



## ***Predicting Job Performance Across Organizations: The Interaction of Work Orientation and Psychological Climate***

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*We investigated whether perceived psychological climate interacted with an individual personality dimension in predicting the job performance of a national sample (n = 483) of accounting professionals. Work orientation (Wo; Gough, 1985)—a specialty index developed from the California Psychological Inventory—was used to predict job performance as a function of climate. Results from a series of hierarchical regression analyses indicated that overall climate, a composite of factors derived from the Litwin-Stringer (1968) Organizational Climate Scale, significantly interacted with Wo such that more positive climates were associated with better performance for high Wo individuals regardless of organizational tenure. Subsequent analyses indicated that three specific climate dimensions (viz., Warmth-Support, Reward, and Accommodation) significantly interacted with Wo in predicting job performance. Consistent with an interactional perspective, these results suggest a need to consider both personality and situational characteristics to better understand the job performance of accounting professionals across organizations.*

After nearly two decades of neglect, the role of personality in shaping work behavior and performance has become a topic of renewed interest (Fisher, 1989). For example, Day and Silverman (1989) have recently demonstrated that certain personality dimensions can explain incremental variance in job performance beyond the known contribution of cognitive ability tests. Day and Silverman advise, however, that a critical factor in this relationship is individually selecting personality dimensions that are theoretically appropriate for occupations and organizations of interest. Indeed, they caution that due to the number of different personality dimensions available and their uncertain relevance to specific occupations and organizations, procedures such as meta-analysis may have underestimated the po-

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tential value of personality in predicting job performance. Other theoretical and methodological shortcomings of previous validation research using personality information have also been noted, including model misspecification, contaminated measures, and inadequate statistical power (Hollenbeck & Whitener, 1988).

Although the work of Day and Silverman (1989) demonstrated direct effects of personality on job performance ratings *within* a single organization, researchers have had much less success in identifying personality dimensions that generalize *across* organizations (Guion & Gottier, 1965; Hunter & Hunter, 1984; Reilly & Chao, 1982; Schmitt, Gooding, Noe, & Kirsch, 1984). A plausible reason for the lack of significant findings (in addition to those already mentioned) may be the existence of organizational characteristics that interact with individual personality in determining performance. One such organizational characteristic may be perceived psychological climate.

### Climate Perceptions

Climate has generally been defined "as a set of attributes specific to a particular organization" (Campbell, Dunnette, Lawler, & Weick, 1970: 390) and operationalized in terms of individual member perceptions (e.g., Dieterly & Schneider, 1974; Jones & James, 1979; Joyce & Slocum, 1984; Kozlowski & Doherty, 1989; Litwin & Stringer, 1968; Pritchard & Karasick, 1973). Inherent in most definitions is the notion that climate influences member behavior (Forehand & Gilmer, 1964), although it has been more recently suggested that their relationship may be reciprocal (Schneider & Reichers, 1983).

Our interest in climate as potentially interacting with personality to predict job performance stems from Schneider's (1983, 1987) *attraction-selection-attrition* (ASA) framework for understanding the etiology of organizational behavior. The ASA framework is grounded in the longstanding proposition that behavior is a function of both personal and situational characteristics (Lewin, 1951). Drawing on this proposition, Schneider has proposed that people select into and out of organizations based on the "fit" they perceive between themselves (e.g., their personality) and relevant organizational attributes (e.g., psychological climate). The notion of person-organization fit has been encapsulated by Chatman (1989) to include "the congruence between the norms and values of organizations and values of persons" (339). We maintain that organizational norms and values are reflected in perceived climate and that personal values are at least partially a function of individual personality.

At the individual level (where the appropriate term is *psychological climate*; Glick, 1985), it has been argued that climate "would be expected to exert potent influences on individual performance" (Joyce & Slocum, 1984: 736). Based on an interactional perspective, however, it is hypothesized that across organizations it is a person's fit with perceived climate that is associated with job performance. Therefore, information is needed both on relevant personality dimensions *and* specific climate perceptions for personality to predict individual performance across organizations.

