculate an individual against the depletion of available resources due to the demands imposed by job stressors such as role conflict and role ambiguity (cf. Sutton & Kahn, 1987). Thus, we have both empirical and theoretical reasons to include communication adequacy as a direct predictor of role stress. Failing to do so would create a possible unmeasured variable problem in evaluating our structural model. As noted by James, Mulaik, and Brett (1982), theory builders should enter as many relevant causes as possible into a theoretical model because "the more elaborate the theory, the more faith one may have in the results of confirmatory analysis" (p. 29).

Our overall purpose is to test the effects of the three personality constructs (i.e., CPI factors of Extraversion, Control, and Flexibility) on job satisfaction, role stress, and propensity to quit in a national United States sample of accounting professionals. In particular, we are interested in testing whether job satisfaction and role stress completely mediate the relationship between personality and propensity to quit. We use structural equation modeling to represent and test the hypothesized latent structure of the respective constructs, as well as the structural paths among constructs. The tested model also includes direct paths from role stress to job satisfaction (Bedeian & Armenakis, 1981; Schaubroeck, Cotton, & Jennings, 1989), and from role stress and job satisfaction to propensity to quit (Lee & Ashforth, 1996; Netemeyer et al., 1995). The hypothesized model that is tested is presented in Figure 1. This model is ultimately compared to a model that includes direct (in addition to indirect) paths from the three focal personality constructs to propensity to quit as a means of assessing whether the effect of personality on turnover intentions is indirect, direct, or both.

#### Method

##### Setting and Participants

Participants were sampled from public, industrial, and government accountants identified from a larger national United States survey of accounting professionals. The larger sample consisted of 1,821 accountants who were randomly selected from the membership lists of the American Society of Certified Accountants, the National Association of Accountants, the American Association of Women Accountants, and the Association of Government Accountants, and who had previously agreed to participate. Participants were sent a research packet with a cover letter explaining that the nature of the study was to examine certain background and personality characteristics of accountants. There were 1,145 research packets returned, yielding a participation rate for the larger study of 63%.

The sample for the present study included 1,098 participants who had complete data on all personality and work-related variables. This sample was almost evenly split in terms of gender, with slightly more females ( $n = 571$ ) than males. Approximately 24% of the respondents were of ages 20 to 29; 40% were of ages 30 to 39; 13% were of ages 40 to 49; 19% were of ages 50 to 59; and 4% were age 60 or older. The sample was primarily White (96%) and born in the United States (98%). Approximately 26% of the participants were employed in public accounting firms, 48% in industrial firms, 19% in education and government, and 7% in other nonprofit firms. Participants

