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A New Look at Psychological Climate and Its Relationship to Job Involvement, Effort, and Performance

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This study investigated the process by which employee perceptions of the organizational environment are related to job involvement, effort, and performance. The researchers developed an operational definition of psychological climate that was based on how employees perceive aspects of the organizational environment and interpret them in relation to their own well-being. Perceived psychological climate was then related to job involvement, effort, and performance in a path-analytic framework. Results showed that perceptions of a motivating and involving psychological climate were related to job involvement, which in turn was related to effort. Effort was also related to work performance. Results revealed that a modest but statistically significant effect of job involvement on performance became nonsignificant when effort was inserted into the model, indicating the mediating effect of effort on the relationship. The results cross-validated well across 2 samples of outside salespeople, indicating that relationships are generalizable across these different sales contexts.

Unleashing the power of human potential in the workplace through creation of an involving and motivating organizational environment has been acclaimed as a key source of competitive advantage for business organizations (e.g., Lawler, 1992; Pfeffer, 1994). A prominent stream of literature has argued that when employees perceive the potential for satisfying their psychological needs in the workplace, they engage themselves more completely and invest greater time and effort in the organization's work (Kahn, 1990; Pfeffer, 1994). It has been argued that such processes lead to greater organizational productivity and competitiveness. Although anecdotal evidence suggests that favorable employee perceptions of organizational environments lead to superior performance, empirical research has not shown how (or whether) psychological climate and job involvement translate into higher performance. We investigated whether employee effort constitutes the mediating link relating psychological climate and job involvement to work performance.

Our purpose was to investigate the process by which psychological climate is related to employee involvement, effort, and performance. We evaluated the premise that favorable employee perceptions of the organizational environment are positively related to job involvement, effort, and performance. When employees perceive the organizational environment positively (i.e., as consistent with their own values and self-interests), they are likely to identify their personal goals with those of the organization and to invest greater effort pursuing them. We investigated specific perceptions of the organizational environment that constitute important aspects of psychological climate, as well as the process by which these are related to performance. Studying dimensions of psychological climate may reveal important aspects of the relationship between the employee and the organization that are related to greater involvement, effort, and performance.

This study built on ethnographic research by Kahn (1990) in order to develop an operational definition of psychological climate that is based on the extent to which employees perceive the organization to be a psychologically safe and meaningful work environment. It then related psychological climate to job involvement, effort, and performance in two independent samples of salespeople to demonstrate the process through which perceptions of the work environment are related to job attitudes, behavior, and performance. The hypothesized model specified six dimensions of the perceived work environment that are likely to be related to involvement, effort, and performance. It also tested whether effort constitutes a mediating link between job involvement and individual work performance.

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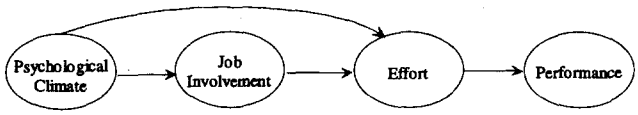

Figure 1. Hypothesized model.

Theoretical Development

The hypothesized model is presented in Figure 1. It posits that employee perceptions of the organization as a psychologically safe and meaningful work environment are positively related to job involvement, effort, and performance. In positing this model, we do not intend to imply that it represents the only, or even necessarily the primary path to performance. However, it does seek to explain the effects of psychological climate on job involvement, effort, and performance and the puzzling lack of a direct effect of job involvement on performance. Understanding the structure of relationships among these constructs is important both theoretically and practically.

Psychological Climate and Its Relation to Job Involvement

Psychological climate refers to how organizational environments are perceived and interpreted by their employees (L.R. James, Hater, Gent, & Bruni, 1978; L.A. James & L.R. James, 1989; L.R. James, L.A. James, & Ashe, 1990). L. R. James and his colleagues suggested that perceptions of the organizational environment take on personal meaning and motivational or emotional significance for employees through a process of "valuation," in which a cognitive representation of the features of the environment is interpreted in light of the individual's values and in terms of its significance for the individual's well-being. Thus, psychological climate is an individual rather than an organizational attribute, measured in terms of perceptions that are psychologically meaningful to the individual rather than in terms of concrete organizational features (L.R. James et al., 1978). It is important to study psychological climate because it is employees' perceptions and valuations of the environment rather than the environment itself that mediate attitudinal and behavioral responses (L.R. James & Jones, 1974; L.R. James et al., 1978).

Variation in the perceptions and valuations that constitute psychological climate is likely to result from individual differences among employees, from differences in situations (i.e., features of organizational environments), as well as from the interaction between the person and situation (Dansereau, Graen, & Haga, 1975; L.R. James et al., 1990). Perceptual biases and other individual factors may generate different perceptions of the same environment for different individuals. For example, research on leader–member exchange has demonstrated that considerable variation in employee perceptions of the organizational environment exists, even among employees who report to the same manager. The same manager may treat different subordinates differently because of dyadic relationship factors and/or differences in levels of abilities and willingness to contribute to organizational goals (Dansereau et al., 1975; Dienesch & Liden, 1986). Additional variation in psychological climate may result from different managerial styles within an organization and from different cultures in different organizations.

Psychological climate is also multidimensional. However, James and James (1989) demonstrated that a limited number of higher order dimensions can account for variation in relatively numerous specific features of the organizational environment. James and James derived four second-order valuation factors (role stress and lack of harmony; job challenge and autonomy; leadership facilitation and support; and work group cooperation, friendliness, and warmth) from 17 first-order factors. This pattern was reliable across four diverse samples. In turn, the four valuation factors loaded reliably on a single General Psychological Climate factor described as PC_g. This PC_g factor is described as representing the employee's global interpretation of "the degree to which the environment is personally beneficial versus personally detrimental (damaging or painful) to one's sense of well-being" (L.R. James et al., 1990, p. 53).