An issue to be addressed concerns exactly what can be considered a relevant personality dimension. This issue is notable because of the numerous and diverse

personality dimensions that are available. It is unrealistic to expect every personality dimension to be important to every job or every organization (Day & Silverman, 1989), because some dimensions are clearly more work-related than others (Guion & Gibson, 1988). Therefore, the personality dimensions used in validation efforts should be carefully selected and theoretically meaningful for application in a specific job setting. One recently developed measure, *work orientation* (Wo)—a specialty index derived from the California Psychological Inventory (CPI; Gough 1957)—seems particularly appropriate for predicting job performance as a function of climate.

### Work Orientation

Gough (1985) developed the Wo index to identify individuals that are dependable, persevering, industrious, efficient, and conscientious (i.e., characterized as embodying Weber's "Protestant Ethic" concept). Therefore, two distinguishing characteristics of high Wo individuals are responsibility and self-discipline. In addition to its work-place applicability, another reason for selecting the Wo index is its relevance to the present study's occupational sample. Consistent with recent research (e.g., Day & Silverman, 1989), we incorporated a sample of accountants, but from many different organizations. Certain traits noted by Day and Silverman as important for the job performance of accountants include low ascendancy, low defensiveness, high perseverance, and dependability. All of these traits are captured by the Wo index (Gough, 1985).

In summary, the current study contributes to a growing literature investigating the relationship between personality and job performance. Our approach incorporated valuable suggestions of recent authors, such as including a job-relevant personality measure (Guion & Gibson, 1988) that was theoretically meaningful for the occupation sampled (Day & Silverman, 1989); specifying an interactional rather than a direct model, which may be more useful for predicting job performance across organizations (Hollenbeck & Whitener, 1988); and incorporating a sample size that was adequate to detect a possible interactive effect (Schmidt & Hunter, 1978). The study's general hypothesis was that perceived climate interacts with personality (i.e., Wo) in predicting job performance. In essence, we predicted that significant slope differences exist in the personality-performance relationship as a function of perceived (i.e., psychological) climate. Specifically, we hypothesized that high Wo individuals would demonstrate better performance in more positive work climates than low Wo individuals. Main effects were not hypothesized because the presence of a significant cross-product (interaction) term in regression analysis renders main effects as not interpretable (Cohen & Cohen, 1983). Further, we believe that Wo (or any other personality dimension) is a meaningful predictor of performance across organizations only when considered with situational information.

### Method

#### *Sample*

Subjects were 483 public, industrial, and government accountants identified

from a larger national survey of accounting professionals. The larger sample consisted of 1,821 accountants who originally 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 agreed previously to participate. Those agreeing to participate 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, especially differences between men and women (Bedeian, Mossholder, Touliatos, & Barkman, 1986). As such, the study deliberately over-sampled female accountants. A total of 1,145 research packets were returned, resulting in a participation rate for the larger study of 63%. The present study selected only those subjects who had complete data on all climate, personality, and performance variables.

The focal sample was almost evenly split in terms of gender, with slightly more females ( $n = 242$ ). Approximately 25% were ages 20-29; 41% ages 30-39; 19% ages 40-49; 13% ages 50-59; and 2% 60 and older. The sample was largely white (96%) and born in the United States (98%). Approximately 18% of the subjects were employed in public accounting firms, 47% in industrial firms, and 35% in education and government. Subjects reported an average length of tenure within their present organization of 7.33 years ( $SD = 6.18$ ). A comparison of demographic variables (e.g., gender, age, tenure) did not reveal any substantive differences between the restricted and complete samples.