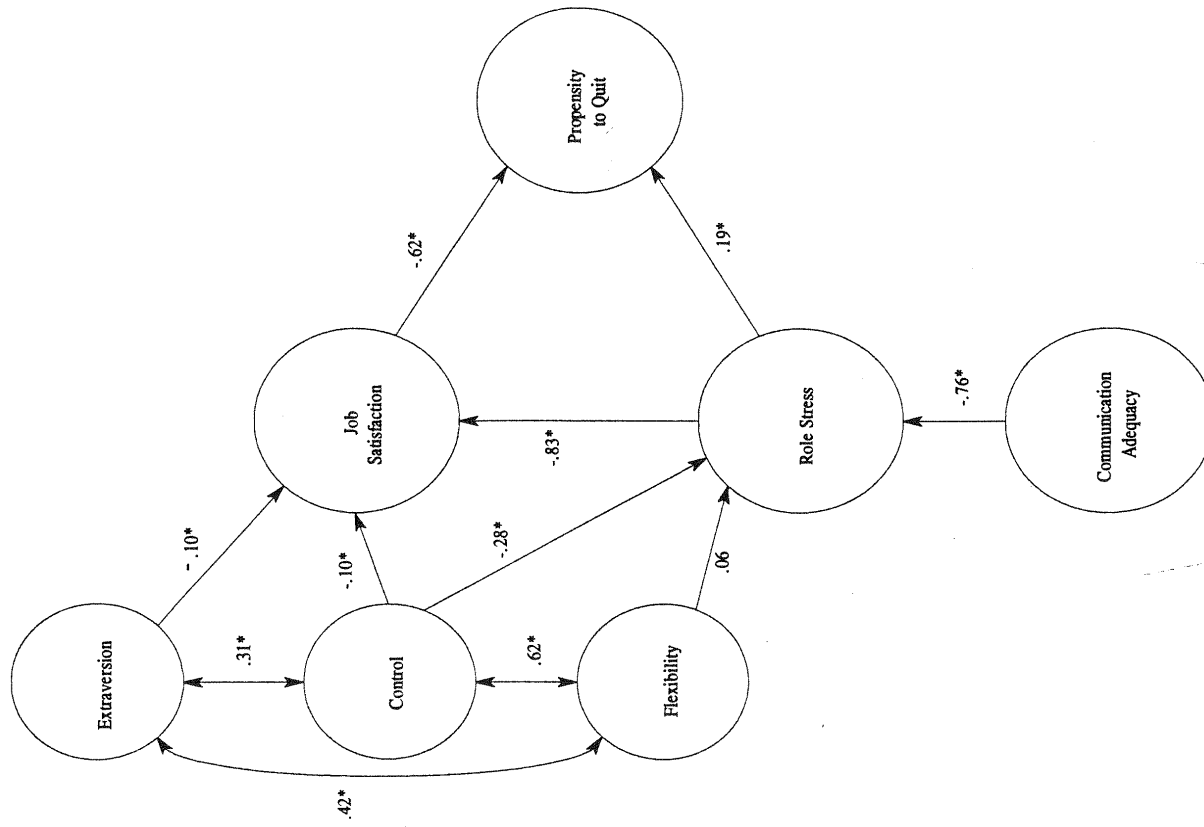


Figure 1. Hypothesized structural model with standardized parameter estimates ( $p < .05$ ).

reported an average length of tenure within their present organization of 6.84 years ( $SD = 6.45$ ).

#### Measures

**Personality.** Individual personality was assessed by means of the CPI (Gough, 1957, 1987). The 1957 version of the CPI used in the present study consists of 480 true-false items designed to measure personality characteristics deemed important for social interaction and adjustment. The CPI is largely self-administered, with testing times typically ranging from 45 to 60 min. The inventory is intended for use with nondisturbed individuals and yields scores on 18 folk-concept scales. Those scales included in the present study are dominance, capacity for status, sociability, social presence, self-acceptance, well-being, responsibility, socialization, self-control, tolerance, good impression, achievement via conformance, achievement via independence, intellectual efficiency, psychological-mindedness, and flexibility. The two unused scales measured an individual's likelihood of distorting responses due to social desirability and lying. Gough (1987) presents evidence that the relationships between the original and revised versions of the CPI scales are nearly identical (average  $r = .96$ ,  $N = 2,000$ , range = .88 to .99).

Gough (1987) proposes that "because all of the scales assess facets of interpersonal functioning and because their interrelations are intended to mirror folk usage of the same concepts, nonzero and positive correlations among the scales are, in fact, desirable" (p. 32). He goes on to suggest, based factor analytic results, that four general factors can account for intercorrelations among the set of CPI scales; three of these general factors are included in the present study. The primary factor, Extraversion, is defined by high loadings on the scales of dominance, capacity for status, sociability, social presence, self-acceptance, and intellectual efficiency. The second factor—labeled Control—is best defined by the scales of well-being, responsibility, self-control, tolerance, good impression, and achievement via conformance. Flexibility is the third general factor, with high loadings on tolerance, achievement via independence, and flexibility, and secondary loadings on intellectual efficiency, psychological-mindedness, and capacity for status.