Our operational definition of psychological climate is based on ethnographic research by Kahn (1990), which described climate factors influencing employees' tendencies to engage themselves completely in their work or distance themselves psychologically from it. On the basis of Kahn's "thick description" of employee engagement–disengagement in two organizations, we operationalized six dimensions of psychological climate (i.e., the extent to which management is perceived as flexible and supportive, role clarity, freedom of self-expression, the employee's perceived contribution toward organizational goals, adequacy of recognition received from the organization, and job challenge), each of which is posited as an indicator of how psychologically safe and meaningful the employee perceives the organizational environment to be.

Our operational definition incorporates dimensions of climate (i.e., clarity, supportive management, and challenge) that are conceptually similar to the first three of L.R. James et al.'s (1990) higher order factors. Our operational definition also includes potentially important aspects of climate, such as self-expression, perceived contribution, and recognition, which are likely to be importantly related to job involvement, effort, and performance but have not previously been considered as elements of psychological climate. We did not operational-

ize a work-group–related dimension of psychological climate, primarily because our two samples consisted of outside salespeople, each of whom was their company's exclusive representative in a defined geographical territory. Hence typically, they did not work with coworkers, on a day-to-day basis. Our operational definition was developed specifically in an attempt to capture the psychological safety and meaningfulness dimensions described by Kahn (1990) as important elements of psychological climate that enhance employee involvement. The safety and meaningfulness dimensions represent a higher order level of meaning indicating an employee's interpretation of the significance of the organizational environment for personal well-being. These dimensions and their indicators are described below.

Psychological Safety

Kahn (1990) defined *psychological safety* as the employee's "sense of being able to show and employ one's self without fear of negative consequences to self-image, status, or career" (p. 708). Dimensions of climate that are likely to be indicative of psychological safety include the extent to which: (a) management is perceived as flexible and supportive and employees feel they have control over their work and the methods they use to accomplish it, (b) organizational roles and norms are perceived as clear, and (c) employees feel free to express their true feelings and core aspects of their self-concepts in their work roles. Each of these proposed indicators of perceived psychological safety is defined briefly below.

Supportive management. An issue that has important implications for psychological safety is whether management prescribes and expects highly regimented behavior or allows flexibility with respect to how tasks are accomplished. Managers differ in the ways they convey organizational demands and supervise and reinforce subordinates' behavior. Supportive management style allows subordinates to try and fail without fear of reprisals. It also gives them control over their work and the methods they use to accomplish it. Employees can experiment with new methods of achieving their goals and bring their creativity to bear on work problems they confront. In contrast, rigid and inflexible management control over work methods is likely to signal that management has little trust in employees or confidence in their abilities to carry out job duties without close supervision. The control, freedom of choice, and sense of security engendered by supportive management are likely to enhance motivation and induce greater job involvement (Argyris, 1964; Deci & Ryan, 1985; Kahn, 1990).

Clarity. When role expectations and work situations are unclear, inconsistent, or unpredictable, psychological safety is undermined and involvement is likely to be low. In contrast, clear expectations and consistent, predictable work norms create a psychologically safe environment and increase job involvement (House & Rizzo, 1972; Kahn, 1990).

Self-expression. When employees expect that they will incur organizational sanctions for expressions of individuality in their work roles, they are likely to distance themselves from their work roles, resulting in psychological disengagement from work. That is, when psychological safety is lacking, employees are, at best, likely to carry out their work roles in a scripted and perfunctory manner. On the other hand, when employees feel psychologically safe in their work roles, they are more likely to infuse their personalities, creativity, feelings, and self-concepts into their work roles. Under such conditions, they are likely to internalize the work role, personalize it, and treat it as an expression of core aspects of the self-concept. Such personalized role performances are likely to indicate a high degree of perceived psychological safety in the work role and organizational environment. They are also likely to reflect the employee's acceptance of and identification with work role expectations. Employees will be more involved in their jobs when they feel safe in expressing core aspects of their self-concepts (Argyris, 1964; Kahn, 1990; Schlenker, 1986). Thus, perceived freedom of self-expression is likely to be positively related to job involvement.

Psychological Meaningfulness

Kahn (1990) defined *psychological meaningfulness* as "a feeling that one is receiving a return on investments of one's self in a currency of physical, cognitive, or emotional energy" (pp. 703–704). People experience their work as meaningful when they perceive it to be challenging, worthwhile, and rewarding. Dimensions of psychological climate that are indicative of psychological meaningfulness include the extent to which employees feel that (a) they make a significant contribution toward achievement of organizational goals, (b) the organization adequately recognizes their contributions, and (c) their work is challenging and conducive to personal growth. Each of these proposed indicators of psychological meaningfulness is described briefly below.

Perceived meaningfulness of contribution. The perception that one's work significantly affects organizational processes and outcomes is likely to contribute to the perceived meaningfulness of work and enhance employees' identification with their work roles (e.g., Kahn, 1990; White, 1959). When employees believe they are contributing meaningfully toward organizational goals, they are likely to be more involved in their jobs.

Recognition. Belief that the organization appreciates and recognizes one's efforts and contributions is likely to increase the perceived meaningfulness of work. Employees who feel that their contributions are appropriately recognized will come to identify with their jobs and be more involved (Kahn, 1990).