### Measures

*Personality.* The *work orientation* (Wo) index proposed by Gough (1985) was used as the sole personality dimension. As previously discussed, Wo is a special purpose index of the CPI that was constructed as a means of "assess[ing] the sense of commitment and obligation to work that one finds in persons of exceptionally conscientious, dependable, and self-disciplined temperament" (505). As such, it was designed to measure a work ethic construct and thus to identify "persons who are industrious, conscientious, responsible, stable, and persevering, but not necessarily possessing superior intelligence, social insight, or supervisory ability" (512). Items from the Wo scale (with the keyed response in parentheses) include: "I do not mind taking orders and being told what to do" (true); "I day-dream very little" (true); "People often expect too much of me" (false); and "I feel like giving up quickly when things go wrong" (false). The possible range for the Wo variable is from 0 to 40. The numbers for the CPI items composing the Wo scale and the scoring key are presented in the Appendix.

Gough (1985) has reported a test-retest reliability (one year) of .70 for high school males ( $n = 102$ ) and .62 for high school females ( $n = 128$ ). He has also reported internal consistency estimates of .75 based on samples of 200 male and 200 female college students. Unfortunately, we were unable to estimate internal consistency because the Wo scores were computed by hand from the original questionnaires and subsequently stored in a computer file as a composite score. As a result, we could not access individual responses to specific CPI items. Additional evidence regarding the construct validity based on work (correction offi-

cers) and non-work (couples) samples, along with the relevant CPI item numbers and the scoring procedure for the Wo dimension, are reported by Gough.

*Climate.* The Litwin and Stringer (1968) Organizational Climate Questionnaire (LSOCQ; Form B) was used to derive climate factors. The LSOCQ consists of fifty 7-point scale items that pertain to climate perceptions. Previous research has questioned the appropriateness of using a priori LSOCQ scales across various settings and applications (Rogers, Miles, & Biggs, 1980). Therefore, a factor analysis was conducted with a minres oblique rotation to obtain the climate factors used in the present study (for details see Mossholder, Bedeian, Touliatos, & Barkman, 1985). In summary, six of the derived scales corresponded with a priori LSOCQ scales. The six scales were as follows, with example items in parentheses: (a) *Structure* (jobs are clearly defined and logically structured); (b) *Responsibility* (subordinates take responsibility for the job); (c) *Warmth-Support* (a friendly atmosphere prevails); (d) *Reward* (people are rewarded in proportion to excellence of job performance); (e) *Pressure-Standards* (we set high standards of performance); and (f) *Risk* (management is willing to take a chance on a good idea). These scales all conform to traditional interpretations (Litwin & Stringer, 1968). In addition, a seventh factor was identified that does not match an a priori scale. This scale was labeled *Accommodation* and comprised three items from the LSOCQ Standards and Conflict scales. An example item from this scale states that it is more important to get along than produce. A composite climate variable was computed by summing the scores on the first six (i.e., positive) climate dimensions and subtracting the score on the Accommodation (i.e., negative) dimension. The higher the composite score, the more positive the psychological climate; the lower the score, the more negative the climate.

*Performance.* Subjects were independently rated by their immediate supervisors on 23 separate items derived from the job performance literature and deemed specifically applicable to the accounting profession. The items were also selected so as to be relevant across organizations and type of accounting performed (e.g., public, industrial, government). Each item was rated using a 7-point scale anchored at the low end with "Unsatisfactory" and at the high end with "Excellent". Performance items ranged from fairly specific job-relevant behaviors (e.g., "gets job done"; "level of job knowledge") to more general traits (e.g., "creativity"; "initiative"). The performance ratings were returned under separate cover by individual supervisors and were subsequently matched to subject survey responses by means of a 4-digit research identification number stamped on each form.

Ratings were summed to form an aggregate performance measure. The rationale for computing a global measure was twofold: (a) a factor analysis of the performance ratings yielded one general factor, which was supported by the intercorrelations between performance items ( $r$ s ranging from .24 to .81, median = .45), and (b) to create a measure with the highest possible reliability. Although we may have lost some information about individual performance dimensions, in doing so we maximized the reliability of the resulting criterion measure.