Although there is ample evidence of the construct and predictive validity of the CPI at the scale level (e.g., Deniston & Ramanah, 1993; Gough, 1987; Jacobs, 1992; McCrae et al., 1993; Picano, 1989), we found no published reports linking the general CPI factors with work-related outcomes. Thus, another contribution offered by the present study is in terms of demonstrating the potential value of the general CPI factors of Extraversion, Control, and Flexibility in predicting role stress, job satisfaction, and propensity to quit.

**Communication adequacy.** This construct was represented by four items developed by Senatra (1980) to measure the degree to which superiors and subordinates share relevant information. Senatra (1980, 1982) reports evidence that communication adequacy is significantly related to the major role stress components of role conflict and role ambiguity in public accountants. The items included in the present study ("Communication of organization policies and activities are accurate and complete" (sic); "Communications within the organization are prompt, timely, and flow both up and down"; "The channels of communication within the organization are well understood"; and "Communication and trust between fellow workers are adequate") were rated on a 7-point scale ranging from 1 (*very rarely*) to 7 (*continually*).

**Role stress.** The major components of role stress are role conflict (i.e., conflicting role expectations) and role ambiguity (i.e., uncertain role expectations; Rizzo et al., 1970). Role conflict (8 items) and role ambiguity (6 items) were assessed using measures developed by Rizzo et al. Respondents are asked to indicate the extent to which each item is true about their job, using a 7-point scale ranging from 1 (*very rarely*) to 7 (*continually*). All items are scored so that higher ratings indicate greater reported role conflict/ambiguity. The appropriate items were summed to create two summary measures, which were used as manifest indicators of a latent role-stress construct.

**Job satisfaction.** The short form of the Minnesota Satisfaction Questionnaire (MSQ; Weiss, Dawis, England, & Lofquist, 1967) was used to measure overall job satisfaction. This questionnaire asks subjects to respond using a 5-point scale ranging from 1 (*not satisfied*) to 5 (*extremely satisfied*). The questionnaire can be divided into intrinsic (12 items) and extrinsic (6 items) satisfaction subscales, according to the recommendations of Weiss et al. The intrinsic subscale includes factors such as "the chance to make use of my abilities" and "the feeling of accomplishment I get from the job." The extrinsic subscale addresses individual satisfaction with factors such as pay, company policies, chances for advancement, and supervision. The items from each subscale were summed to provide summary scale scores for intrinsic and extrinsic job satisfaction. These two scale scores were subsequently used as manifest indicators of a latent job-satisfaction construct.

**Propensity to quit.** Three items were used as indicators of a latent propensity to quit (i.e., terminate employment) construct. The items were: (a) "If I were completely free to choose, I would prefer to continue working in this organization" (reverse scored); (b) "If I had to quit work for a while, I would return to this organization" (reverse scored); and (c) "I will probably look for a new job with another employer within the next year." Response alternatives to each item were coded from 1 (*strongly disagree*) to 6 (*strongly agree*) so that the greater the average score, the greater the propensity to quit.