Challenge. Personal growth in the work role can only occur when work is challenging and requires the use of creativity and a variety of skills (Hackman & Oldham, 1980; Kahn, 1990). Challenging work induces employees to invest greater amounts of their physical, cognitive, and emotional resources in their work and is likely to result in greater perceived meaningfulness of the work experience.

In the manner described above, each of these facets of psychological climate is likely to contribute to a work environment perceived by employees as psychologically safe and meaningful. Thus, the climate they create should be positively related to job involvement.

Job Involvement

Job Involvement has been defined as a cognitive belief state of psychological identification with one's job (Kanungo, 1982; Lawler & Hall, 1970; Lodahl & Kejner, 1965; Rabinowitz & Hall, 1977). Lodahl and Kejner also defined job involvement in terms of performance–self-esteem contingency, but this conceptual definition is not reflected in the most commonly used measures of job involvement (Kanungo, 1982; Rabinowitz & Hall, 1977). Antecedent influences on job involvement include job characteristics such as autonomy, skill variety, task identity and significance (Hackman & Oldham, 1980), supervisory behaviors such as consideration (Lance, 1991) and participation (Smith & Brannick, 1990), and individual differences such as internal motivation (Gardner, Dunham, Cummings, & Pierce, 1989) and Protestant work ethic (Brockner, Grover, & Blonder, 1988).

Although these antecedent relationships are well established, it is less clear what relationships link job involvement to job behaviors and outcomes, such as effort and work performance. In fact, empirical research on job involvement does not appear to support anecdotal claims regarding the potentially powerful effects of job involvement on performance. A recent meta-analysis (Brown, in press) found a mean attenuation-corrected correlation of only .088 in 25 studies of the job involvement–performance relationship. Thus, it is unclear if there is a relationship or whether an unidentified mediational process links involvement to performance. This study investigates whether the relationship between job involvement and performance is indirect and mediated by effort.

Job Involvement → Effort

With respect to the job involvement–effort relationship, some studies have found a substantial correlation (e.g., Efraty & Sirgy, 1990; Paterson & O'Driscoll, 1990), whereas others have not (e.g., Gardner et al., 1989; Jamal & Baba, 1991). Although reasons for these differences are unclear, one possibility is that most studies have used idiosyncratic measures of effort. These generally have not been well grounded conceptually, and various measures may have tapped different facets and varying proportions of the construct's domain. We have developed an effort measure that is more consistent with accepted conceptual definitions (e.g., Campbell & Pritchard, 1976; Naylor, Pritchard, & Ilgen, 1980). No previous studies have assessed the path structure of relationships linking job involvement, effort, and performance.

Empirical consideration of effort has not improved much since Campbell and Pritchard (1976) observed, "[O]rganizational psychology is without any clear specification of the meaning of effort and consequently there is no operationalization of the variable that possesses even a modicum of construct validity" (p. 92). Conceptually, the effort construct consists of three components: duration (or time commitment), intensity (or force), and direction (see Campbell & Pritchard, 1976; Kanfer, 1991; Naylor et al., 1980). We have focused on the time commitment and work intensity dimensions of effort. Time commitment and work intensity constitute the essence of working hard. Although the multitude of decisions employees make regarding allocation of effort across tasks constitutes an additional important dimension of effort, it also entails considerable complexity (e.g., related to knowledge structures and cognition, or *working smart*) that falls outside the scope of this study.

The hypothesized model posits that job involvement is positively related to effort. The more individuals identify psychologically with their work, the greater the amount of time and energy they are likely to commit to work activities (Kahn, 1990). As previously noted, however, empirical evidence regarding this relationship has been mixed and inconclusive, perhaps as a result of inconsistencies and weaknesses in measurement of effort.

Psychological Climate → Effort Relationship

At the most basic level, employees have two resources, time and energy, to devote to the organization. These resources, which we use to operationalize effort, are ultimately completely under the employee's control. Given this high degree of volitional control, effort is likely to be sensitive to employees' perceptions of psychological climate. When employees perceive that the organization accommodates their psychological needs in the workplace, they are likely to respond by investing time and energy in the work of the organization. This leads to prediction of a direct positive relationship between psychological climate and employee effort.

Effort → Performance

The hypothesized model also predicts a positive relationship between effort and performance. A number of previous empirical studies (e.g., Blau, 1993; Gardner et al., 1989) have found a positive relationship between

effort and performance. The model predicts that effort will also mediate the relationship between job involvement and performance. Parsons (1968) defined *effort* as the means by which motivation is translated into accomplished work, implying that it plays a mediating role between the unobservable psychological state of motivation and work outcomes. Similarly, it is likely that effort will provide the mediating behavioral linkage between job involvement and work performance.

Method

Samples

Data were collected from two independent samples of salespeople. Sample 1 included sales representatives from three different companies, a paper goods manufacturer ($n = 77$) and two office supplies manufacturing companies ($n = 85$ and $n = 16$). Representatives of the paper goods manufacturer called primarily on retail accounts such as supermarkets and were concerned with arranging promotions and managing relationships with the retailers. Representatives of the office products companies called on a wide variety of business and nonprofit organizations, and their primary concern was new business development. The companies were pooled into a single sample with a combined sample size of 178.

A test was conducted to assess the appropriateness of pooling the three companies into a single sample. The test consisted of assessing the overall equality of the interconstruct covariance matrices by means of a test described by Werts, Rock, Linn, & Joreskog, (1976). Because there was only a small number of respondents from one of the office supply companies, the two companies from that industry were combined and compared with the paper goods company. The test revealed no overall difference between the covariance matrices of the office supplies companies and the paper goods manufacturer; $\chi^2(6, N = 77$ and $N = 101) = 2.79, ns)$.

