Individual Reactions to High Involvement Work Processes:
Investigating the Role of Empowerment and Perceived Organizational Support

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This study sought to understand how high involvement work processes (HIWP) are processed at the employee level. Using structural equation modeling techniques, the authors tested and supported a model in which psychological empowerment mediated the effects of HIWP on job satisfaction, organizational commitment, job performance, and job stress. Furthermore, perceived organizational support (POS) was hypothesized to moderate the relationships between empowerment and these outcomes. With exception for the empowerment-job satisfaction association, support was found for our predictions. Future directions for research and the practical implications of our findings for both employees and organizations are discussed.

Keywords: high involvement work processes, empowerment, perceived organizational support

A variety of participatory work systems have been proposed during the past 2 decades (for a review see Wright & Boswell, 2002), each purporting to produce beneficial effects for both organizations and employees. High involvement work processes (HIWP; Lawler, 1996) are one such system, and like most participatory initiatives, HIWP seek to expand employee autonomy and participation in work-related decision making. The popularity of these work systems is an important reflection of how work organization is changing in modern industrial economies, particularly the trend toward flatter organizational structures (National Institute for Occupational Safety and Health [NIOSH], 2002). Because participatory work systems are often viewed by managers as being beneficial for both workers and organizations (Leana & Florkowski, 1992), they are a particularly relevant research topic for occupational health psychology. However, this duality of benefits idea is not without controversy, as some have argued that the beneficial effects for workers can sometimes be more symbolic than substantive in nature (Landsbergis, 2003).

Using HIWP as the case in point, the present study examines two basic questions about participatory work systems. The first question concerns how or why these systems produce positive changes in employee attitudes and job performance. Most research has been limited to showing direct statistical associations between participatory work systems and employee outcomes, whereas very little is known about the process by which they lead to desired outcomes (Bowen & Ostroff, 2004). Therefore, in an attempt to uncover the “how” of participatory work systems, we suggest that psychological empowerment (Spreitzer, 1995) is a proximal outcome of HIWP and serves as an important intervening variable for the relationship between HIWP and employee outcomes.

The second question addresses the role of organizational support in the success or failure of participatory work systems. The first question concerns how or why these systems produce positive changes in employee attitudes and job performance. Most research has been limited to showing direct statistical associations between participatory work systems and employee outcomes, whereas very little is known about the process by which they lead to desired outcomes (Bowen & Ostroff, 2004). Therefore, in an attempt to uncover the “how” of participatory work systems, we suggest that psychological empowerment (Spreitzer, 1995) is a proximal outcome of HIWP and serves as an important intervening variable for the relationship between HIWP and employee outcomes.
promote or inhibit the effectiveness of outcomes resulting from implementation of HIWP. Because of the beneficial reciprocity in behaviors suggested by theories of organizational support (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Huntington, Hutchison, & Sowa, 1986), employee perceptions of a supportive work environment may be particularly important, especially with regard to empowerment and its effects on employee outcomes.

Figure 1 presents our preliminary model of individual reactions to HIWP. As can be seen in the figure, it is expected that HIWP have effects on job satisfaction, organizational commitment, job performance, and job stress that are fully mediated by psychological empowerment. Further, we propose that perceptions of organizational support moderate the impact of empowerment on these employee outcomes. The theoretical reasoning for these proposed relationships is discussed in the following sections.

High Involvement Work Processes

The term high involvement work processes refers to one type of participatory initiative that emerged in the literature over a decade ago (Lawler, 1992). Its emergence was largely a practitioner-driven effort targeting managers and consultants. Like most participatory initiatives, HIWP involve employees in key aspects of decision-making that have traditionally been reserved for management (Leana, Ahlbrandt, & Murrell, 1992). What differentiates HIWP from other initiatives, though, is that they provide employees with a system of inclusion (PIRK) that simultaneously embraces the benefits of increased power (P) to make decisions, access to critical information (I), exposure to rewards (R) linking individual performance to organizational outcomes, and opportunity to expand organizational- and task-related knowledge (K) (Leana et al., 1992; Lawler, 1996).

Figure 1. Proposed model of individual reactions to high involvement work processes (HIWP) and moderating effects of perceived organizational support (POS). Org = organizational.
The basic premise underlying HIWP is that organizational practices driving PIRK (and hence, HIWP) result in favorable outcomes because of employees working both harder (i.e., being more motivated) and smarter (i.e., using cognitive abilities efficiently).

Several studies provide general support for the above premise. For example, Lawler, Ledford, and Mohrman (1989) found that manufacturing facilities characterized by HIWP significantly out-produced comparable facilities. Similarly, Vandenberg, Richard, and Eastman (1999) reported that organizations with employees who collectively perceived high levels of HIWP had greater returns on equity and lower levels of employee turnover than organizations with employees who collectively perceived low levels of HIWP. In both of these studies, HIWP were also strongly associated with employee attitudinal indices such as job satisfaction, commitment to the organization, and commitment to quality.