Ratings were collected expressly for use by the researchers to reduce the sources of possible rater bias (e.g., halo) affecting performance appraisals when the results are used for human resource planning decisions (Zedeck & Cascio,

1982). Predictably, however, the distribution of responses to the performance measure were negatively skewed. Such a pattern has repeatedly been shown to be representative of normal performance ratings, which almost invariably tend to be lenient (Bernardin & Beatty, 1984). Given the restricted distribution of the performance ratings, where there are significant effects, the results would argue even more strongly for the efficacy of the investigated relationships.

### *Analyses*

A series of hierarchical regression analyses were used to test for the presence of interactive effects. An initial regression was performed using composite climate scores as a predictor, followed (as necessary) by separate regressions for individual climate dimensions. This procedure was preferred to computing one large regression equation because of expected intercorrelations (i.e., collinearity) among the seven climate dimensions, as well as to avoid a loss in theoretical specificity. All of the regressions were performed in a step-wise fashion after controlling for the potentially biasing effect of tenure (number of years in present firm). Tenure was used as a covariate because it is possible that employees perceive their organizations differently over time, especially when considered from Schneider's (1983, 1987) ASA framework of organizational behavior. Therefore, organizational tenure was entered on step 1; respondent Wo scores were entered on step 2; either composite climate or a climate dimension was entered on step 3; followed by the appropriate cross-product (Wo x climate) term on Step 4. If the regression weight for the cross-product term was significant, it was taken as evidence of an interactive effect.

## Results

### *Descriptive Statistics*

Preliminary analyses of the data did not reveal any significant differences associated with the type of accounting setting (public, industrial, government), therefore, the data were combined for all subsequent analyses. Table 1 presents the means, standard deviations, reliabilities, and intercorrelations for all study variables. The internal consistency reliability (Cronbach's alpha) of the performance variable was high (.95), and generally acceptable for the composite and individual climate dimensions (ranging from .67 for Responsibility to .90 for Reward; median = .75). The Wo variable had a mean of 30.67 and a standard deviation of 4.68 with a range of 1 to 40, indicating a negative skew to the distribution. The correlation between Wo and performance was not significant ( $r = .04$ ); however, there were numerous significant correlations between the individual climate dimensions and both Wo and performance. Wo and performance were differentially related to the various climate scores. Tenure was significantly correlated with performance and Wo (.11 and .09, respectively); however, tenure was not significantly related to any of the climate factors or the composite.

### *Hierarchical Regression Analyses*

Table 2 presents the results of the hierarchical regression analyses. With tenure entered as a significant covariate,  $F(1,481) = 5.45$ ,  $p < .05$ , the initial analysis

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Table 1  
Descriptive Statistics and Intercorrelations<sup>a</sup>

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Performance	136.32	16.35	.95										
2. Work Orientation	30.67	4.68	.04	—									
3. Tenure	7.33	6.18	.11	.09	—								
Climate dimensions													
4. Structure	4.98	1.19	.12	.24	.03	.83							
5. Responsibility	3.38	1.19	.04	.08	.03	.13	.67						
6. Warmth-support	5.07	1.21	.13	.24	-.01	.51	.19	.86					
7. Reward	3.62	1.52	.21	.20	-.01	.59	.22	.65	.90				
8. Pressure-standards	4.34	1.47	.04	-.04	.03	.25	.13	.06	.28	.73			
9. Risk	3.86	1.23	.12	.09	.01	.31	.33	.33	.47	.22	.75		
10. Accommodation	3.17	1.39	-.19	-.20	-.05	-.55	-.16	-.50	-.57	-.19	-.42	.73	
11. Composite	22.07	6.07	.19	.22	.03	.72	.45	.69	.83	.49	.66	-.74	.78

<sup>a</sup>*N* = 483. All coefficients are reported with the decimal points omitted. Reliability estimates (Cronbach's alpha) are reported on the diagonal. Correlations in this table  $\geq \pm .09$  are significant at the .05 level (two-tailed test).