Table 2

Descriptive Statistics and Intercorrelations for All Indicator Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. DO	31.18	6.11	—											
2. CS	19.95	3.66	.56	—										
3. SY	24.76	5.25	.64	.66	—									
4. SP	35.38	5.88	.46	.61	.67	—								
5. SA	21.93	3.75	.61	-.53	.66	.56	—							
6. WB	36.63	4.40	.29	.36	.33	.31	.11	—						
7. RE	30.68	4.42	.31	.24	.16	-.05	.03	.36	—					
8. SO	37.53	5.06	.05	-.04	.01	-.17	-.11	.29	.40	—				
9. SC	30.42	6.59	-.09	.04	-.13	-.25	-.31	.49	.45	.43	—			
10. TO	22.38	4.25	.29	.52	.40	.40	.16	.62	.43	.21	.41	—		
11. GI	17.66	5.86	.25	.37	.28	.07	.05	.53	.41	.25	.67	.44	—	
12. CM	26.16	2.05	.11	.00	.08	-.03	.07	.12	.15	.21	.00	.06	-.06	—
13. AC	29.05	3.97	.41	.09	.40	.21	.21	.57	.48	.37	.50	.52	.56	.13
14. AI	21.68	3.74	.09	.12	.12	.25	.07	.38	.33	.09	.27	.64	.18	.06
15. IE	38.86	5.00	.36	.10	.50	.46	.26	.54	.33	.17	.24	.64	.32	.02
16. PY	12.58	2.63	.25	.12	.26	.36	.16	.38	.21	.02	.23	.45	.26	-.08
17. FX	9.14	3.94	.03	.04	.12	.42	.08	.14	.00	-.16	-.05	.35	.00	-.12
18. F/M	19.83	4.37	-.20	.01	-.22	-.31	-.16	-.20	.17	.26	.16	-.05	-.05	.11
19. CMAD1	3.77	1.77	.10	.08	.18	.10	.11	.17	.06	.04	.10	.13	.18	.04
20. CMAD2	3.52	1.68	.13	.08	.18	.08	.13	.18	.10	.07	.11	.14	.21	.03
21. CMAD3	3.86	1.76	.12	.06	.17	.09	.10	.20	.09	.07	.12	.14	.21	.03
22. CMAD4	4.20	1.60	.14	.08	.17	.11	.11	.25	.13	.11	.13	.19	.23	.05
23. INTSAT	3.57	0.67	.24	.08	.16	.12	.17	.17	.14	.08	.06	.09	.18	.05
24. EXSAT	3.06	0.75	.18	.10	.17	.15	.13	.23	.15	.16	.11	.18	.19	.05
25. ROLAMB	3.18	1.19	-.16	-.08	-.15	-.10	-.07	-.22	-.14	-.09	-.15	-.15	-.22	-.04
26. ROLCON	2.30	0.96	-.05	-.08	-.09	-.11	-.02	-.29	-.15	-.14	-.22	-.22	-.21	-.07
27. PTOQ1	2.50	1.71	-.17	-.12	-.17	-.13	-.13	-.21	-.13	-.18	-.08	-.16	-.13	-.11
28. PTOQ2	2.63	1.71	-.17	-.05	-.16	-.11	-.11	-.22	-.16	-.18	-.10	-.16	-.14	-.10
29. PTOQ3	2.67	1.87	-.13	-.08	-.09	-.04	-.08	-.17	-.19	-.18	-.12	-.14	-.15	-.08

Note.  $n = 1,098$ . DO = Dominance, CS = Capacity for status, SY = Sociability, SP = Social SC = Self-control, TO = Tolerance, GI = Good impression, CM = Communality, AC = PY = Psychological mindedness, FX = Flexibility, F/M = Femininity/masculinity, CMAD = ROLAMB = Role ambiguity, ROLCON = Role conflict, PTOQ = Propensity to quit.  $|r| \geq .06, p < .05, |r| \geq .08, p < .01$ .

	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
—																
.30	—															
.54	.34	—														
.31	.39	.39	—													
.00	.47	.28	.32	—												
.00	.08	-.13	-.10	.00	—											
.19	.01	.10	.07	-.01	-.04	—										
.19	.01	.12	.09	-.04	-.03	.79	—									
.19	.00	.12	.08	-.01	-.08	.75	.82	—								
.23	.05	.17	.10	.00	-.05	.54	.69	.69	—							
.20	.02	.10	.11	-.03	-.06	.34	.40	.37	.41	—						
.24	.07	.17	.11	.00	-.04	.49	.58	.50	.58	.68	—					
-.24	-.02	-.11	-.09	.05	.01	-.50	-.53	-.54	-.51	-.55	-.55	—				
-.26	-.14	-.19	-.08	-.02	.02	-.42	-.42	-.41	-.40	-.29	-.45	.47	—			
-.20	-.06	-.14	-.08	.01	.03	-.41	-.49	-.43	-.51	-.59	-.66	.46	.44	—		
-.21	-.04	-.13	-.08	-.04	.03	-.43	-.49	-.46	-.53	-.52	-.63	-.49	.42	.88	—	
-.17	-.03	-.13	-.05	.06	.01	-.35	-.43	-.38	-.45	-.47	-.56	.44	.43	.72	.70	—