Manager ratings of performance were received for 121 of the salespeople. Men constituted 76% of Sample 1, average age was 31, and average company tenure was 6 years. The response rate was 63%. The average number of salespeople reporting to the same manager was 7.56. Analyses were conducted on the 121 observations for which the data were complete.

Sample 2 consisted of sales representatives of a large medical products company ($n = 161$). Manager ratings of performance were received for 112 of these salespeople. These salespeople sold a diverse line of medical products to hospitals, physicians' offices, clinics, and distributors. Men constituted 65%, average age was 35 years, average company tenure was 6 years, and the response rate was 85%. The average number of salespeople reporting to the same manager in sample two was 7.47. Analyses were conducted on the 112 observations for which the data were complete.

Measures

Psychological climate. A 22-item measure of psychological climate that was based on Kahn's (1990) ethnographic study of organizational factors related to self-engagement in work was developed. The instrument was designed to capture the dimensions of psychological climate described above.

The relationships between the six first-order dimensions of Climate and the higher order Psychological Safety and Meaningfulness dimensions were assessed by means of second-order confirmatory factor analysis (CFA). A model was specified in which first-order factors representing Supportive Management, Clarity, and Self-Expression loaded on Psychological Safety, and first-order factors representing perceived Contribution, Recognition, and Challenge loaded on Meaningfulness. Simultaneous estimation of this model on both samples with parameters free to vary between groups resulted in a fit of $\chi^2(404, N's = 121$ and $N = 112) = 643.84$, goodness-of-fit index (GFI) = .781, root mean square residual (RMSR) = .141, and RMS error of approximation (RMSEA) = .083. This represents an adequate fit for a complex model with a large number of indicators estimated simultaneously on two samples. The ratio of chi square to degrees of freedom was significantly less than two, and RMSEA (an index that is less sensitive than GFI to the size and complexity of the model) was well within the acceptable range (Browne & Cudeck, 1993). The GFI of this model was then compared with that of a model that included only a single second-order factor. In this model, the single second-order factor can be considered to represent what James et al. (1990) refer to as PC_g, or a *general Psychological Climate* factor. Fitting this model resulted in a $\chi^2(406, N = 121$ and $N = 112) = 649.68$, GFI = .781, RMSR = .141, RMSEA = .083. The decrement in fit compared with the two-factor model; $\chi^2(2) = 5.84, p < .10$, did not quite reach statistical significance. Although the marginally significant chi-square difference in fit between the one- and two-factor models suggested some ability of the model to discriminate between second-order Psychological Safety and Meaningfulness factors, the correlation between them was very high in both samples (.888 and .965). Thus, it appeared that a single higher order factor (PC_g) represented the data parsimoniously and with reasonable accuracy. This single factor can be construed in a manner consistent with L.R. James et al. as "a cognitive appraisal of the degree to which the work environment is personally beneficial versus personally detrimental to the organizational well-being of the individual" (pp. 53–54). The single factor, indicated by six composite psychological climate scales, was used in subsequent analyses. Parameter estimates for the single-factor CFA model for both samples are presented in the Appendix (see Figure A1).

Composite measures of each of the six first-order dimensions were used as observed indicators of the global climate construct. Measurement items are listed in the Appendix. All were measured on 7-point Likert-type scales (anchored by *strongly agree* and *strongly disagree*).

Job involvement. A frequently used four-item version of the Lodahl and Kejner (1965) scale (Lawler & Hall, 1970) was used to measure job involvement. These items assess the "psychological identification with work" definition of *job involvement* (Rabinowitz & Hall, 1977). The response format was a 5-point Likert-type scale (*strongly agree* to *strongly disagree*). Coefficient alpha was .69 in Sample 1 and .73 in Sample 2.

Effort. An extensive search of the literature indicated the lack of a generally accepted measure of Effort that assessed the time commitment (persistence) and work intensity (energy exerted per unit of time) dimensions of Effort (Naylor et al., 1980). Hence, we developed measures to assess these dimen-

sions of Effort. Consistent with Naylor et al.'s conceptual definition, the scales measure employees' characteristic tendencies to work long and hard as means of achieving success rather than their activity during a specific time period. Time commitment and work intensity were measured with five items each. The items are reported in the Appendix (coefficient alpha $\geq .82$ for each scale in both samples). The response format was a 7-point Likert-type scale (anchored by *strongly agree* and *strongly disagree*). Results of a CFA of the 10 items representing the two correlated effort factors are presented in the Appendix (see Figure A2). Each five-item measure was averaged and used as a manifest indicator of the latent effort construct. Coefficient alpha for the two composite indicators of effort was .64 in Sample 1 and .59 in Sample 2.

Performance. Three dimensions of work performance (achieving sales objectives, extent of technical knowledge, and administrative performance) were measured by manager ratings of salespeople on an instrument developed by Behrman and Perreault (1982). The response format consisted of 7-point bipolar scales anchored by *needs improvement* and *outstanding*. The individual items forming each of the three factors were averaged to form composite indices. These three indices were then used as manifest indicators of the latent performance construct. Coefficient alpha for the three indicators was .88 in both samples.