with composite climate revealed a significant *Wo* x climate interaction,  $F(4,478) = 4.61, p < .05$ . To better understand the form of this interaction, separate regression lines were computed and plotted based on a split (one standard deviation above = positive; one standard deviation below = negative) of the relevant mean. Extreme groups were used to reduce classification error, which is the greatest around a mean value. Figure 1 illustrates a plot of the regression lines, which shows that high *Wo* individuals had higher rated job performance than low *Wo* individuals when perceived climate was positive, as hypothesized. Follow-up analyses revealed significant interaction effects for three of the individual climate dimensions: Warmth-Support,  $F = 6.04, p < .05$ ; Reward,  $F = 3.85, p < .05$ ; and Accommodation,  $F = 6.08, p < .05$ , with 4 and 478 degrees of freedom for each

Table 2  
Hierarchical Regression Results with Performance as Dependent Variable<sup>a</sup>

Variable	<i>R</i> <sup>2</sup> increment	<i>B</i>	<i>F</i>
Tenure	.01	0.25	5.45*
Work Orientation ( <i>Wo</i> )	.00	0.13	< 1
Climate Composite	.03	0.50	16.13**
<i>Wo</i> X Climate Composite	.01	0.05	4.61*
Structure	.01	1.49	5.41*
<i>Wo</i> X Structure	.00	0.07	< 1
Responsibility	.00	0.64	1.06
<i>Wo</i> X Responsibility	.00	-0.03	< 1
Warmth-Support	.02	1.54	5.90*
<i>Wo</i> X Warmth-Support	.03	0.28	6.04*
Reward	.04	2.19	20.11**
<i>Wo</i> X Reward	.01	0.21	3.85*
Pressure-Standards	.00	0.55	1.17
<i>Wo</i> X Pressure-Standards	.00	0.04	< 1
Risk	.01	1.59	6.97**
<i>Wo</i> X Risk	.01	0.20	2.02
Accommodation	.03	-2.12	15.57**
<i>Wo</i> X Accommodation	.01	-0.27	6.08*

<sup>a</sup>*B* is the unstandardized regression coefficient. \* $p < .05$ . \*\* $p < .01$ .