presence, SA = Self-acceptance, WB = Well-being, RE = Responsibility, SO = Socialization, achievement via conformity, AI = Achievement via independence; IE = Intellectual efficiency, Communication adequacy, INTSAT = Intrinsic satisfaction, EXSAT = Extrinsic satisfaction,

## Results

### *Measurement Properties*

Descriptive statistics and intercorrelations for all indicator variables included in the present study are presented in Table 2. A covariance matrix was used as input to estimate both measurement and structural properties through a maximum likelihood procedure (Bentler, 1992). Confirmatory procedures were used to test the measurement properties of all constructs prior to examining the hypothesized structural models (Anderson & Gerbing, 1988). Composite reliability and variance extracted estimates were the primary statistics used to assess the psychometric properties of the hypothesized constructs (Fornell & Larcker, 1981). The composite reliability statistic estimates the internal consistency of a latent construct, similar to coefficient alpha. Because the hypothesized personality structure was based on a previous exploratory factor analysis using obtained correlations among variables (Gough, 1987), a reliability estimate similar to coefficient alpha is considered appropriate (cf. Bollen & Lennox, 1991). The remaining constructs were defined using individual items or scale scores thought to reflect relatively homogeneous domains. The variance-extracted statistic estimates the proportion of variance explained by a construct, compared to the variance due to random measurement error. As such, it serves as an estimate of convergent validity of a construct's indicator variables. Table 1 provides the psychometric estimates for each construct, in addition to the standardized loadings and reliabilities of each construct indicator. All indicators were statistically significant ( $t > 7, p < .001$ ).

The overall goodness of fit of the measurement model was assessed by chi-square and several other specialized indexes. Although the overall chi-square value indicated a relatively poor model fit to the data,  $\chi^2(275, N = 1,098) = 2,981.52, p < .001$ , it is well known that this statistic is especially sensitive to sample size, nonnormality, and model complexity, relative to more specialized indexes (Bentler & Bonett, 1980). Recommended alternatives to chi square include the comparative fit index (CFI; Bentler, 1990), incremental fit index (IFI; Bollen, 1989), and the standardized root mean square residual (SRMSR). The CFI and IFI both assess the comparative reduction in noncentrality (i.e., misspecification) proposed by the hypothesized model, specifically in terms of the percentage of variance in the covariance matrix accounted for by the measurement model. The CFI and IFI constrain observed values in the range (0, 1), with higher values indicating better fit (Bentler, 1992). The SRMSR is the square root of the average of the standardized squared fitted residuals, with lower values indicating better model fit (Pedhazur & Schmelkin, 1991). For the measurement model, the adjusted indexes suggested a reasonably successful fit to the data (IFI = .855, CFI = .855, SRMSR = .016).

The psychometric properties of the latent constructs were examined individually through estimates of composite reliability and variance extracted. These estimates (Table 1) are based on the standardized parameter estimates from the measurement model. The communication adequacy, job satisfaction, and propensity to quit constructs all have estimated composite reliabilities above .80 and variance extracted estimates above .50, indicating both good internal consistency and that the variance captured by each construct is larger than the variance due to measurement error (Fornell & Larcker, 1981). The Extraversion, Control, Flexibility, and role-stress constructs demonstrated acceptable reliabilities (.84, .81, .66, and .65, respectively), but less satisfactory variance-extracted estimates (.49, .43, .29, and .48, respectively). Fornell and Larcker point out, however, that the variance extracted statistic is a more conservative estimate than is composite reliability. As such, an argument could be made for the acceptable psychometric properties of each respective latent construct, especially for research purposes.