Results

Descriptive statistics for the manifest variables for both samples are presented in Table 1. The hypothesized model was estimated for both samples simultaneously. Fitting the two-group model with all measurement and structural parameters constrained to equality between samples resulted in a fit of $\chi^2(129, N = 121$ and $N = 112) = 223.01$, GFI = .866, RMSR = = .116. These indices suggest an adequate fit to the data. All but one (climate → effort) of the hypothesized paths were statistically significant in the predicted direction. The nonsignificance of the direct climate → effort path ($t = 1.71$, $p > .05$) indicated that the relationship between Psychological Climate and Effort was completely mediated by Job Involvement. Standardized path coefficients are reported in Figure 2.

To test for the mediating effects of effort on the job involvement–performance relationship, we then estimated the reduced model shown in Figure 3, which did not include the Effort construct. The model was fitted simultaneously to the data from both samples with a two-group LISREL model. The purpose of estimating the reduced model was to assess the strength and significance of the unmediated job involvement–performance relationship. Fitting the model with all measurement and structural parameters constrained to equality between samples resulted in a fit of $\chi^2(89, N = 121$ and $N = 112) = 162.19$, GFI = .916, RMSR = .115. All paths, including the job involvement → performance linkage, were statistically significant. No additional paths would have significantly improved the fit of the model. Freeing the

Table 1
Descriptive Statistics

Variable	Sample 1 *M*	Sample 1 *SD*	Sample 2 *M*	Sample 2 *SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. Management support	5.52	1.11	5.68	0.96		.39***	.45***	.29**	.43***	.18	.21*	.05	.16	.28**	.25**	.26**
2. Clarity	5.05	1.34	5.06	1.24	.38***		.36***	.28**	.42***	.22*	.02	−.04	.15	.19*	.12	.12
3. Self-expression	4.81	1.27	4.69	0.98	.58***	.47***		.49***	.65***	.27**	.18	−.17	.13	.10	.07	.16
4. Contribution	5.48	0.89	5.51	0.80	.37***	.36***	.52***		.53***	.45***	.32***	.19*	.38**	.24**	.25**	.26**
5. Recognition	5.01	1.15	5.21	1.06	.59***	.44***	.51***	.53***		.28**	.15	−.08	.14	.11	.10	.10
6. Challenge	6.27	0.86	6.40	0.69	.27**	.35***	.23*	.51***	.38***		.25**	.12	.20*	−.07	.00	.15
7. Job involvement	2.78	0.76	2.84	0.84	.19*	.15	.33***	.25**	.19*	.14		.39***	.30**	.06	.04	.20*
8. Time commitment	4.60	1.15	4.59	1.01	.09	−.11	.17	.23*	.02	.18*	.23*		.45***	.17	.19*	.20*
9. Work intensity	5.85	0.75	5.81	0.77	.25**	.14	.23*	.41***	.24**	.34***	.24**	.50***		.17	.14	.16
10. Sales volume	4.61	1.15	4.93	1.11	.27**	−.19*	.13	.06	.01	−.02	.18*	.36***	.26**		.81***	.67***
11. Knowledge	4.75	1.02	5.05	0.95	.19*	−.23*	.12	.05	.02	−.02	.13	.31***	.20*	.81***		.74***
12. Administration	4.73	1.14	4.94	1.13	.11	−.18*	.06	−.04	−.01	−.07	.15	.22*	.14	.68***	.71***	

Note. Correlations for Sample 1 are on the lower diagonal ($n = 121$), and correlations for Sample 2 are on the upper diagonal ($n = 112$).
*$p < .05$. **$p < .01$. ***$p < .001$.

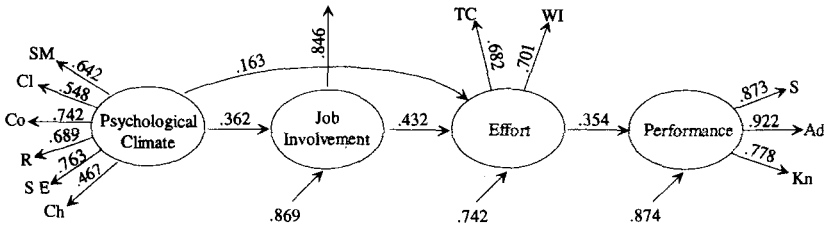

Figure 2. Parameter estimates for both samples. All paths were statistically significant at $p < .01$, except for the Climate–Effort path ($p < .10$). SM = Supportive Management; Cl = Clarity; Co = Contribution; R = Recognition; SE = Self Expression; Ch = Challenge; TC = Time Commitment; WI = Work Intensity; S = Sales Volume; Ad = Administrative Performance; Kn = Knowledge.

measurement and structural parameters to vary between samples did not significantly improve the fit; total gain in $\chi^2(20) = 21.23$, $p > .25$, indicating that the reduced model cross-validated very well.

A direct job involvement → performance path was then added to the basic model to assess its significance after Effort was inserted as a mediator of the relationship. This path did not significantly improve the fit; gain in $\chi^2(1) = .11$, $p > .50$. Thus, the effect of job involvement on performance, which was significant in the reduced model, was not significant when effort was added, indicating that the relationship between job involvement and performance is indirect and mediated by effort. Also, explained variance in performance increased by almost 10% (from 3% to 13%) when effort was added to the model.

To assess the robustness of relationships, we released various sets of parameters sequentially to assess the stability of the estimates between samples. The results are presented in Table 2. Allowing measurement and structural parameters to vary between samples did not significantly improve model fit. The overall gain from freeing all parameters to vary between samples, $\chi^2(26) = 27.49$, $p > .10$, was not significant. This indicates a high degree of stability in both the measurement and structural relationships across these different organizational contexts.