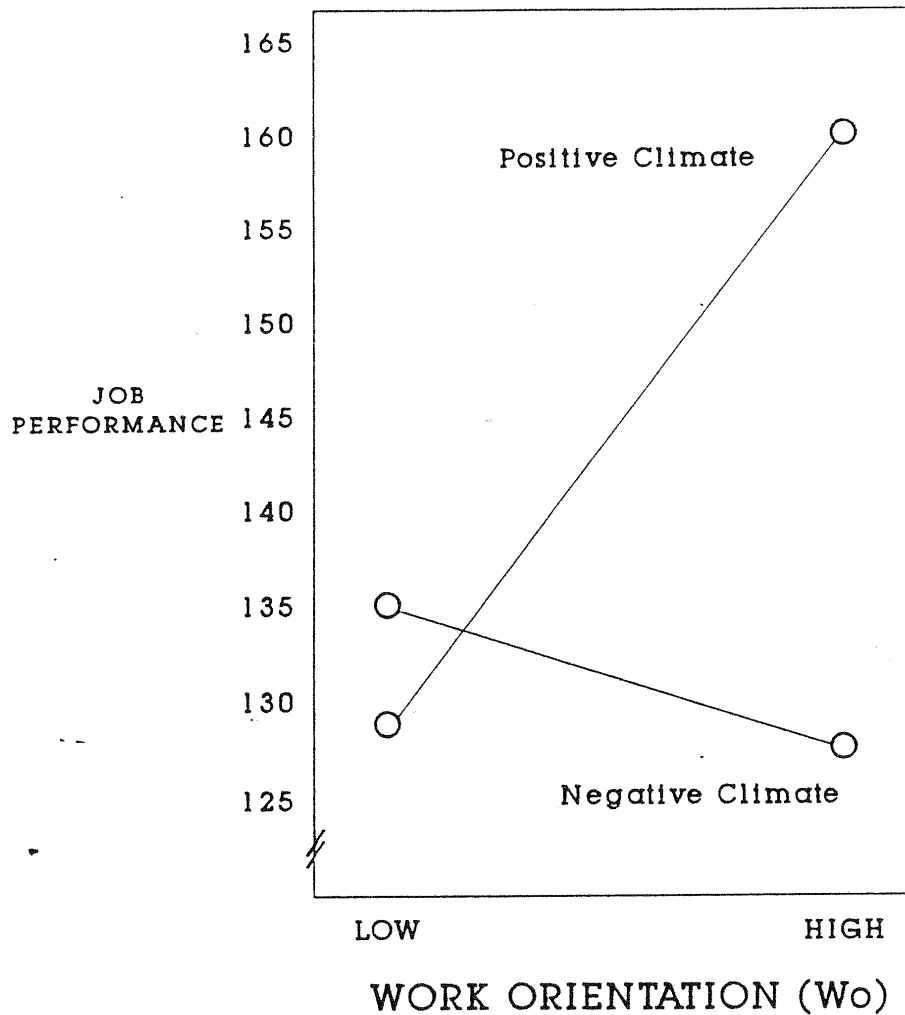


Figure 1. Job performance as a function of psychological climate and work orientation.

test. It should be noted, however, that these three climate dimensions were somewhat strongly intercorrelated (i.e., .50 to .65). Interpretable main effects were found for Structure,  $F(3,479) = 5.41, p < .05$ ; and Risk,  $F(3,479) = 6.97, p < .01$ .

### Discussion

In general, overall climate was found to interact with Wo to predict job performance. As hypothesized, high Wo individuals (i.e., those who were dependable, moderate, persevering, and optimistic) operating in climates they perceive to be positive outperformed their low Wo counterparts. Three of the individual climate dimensions (Warmth-Support, Reward, and Accommodation) were found to interact significantly with Wo. It was also found that regardless of their Wo level all respondents tended to perform better in climates perceived to be unambiguous (i.e., structured) and where risk taking was sometimes deemed necessary.



The results of the present study contribute to a growing body of literature suggesting that specific, job-relevant personality dimensions are significantly related to the performance of professional accountants. Unlike other recent studies (e.g., Day & Silverman, 1989), the present investigation incorporated subjects across many different organizations. This heterogeneity may partially explain why Wo showed no direct effect on individual job performance ratings. Only when specific climate conditions were considered in interaction with Wo did explained criterion variance increase.

Simply put, these results support the contention of interactional psychologists that behavior (i.e., job performance) is a function of both personal and situational characteristics. This finding is consistent with what Buss (1989) refers to as an *active* model of the person-situation relationship. Contrary to the *passive* model, which assumes that situations shape individuals in a unidirectional manner, the active model posits that individuals and situations compose complex interactive systems. Behavior is therefore best seen as a process in which personal and situational characteristics interact to influence each other. It is this interaction that explains why the behavior of similar (different) individuals in different (like) situations is seemingly unpredictable.

A brief discussion of the lack of significant interactions for some of the particular climate scales is warranted. For two of the climate scales (Structure and Risk), significant main effects were noted. It makes sense that organizations high on Structure in which "jobs are clearly defined" and "productivity does not suffer from a lack of planning" would have higher performing employees regardless of individual dispositional factors. It is also possible that organizations high on Risk in which "management is willing to take a chance on a good idea" and where "we have to take big risks sometimes" result in greater performance variability among employees. However, there does not appear to be a strong theoretical link between Risk and Wo. For the remaining two dimensions (Responsibility and Pressure-Standards) for which no direct effects or interactions were noted, one plausible explanation is that accounting behaviors and role expectations relating to responsibility and performance standards are largely prescribed in professional ethics and standards determined by accrediting agencies and professional societies. In other words, these job aspects may be primarily occupationally rather than organizationally determined. We should note that these proposed explanations are entirely post hoc.