### *Structural Models*

The hypothesized structural model (Figure 1) proposed that the constructs of job satisfaction and role stress completely mediate the relationship between the exogenous personality constructs of Extraversion, Control, and Flexibility, and the endogenous outcome construct of propensity to quit. Test results indicated a generally good fit of the structural model to the data,  $\chi^2(285, n = 1,098) = 3,073.66, p < .01$ , IFI = .850, CFI = .850, SRMSR = .022. Tests of the individual parameter estimates between latent constructs (Figure 1) indicated that all were statistically significant, with the exception of the path between Flexibility and role stress ( $t = 1.43, p > .05$ ). In addition, the parameter estimate for the path between Control and job satisfaction was opposite to the hypothesized direction, although relatively modest in magnitude ( $t = -0.10, p < .05$ ).

The indirect effects of the personality factors on propensity to quit were estimated by multiplying the path coefficient for the personality-mediator relationship with the coefficient for the mediator-outcome linkage (Pedhazur & Schmelkin, 1991). The indirect effect of Extraversion on propensity to quit through job satisfaction was estimated to be -.06. The effect of Control on propensity to quit through job satisfaction was estimated at .06, whereas the effect was .05 when mediated by role stress. The estimated effect of Flexibility on propensity to quit through role stress was estimated to be .01.

An alternative to the hypothesized model contained additional direct paths from the three personality constructs to propensity to quit. Although the correlations between the individual CPI scales and the propensity-to-quit items (Table 2) resulted in a total of 44 (of 54 possible) significant relationships, the



results of the multivariate test of this alternative structural model were clear-cut. Despite adding the three direct paths from Extraversion, Control, and Flexibility latent variables to propensity to quit, there was little improvement in model fit as assessed by the chi-square statistic,  $\chi^2(282) = 3,072.81, p < .01$ . The chi-square difference test used to compare nested models (Anderson & Gerbing, 1988) was nonsignificant,  $\chi^2(3) = 0.85, p > .01$ . In addition, the alternative model demonstrated identical values to the hypothesized model on the adjusted goodness-of-fit indexes, IFI = .850, CFI = .850, SRMSR = .022. Tests of the parameter estimates for the additional direct paths to propensity to quit were all nonsignificant. The standardized parameter estimates and test statistics were as follows: Extraversion,  $-0.01, t = 0.26$ ; Control,  $-0.05, t = 0.94$ ; Flexibility,  $-0.02, t = 0.41$  (all  $ps > .10$ ). Taken together, these results support the more parsimonious, fully mediated model of personality effects on turnover intentions over a model with both direct and mediated personality effects.

### Discussion

The present study contributes to a better understanding of the role of personality in organizational settings by means of several key findings. The first of these findings stems from the results of the measurement model test. Gough (1987) has proposed that several higher order factors explain the intercorrelations among the folk-concept scales of the CPI. These factors were proposed primarily on the basis of exploratory factor analyses; we are unaware of any subsequent attempts (other than the present study) to replicate this factor structure using confirmatory techniques. The confirmatory factor analysis results of the hypothesized measurement model indicate a generally good fitting solution. The Extraversion factor was well-supported by the data in terms of both acceptable composite reliability (.84) and convergent validity among indicators (.49), as assessed by the variance-extracted estimate. The Control factor also demonstrated generally acceptable reliability (.81) and validity (.43). The Flexibility factor demonstrated the least acceptable psychometric properties of the general personality factors, with relatively good composite reliability (.73), but rather low validity (.33). Thus, the nonsignificant structural path from Flexibility to role stress may be at least partially attributable to these psychometric shortcomings.