Discussion

This study describes a process through which employee perceptions of the work environment are related to job involvement, effort, and performance. The model shows how an environment that is perceived as psychologically safe and meaningful by employees is related to greater job involvement and commitment of time and energy in the work of the organization. In turn, greater involvement and effort are positively related to superior performance. The results illustrate the importance of each link in the chain in understanding employee attitudes, behavior, and performance.

The results clearly indicate that an organizational environment perceived by employees as psychologically safe and meaningful is positively related to productivity through the mediation of job involvement and effort. When management was perceived as supportive, work roles were clear, and employees felt free to express and be themselves, felt that they were making a meaningful contribution, felt appropriately recognized for their contribution, and perceived their work as challenging, employees were more job involved and exerted greater effort. The observed effects were highly consistent across the two samples.

The results also clearly demonstrate that effort mediates the relationship between job involvement and work performance. A modest but statistically significant direct relationship between job involvement and performance became nonsignificant when effort was included in the model. Including effort in the model also increased explained variance in performance by almost 10%. The results also showed that the effect of psychological climate on effort was indirect and mediated by job involvement.

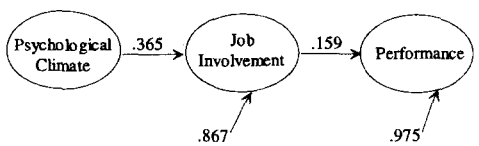

Figure 3. Reduced model.

Table 2
Gains in Model Fit From Freeing Measurement and Structural Parameters Between Samples

Model	χ^2	*df*	χ^2 gain	*df* gain
Parameters invariant	223.01	129		
Free climate indicators	206.60	118	16.41	11
Free endogenous indiators	202.69	110	3.91	8
Free structural model	195.52	103	7.17	7
Total gain			27.49	26

These findings were consistent across two independent samples.

These results help to confirm and explain the beneficial effects of psychological climate and job involvement on performance (e.g., Lawler, 1992; Pfeffer, 1994). They indicate specific dimensions of psychological climate that are related to employee involvement, effort, and performance and suggest a process through which these relationships occur. Although employee perceptions rather than actual features of the environment were measured, these dimensions of climate suggest perceptions that organizations can attempt to cultivate in efforts to create involving and motivating work environments. Further research needs to be done to assess the effects of organizational interventions designed to influence employee perceptions of these dimensions of psychological climate.

Several caveats should be noted. Our measure of psychological climate may not have comprehensively assessed environmental factors that affect the outcome variables. Even so, the measure was theoretically grounded, reliable and valid, and predictably related to both job involvement and effort. Moreover, there were no significant differences in loadings of the measured dimensions of climate on the latent construct between the two samples, further suggesting their validity as indicators of psychological climate.

Also, internal consistency of the effort measure was lower than desirable. This most likely resulted from the fact that the measure assessed two moderately correlated dimensions of the effort construct (see Campbell & Pritchard, 1976; Naylor et al., 1980). This measure operationalized effort in a manner consistent with accepted conceptual definitions. The distribution of scores on the work intensity scale also suggested the possibility of some range restriction on this measure. This was not true of the time commitment scale. However, it should be noted that any attenuation of relationships from unreliability or range restriction would work against and not in favor of confirmation of the hypothesized relationships.

Although the results were highly stable across two independent samples, both samples consisted of salespeople, and we cannot generalize our findings beyond that profession. It is possible that some aspect of the boundary-spanning role played by salespeople (Pruden & Reese, 1972) contributed to the results. If so, the effects at least are not specific to a single sample or one particular sales context. Both the measurement and structural relationships were invariant between samples.

Even though effort explained a significant amount of incremental variance in performance, total explained variance in performance was relatively small. Our study considered a specific motivational process in relation to work performance but did not consider other general types of performance predictors, such as declarative knowledge and procedural knowledge and skill (Campbell, 1990). It seems likely that general knowledge and ability may be related to performance through different mechanisms than working harder. This study has shown that psychological climate and job involvement influence people's tendencies to work long and hard. It is possible that the same climatic factors and job involvement might also be positively related to working "smarter" (e.g., allocating available time and energy more effectively, working more creatively and/or more cooperatively), also leading to better performance. It is also possible that other mechanisms not considered in this study (e.g., various forms of gain-sharing plans) might influence tendencies to work harder or smarter. It is likely that processes related to working harder (such as those observed in this study) and those related to working smarter each explain unique variance in performance. It would be interesting to compare the relative strengths of these two routes to performance and assess the possibility of interaction effects between them in future research.

It is also possible that alternative models exist that would be as consistent with the data as the hypothesized model. Models incorporating the possibility of reciprocal causation between constructs would be especially interesting to consider (e.g., between effort and involvement in a manner consistent with cognitive dissonance and self-perception theories). Model identification constraints did not permit estimation of reciprocal causal paths in the context of this model, but they are worth considering in future research.

In conclusion, this study has demonstrated an important series of linkages relating psychological climate and job involvement to work performance and indicated that an organizational environment that is perceived as psychologically safe and meaningful is related directly to job involvement and indirectly to effort and work performance. Other processes by which perceptions of the organizational environment and employee involvement result in favorable work outcomes remain to be explored in future research.

References

Argyris, C. (1964). *Integrating the individual and the organization.* New York: Wiley.

Behrman, D. N., & Perreault, W. D., Jr. (1982). Measuring the performance of industrial salespersons. *Journal of Business Research, 10,* 355–370.

Blau, G. J. (1993). Operationalizing direction and level of effort and testing their relationships to individual job performance. *Organizational Behavior and Human Decision Processes, 55,* 152–170.