In addition, we acknowledge that the present research constitutes only one study assessing one personality dimension. Therefore it is premature to conclude that an interactional approach will always yield significant effects for personality. We believe that researchers should match theoretically relevant personality dimensions to the occupation and situational variables of interest, as recommended by Day and Silverman (1989).

A logical place to look for relevant dimensions to incorporate in future investigations is the recent research of Hollenbeck & Whitener (1988) and George (1989, 1990) who have demonstrated significant relationships between personality and work-related outcomes. For example, Hollenbeck and Whitener found that self-esteem interacted with aptitude in predicting sales performance. Self-es-

teem may also interact with situational variables (e.g., climate) in predicting performance across organizations. Specifically, a positive work climate might *compensate* for low self-esteem such that there is little difference in work performance between high and low esteem workers in this type of environment. A difference between groups may be found in negative climates (with high esteem workers performing better), perhaps because high self-esteem compensates for a poor work climate. As a second example, George (1990) has shown positive affectivity to be directly related to absenteeism within work groups. Thus, positive affectivity may *complement* a positive work climate to produce high job performance, similar to our findings with Wo. It should be noted, however, that the research of Hollenbeck and Whitener as well as George was conducted within a single organization. It is our contention that person x situation interactions will be most relevant in predicting job performance across organizations. This contention is based on the ASA framework which suggests that climate is considerably more variable across than within organizations. However, there are problems in measuring performance across organizations (e.g., differences in job descriptions and performance standards), but in the present study we believe that possible difficulties due to organizational heterogeneity were at least partially balanced by a high degree of occupational homogeneity.

The specific mechanisms behind the significant interaction between Wo and climate remain unclear. Consistent with Schneider's (1983, 1987) ASA framework, it is entirely possible that high Wo individuals select into specific climates or merely perceive certain climates more positively. To clarify this issue, a longitudinal study that assesses the work orientation of individuals before they begin job searches (or certainly before organizational entry) would be necessary. Examining perceived climate characteristics of jobs chosen by individuals who select into and remain with an organization across time might reveal if performance differences correspond with pre-employment differences in Wo status. This possibility was partially supported by the significant pattern of correlations between tenure, performance, and Wo reported in the present study. In future research, both organizational and psychological climate should be measured. Gathering both kinds of measurements would permit one to determine whether individual differences in performance are due only to individual-level biases associated with Wo status (i.e., self-selection) or to more generally acknowledged differences in climate characteristics.

An admitted area of potential concern is that the effect sizes associated with the present study's significant interactions were small. Small effect sizes would arguably have limited immediate practical value—although others like Rosenthal (1990) would disagree—but we believe that the importance of our findings is theoretically justifiable. O'Grady (1982) has noted that when the goal of a study is to determine the shape or functional relationship between variables, measures of explained variance may be misleading or inappropriate indicators of a finding's importance. The intent of such research is usually to explain or understand, so that maximizing variance accounted for is not of primary concern. We believe that our study falls into this category. Clearly, before such measures as Wo are adopted in applied settings more validity (and utility) research is necessary.

In conclusion, we believe that to best predict job performance across organizations, researchers need to return to Lewin's "grand truism" (E. E. Jones, 1985: 84) that behavior is a function of both the person and the environment. By ignoring the possibility of an interactional psychology in organizations, researchers risk establishing a discipline consisting entirely of main effects. Such an approach "is a pleasant but ultimately sterile illusion" (Crano, 1989: 387). In the tradition of Lewin and interactional psychology, the present study contributes to a greater understanding of the conditions under which specific, job-relevant personality dimensions can be expected to be related to job performance in various organizational situations.

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### Appendix

#### Scoring key for Gough's (1985) Work Orientation (Wo) Scale

<i>CPI item number</i>	<i>Keyed answer</i>
126, 165, 180, 245, 263, 276, 283, 314, 392, 475	True
26, 48, 74, 77, 92, 93, 132, 151, 178, 190, 192, 232, 237, 252, 257, 267, 274, 299, 309, 351, 353, 366, 390, 398, 405, 422, 435, 459, 463, 465	False