The findings from the structural model tests also provide interesting insights into the role of personality in predicting work-related outcomes. The hypothesized structural model estimated paths from the personality factors of Extraversion, Control, and Flexibility to propensity to quit that were completely mediated by job satisfaction and role stress. The results indicate that this model fit the data reasonably well; furthermore, there were

significant paths from Extraversion and Control to job satisfaction, and from Control to role stress. The hypothesized path from Flexibility to role stress was not supported by the data. Although the paths from the personality latents of Extraversion and Control to job satisfaction were statistically significant, the standardized parameter estimates (Figure 1) indicate that their practical significance might be considered relatively small. Neither path exceeded an absolute magnitude of .10; thus, the amount of variance explained in satisfaction by these factors is between 1 and 2%. The indirect path from Control to job satisfaction (through role stress), however, was over twice that of the direct path. One conclusion that could be drawn from these results is that the personality construct of Control is negatively related to job stress which, in turn, is negatively related to job satisfaction. In other words, being an individual high on Control provides support resources (Hobfoll, 1989)—along with communication adequacy—that help meet the demands imparted by role stress, which ultimately contributes to higher job satisfaction. Role stress and job satisfaction were both found to predict turnover intentions, but the satisfaction  $\rightarrow$  propensity-to-quit linkage was much stronger ( $-.62$ ) than was the stress  $\rightarrow$  propensity-to-quit path (.19). In a test of an alternative model, no significant direct paths from the personality constructs to propensity to quit were found. Taken together, these results suggest that the strongest personality effects are associated with Control, with direct negative effects on role stress, and mediated effects on job satisfaction, as well as propensity to quit.

Results of our structural model tests indicate that propensity to quit was significantly predicted by both job satisfaction and role stress. There were differences in both the direction and magnitude of these effects. As expected, satisfaction was negatively related to turnover intentions, whereas stress was a positive predictor of this outcome. Examining the standardized parameter estimates, however, shows that the satisfaction  $\rightarrow$  propensity-to-quit path is over three times larger than the stress  $\rightarrow$  propensity-to-quit path. Thus, the present findings suggest that the more potent effect on turnover intentions is due to job satisfaction, as opposed to role stress.

The primary purpose of the present study was to contribute to a better understanding of the role of personality in predicting work-related outcomes. We believe that there are several notable aspects of our findings that enhance understanding of personality in organizations. At a general level, we demonstrated that latent personality constructs can be effectively modeled. In particular, the personality constructs of Extraversion and Control were supported by our confirmatory factor analyses. The construct of Flexibility was less well-supported by the data; however, additional research may help to provide suggestions on how to better identify this construct to improve its psychometric properties in future modeling efforts.



We also built on previous suggestions regarding the modeling of multifaceted personality constructs, and extended this approach to a structural model within a predictive network. Not only were we successful at accomplishing this effort, the results contribute to understanding the relationships between personality, job satisfaction, role stress, and propensity to quit. Specifically, personality effects on turnover intentions appear to be completely mediated by stress and satisfaction. Personality was not found to have a direct influence on propensity to quit; thus, there is little reason to believe that certain personality "types" will be more likely to exit an organization than others. More manageable factors (from an organizational perspective) concerning job satisfaction and role stress appear to be most strongly related to turnover intentions. Nonetheless, the present findings should not detract from research that has provided support for the direct effect of specialized personality constructs (e.g., self-monitoring; Snyder, 1987) on turnover behavior (Kilduff & Day, 1994) and intentions (Jenkins, 1993). Our focus was on modeling and testing the effects of general, multifaceted personality factors.

As with any study, there are limitations to discuss. Perhaps the most potentially troubling limitation is that all constructs were based on data from self-report sources. Thus, common-method bias might have artifactually inflated parameter estimates among constructs. Nonetheless, an examination of the correlations among indicator variables used in the present study (Table 2) shows that the intercorrelations among indicators of the same construct are generally higher than correlations among indicators of different constructs, providing some evidence of convergent and discriminant validity. One way to more fully address this issue in future research, however, is by including actual turnover as the ultimate outcome of interest. This raises other questions regarding the appropriate time frame to consider, as well as using a dichotomous, single-indicator variable in an otherwise completely latent model. It is also important to recognize that recent estimates indicate that the relationship between turnover intentions and actual turnover is only about .36, corrected for measurement error (Hom, Caranikas-Walker, Prussia, & Griffeth, 1992). Nonetheless, this previous research has also shown that intention to quit is the single best predictor of actual turnover in organizations.