Brockner, J., Grover, S. L., & Blonder, M. D. (1988). Predictors of survivors' job involvement following layoffs: A field study. *Journal of Applied Psychology, 73,* 436–442.

Brown, S. P. (in press). A meta-analysis and review of organizational research on job involvement. *Psychological Bulletin.*

Browne, M. W., & Cudeck, R. (1993). Alternative ways of as-

sessing model fit. In K. A. Bollen, & J. S. Long, (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. Dunnette & L. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed.; Vol. 1, pp. 687–732). Palo Alto, CA: Consulting Psychologists Press.

Campbell, J. P., & Pritchard, R. D. (1976). Motivation theory in industrial and organizational psychology. In M. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 63–130). Chicago: Rand McNally.

Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance, 13,* 46–78.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* New York: Plenum.

Dienesch, R. M., & Liden, R. C. (1986). Leader–member exchange model of leadership: A critique and further development. *Academy of Management Review, 11,* 618–634.

Efraty, D., & Sirgy, M. J. (1990). The effects of quality of working life (QWL) on employee behavioral responses. *Social Indicators Research, 22,* 31–47.

Gardner, D. G., Dunham, R. B., Cummings, L. L., & Pierce, J. L. (1989). Focus of attention at work: Construct definition and empirical validation. *Journal of Occupational Psychology, 62,* 61–77.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign.* Reading, MA: Addison-Wesley.

House, R. J., & Rizzo, J. R. (1972). Role conflict and ambiguity as critical variables in a model of organizational behavior. *Organizational Behavior and Human Performance, 7,* 467–505.

Jamal, M., & Baba, V. V. (1991). Type A behavior, its prevalence and consequences among women nurses: An empirical examination. *Human Relations, 44,* 1213–1228.

James, L. A., & James, L. R. (1989). Integrating work environment perceptions: Explorations into the measurement of meaning. *Journal of Applied Psychology, 74,* 739–751.

James, L. R., Hater, J. J., Gent, M. J., & Bruni, J. R. (1978). Psychological climate: Implications from cognitive social learning theory and interactional psychology. *Personnel Psychology, 31,* 783–813.

James, L. R., James, L. A., & Ashe, D. K. (1990). The meaning of organizations: The role of cognition and values. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 41–84). San Francisco: Jossey-Bass.

James, L. R., & Jones, A. P. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin, 81,* 1096–1112.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33,* 692–724.

Kanfer, R. (1991). Motivation theory and industrial and organizational psychology. In M. D. Dunnett & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 75–170). Palo Alto, CA: Consulting Psychologists Press.

Kanungo, R. N. (1982). Measurement of job and work involvement. *Journal of Applied Psychology, 67,* 341–349.

Lance, C. E. (1991). Evaluation of a structural model relating job satisfaction, organizational commitment, and precursors to voluntary turnover. *Multivariate Behavioral Research, 26,* 137–162.

Lawler, E. E., III. (1992). *The ultimate advantage: Creating the high-involvement organization.* San Francisco: Jossey-Bass.

Lawler, E. E., III, & Hall, D. T. (1970). Relationship of job characteristics to job involvement, satisfaction, and intrinsic motivation. *Journal of Applied Psychology, 54,* 305–312.

Lodahl, T. M., & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology, 49,* 24–33.

Naylor, J. C., Pritchard, R. D., & Ilgen, D. R. (1980). *A theory of behavior in organizations* New York: Academic Press.

Parsons, T. (1968). *The structure of social action.* New York: Free Press.

Paterson, J. M., & O'Driscoll, M. P. (1990). An empirical assessment of Kanungo's (1982) concept and measure of job involvement. *Applied Psychology: An International Review, 39,* 293–306.

Pfeffer, J. (1994). *Competitive advantage through people: Unleashing the power of the work force.* Boston: Harvard Business School Press.

Pruden, H. O., & Reese, R. M. (1972). Interorganizational role-set relations and the performance and satisfaction of industrial salesmen. *Administrative Science Quarterly, 17,* 601–609.

Rabinowitz, S., & Hall, D. T. (1977). Organizational research on job involvement. *Psychological Bulletin, 84,* 265–288.

Schlenker, B. R. (1986). Self-identification: Toward an integration of the private and public self. In R. F. Baumeister (Ed.), *Public self and private self* (pp. 21–56). New York: Springer Verlag.

Smith, C. S., & Brannick, M. T. (1990). A role and expectancy model of participative decision-making: A replication and theoretical extension. *Journal of Organizational Behavior, 11,* 91–104.

Werts, C. E., Rock, D. A., Linn, R. L., & Joreskog, K. G. (1976). Comparison of correlations, variances, covariances, and regression weights with or without measurement error. *Psychological Bulletin, 83,* 1007–1013.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66,* 297–333.

Appendix

Psychological Climate and Effort Measures

Psychological Climate

Supportive Management (α = .83 and .85)

S1. My boss is flexible about how I accomplish my job objectives.
S2. My manager is supportive of my ideas and ways of getting things done.
S3. My boss gives me the authority to do my job as I see fit.
S4. I'm careful in taking responsibility because my boss is often critical of new ideas. [reverse scored]
S5. I can trust my boss to back me up on decisions I make in the field.

Role Clarity (α = .78 and .76)

Cl1. Management makes it perfectly clear how my job is to be done.
Cl2. The amount of work responsibility and effort expected in my job is clearly defined.
Cl3. The norms of performance in my department are well understood and communicated.

Contribution (α = .78 and .71)

Co1. I feel very useful in my job.
Co2. Doing my job well really makes a difference.
Co3. I feel like a key member of the organization.
Co4. The work I do is very valuable to the organization.

Recognition (α = .76 and .70)

R1. I rarely feel my work is taken for granted.
R2. My superiors generally appreciate the way I do my job.
R3. The organization recognizes the significance of the contributions I make.

Self-Expression (α = .83 and .73)

E1. The feelings I express at work are my true feelings.
E2. I feel free to be completely myself at work.
E3. There are parts of myself that I am not free to express at work. [reverse scored]
E4. It is okay to express my true feelings in this job.

Challenge

Ch1. My job is very challenging.
Ch2. It takes all my resources to achieve my work objectives.

Effort

Time Commitment (α = .86 and .82)

TC1. Other people know me by the long hours I keep.
TC2. My clients know I'm in the office early and always leave late.
TC3. Among my peers, I'm always the first to arrive and the last to leave.
TC4. Few of my peers put in more hours weekly than I do.
TC5. I put in more hours throughout the year than most of our salespeople do.

Work Intensity (α = .82 and .83)

WI1. When there's a job to be done, I devote all my energy to getting it done.
WI2. When I work, I do so with intensity.
WI3. I work at my full capacity in all of my job duties.
WI4. I strive as hard as I can to be successful in my work.
WI5. When I work, I really exert myself to the fullest.

Figures A1 and A2 present results of confirmatory factor analyses of the Psychological Climate and Effort measures, respectively.

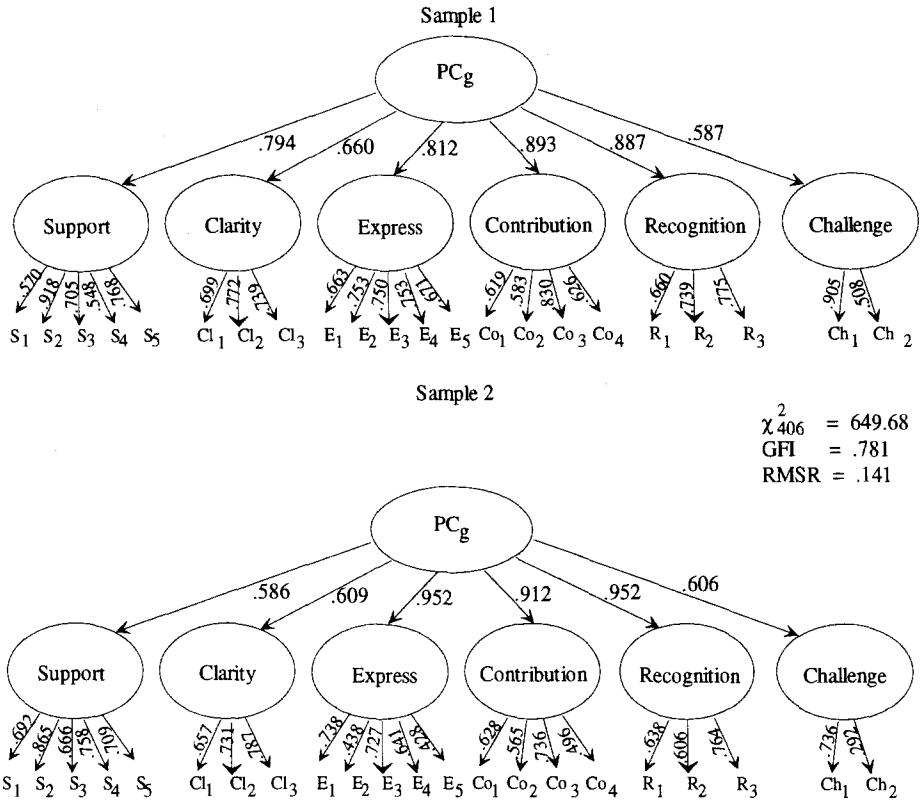

Figure A1. Single-factor, second-order confirmatory factor analysis for general Psychological Climate (PC_g). S = Support; Cl = Clarity; E = Self-Expression; Co = Contribution; R = Recognition; Ch = Challenge; GFI = goodness of fit index; RMSR = root mean square residual.

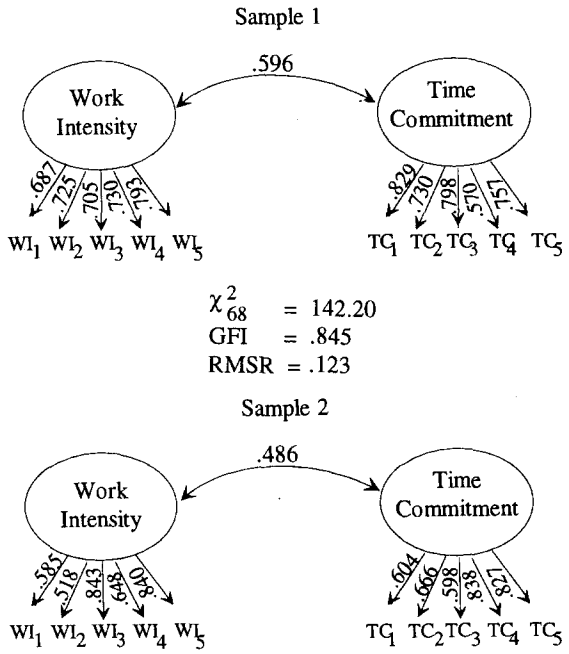

Figure A2. Confirmatory factor analysis of Effort measures. WI = Work Intensity; TC = Time Commitment; GFI = goodness of fit index; RMSR = root mean square residual.

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