Another potential limitation of the present study is that we examined job satisfaction and role stress at overall, aggregate levels by using individual scales as indicators of their respective latent constructs. This may have potentially masked differential effects of the various components of each construct. For example, it would be important from a practical perspective to know whether intrinsic or extrinsic satisfaction was a better predictor of turnover intentions. It makes sense conceptually and practically, however, to propose that individuals high on both intrinsic and extrinsic satisfaction would have

lower turnover intentions than individuals high on just one of the two scales (or neither), despite their different meanings. Empirically, our results indicate a high degree of association between intrinsic and extrinsic satisfaction.

It is also worth noting is that Bedeian and Armenakis (1981) and Netemeyer et al. (1990, 1995) examined the stress components of role conflict, role ambiguity, and job tension separately. The present model differs in that job tension was not included, and role conflict and ambiguity were used in tandem as indicators of a latent role-stress construct. This follows from a consideration of role conflict and role ambiguity as distinct indicators of a higher order role-stress construct (Smith et al., 1993). Although the estimated composite reliability of the overall stress construct was lower than previous internal consistency estimates reported for these scales separately, two noteworthy considerations are that: (a) an acceptable composite reliability estimate was found using just two indicators, as opposed to 14 total items across both scales; and (b) the variance-extracted estimate indicated that these two indicators captured approximately 48% of the variance in the role-stress construct. Thus, there are both theoretically and empirically based reasons for constructing a latent role-stress construct comprised of the role conflict and role ambiguity scales.

It should also be recognized that structural equation modeling cannot transform questionnaire-based data into a causal test. The only satisfactory method for demonstrating causality is through the experimental control of variables (Cliff, 1983), preferably within a longitudinal design. Nonetheless, the present results can suggest certain causal relations (e.g., it makes little sense to hypothesize that personality is a consequence of work outcomes) which should be replicated longitudinally before any strong inferences of causality are made.

Finally, we do not wish to minimize the importance of situational factors to understanding and predicting work-related outcomes. Such factors no doubt play a vital role in shaping and modifying job satisfaction and role stress. Certainly, situational factors can be changed more easily than individual personality and, thus, perhaps hold greater promise in terms of an organization's development. Nonetheless, the present findings suggest that there may be robust personality effects associated with the way in which situational factors are interpreted. As such, we believe that the present findings make theory-driven methodological and substantive contributions to understanding the role of personality differences and their relationship to role stress and job satisfaction, as well as the propensity to terminate organization employment.

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## Anger-Related Traits and Response to Interpersonal Conflict Among New York City Traffic Agents<sup>1</sup>

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This study evaluates the psychosocial correlates of anger-related traits. Participants include New York City traffic enforcement agents (TEAs), who issue summonses for vehicular and parking violations and are frequently confronted by angry motorists. This sample of TEAs is 53% African American and 57% female. Participants completed surveys at 2 points, 4 months apart, which measured attitudinal, affective, and expressive components of hostility and anger, as well as dimensions of workplace psychosocial response. Results indicate that trait anger-in was positively associated with frequency of conflict, anger intensity, and burnout in cross-sectional analyses; and positively associated with frequency of conflict in prospective analyses. Trait anger was positively associated with an increase in burnout over a 4-month period. These findings provide support for the transactional model of hostility and health and have implications for worksite interventions promoting cardiovascular health.

The transactional model of hostility and health suggests that hostility and other anger-related traits may impact on cardiovascular health through an interplay of environmental, psychological, and physiological dimensions (Contrada, Leventhal, & O'Leary, 1990; Smith, 1992, 1994; Smith & Pope,

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