The Role of Psychological Empowerment

Empowerment is generally viewed as a motivational vehicle through which employees not only wish but also are able to affect their work roles and work context (Spreitzer, 1995; Thomas & Velthouse, 1990). Spreitzer’s (1995, 1996) definition of empowerment includes four dimensions that together reflect an individual’s proactive, rather than passive, orientation toward his or her work role. These dimensions are meaning, competence, self-determination, and impact. Meaning refers to the value placed on work, which is driven by the fit between the requirements of the job and the individual’s own beliefs, values, and behaviors (Hackman & Oldham, 1980; Spreitzer, 1995). Stated differently, meaning is the extent to which the job is viewed as being meaningful, valuable, and worthwhile (House, McMichael, Wells, Kaplan, & Landerman, 1979). Competence is analogous to self-efficacy and represents a belief that one is able to perform tasks at a skill level that is expected to lead to superior job performance (Spreitzer, 1995). Self-determination refers to an employee’s perception of the degree of choice, control, and autonomy allowed in daily job activities. Finally, impact refers to an individual’s ability to influence outcomes in his or her immediate work context such as a department or work group (Ashforth, 1989; Spreitzer, 1995). Impact is different from self-determination; self-determination focuses on the sense of control one has over his or her own work, whereas impact refers to the perceived control an individual has over aggregate, organization-related outcomes.

As mentioned previously, we propose that psychological empowerment is an important proximal outcome of HIWP. In general, HIWP are geared toward providing opportunities that enhance employee initiative and innovation, thereby creating a work environment in which employees possess the degree of PIRK needed for their tasks and responsibilities (Lawler, 1996). Because of this purpose, HIWP are exactly the types of minimally constraining structural characteristics needed to enhance empowerment in the organization (Spreitzer, 1996; Torbert, 1991). Specifically, by facilitating access to work-related information and opportunities to expand knowledge, HIWP provide the conditions necessary for enhanced perceptions of impact and competence. Similarly, rewards systems linking individual performance to organizational goals reinforce employees’ competence. Moreover, unbounded authority to make decisions directly increases self-determination and meaning derived from the job. Thus, we predict:

**Hypothesis 1:** Employee perceptions of HIWP are positively related to psychological empowerment.

Based on the empowerment literature (Spreitzer, 1995), we expect empowerment to have a direct association with job satisfaction. This association has been empirically supported at both the individual (Spreitzer, Kizilos, & Nason, 1997) and team (Kirkman & Rosen, 1999) level of analysis. One of the reasons for this expected relationship is that employees derive satisfaction from their job when engaged in meaningful work (Hackman & Oldham, 1980). Similarly, employees find more meaning in their jobs when the scope of their responsibilities is large (Griffin, 1991). Moreover, the four elements of psychological empowerment mirror key components of intrinsic motivation, which has been shown to be a critical determinant of job satisfaction (Thomas & Velthouse, 1990). Thus, we predict:

**Hypothesis 2:** Psychological empowerment is positively related to job satisfaction.

We expect psychological empowerment to also evoke affective commitment to the organization, particularly through a process of reciprocation. Because perceptions of empowerment are a function of the organization’s efforts (in this case, HIWP), and because employees likely recognize that their empowerment is a result of such efforts, employees may reciprocate to the organization by demonstrating
higher psychological attachment. Similarly, employees should appreciate organizational practices providing opportunities for enhanced feelings of meaning, competence, self-determination, and impact with regard to their work roles. In turn, they should reciprocate by being more committed to the organization (Liden, Wayne, & Sparrowe, 2000; Kirkman & Rosen, 1999; Kraimer, Seibert, & Liden, 1999).

**Hypothesis 3:** Psychological empowerment is positively related to affective organizational commitment.

Liden et al. (2000) suggested that the dimensions comprising empowerment provide employees with means for performing well. For example, when individuals feel good about their jobs (meaning) and feel that their job-related accomplishments have an impact on others (impact), they should be motivated to perform well. Similarly, jobs that provide decision-making flexibility and control (self-determination) should allow employees to respond better to demands outside their normal job description. Finally, increased feelings of self-efficacy (competence), because they are related to beliefs about one’s ability to successfully complete job-related tasks, should improve performance by lowering one’s propensity to hesitate or question job decisions (Liden et al., 2000; Stajkovic & Luthans, 1998). In general, the conceptual and empirical literature has supported the link between psychological empowerment and individual indices of performance (e.g., Kirkman & Rosen, 1999; Liden et al., 2000; Peccei & Rosenthal, 2001; Spreitzer et al., 1997). In line with these previous studies, we predict:

**Hypothesis 4:** Psychological empowerment is positively related to job performance.

Psychological empowerment is also expected to directly affect job stress. According to the literature on job control (Karasek, 1979; Sutton & Kahn, 1986), stress is likely to occur in demanding work situations when employees have little control (i.e., decision latitude) in their jobs. The basic argument is that job control is beneficial because it allows individuals to adjust to their demands according to their needs and circumstances (Karasek & Theorell, 1990). Drawing from this perspective, we suggest empowerment operates in a similar fashion to help employees cope with the demands of their work environment, thereby mitigating stress. One reason for this expected relationship is that the self-determination and impact components constituting empowerment closely mimic the conceptualization of job control defined by others (i.e., Wall, Jackson, Mullarkey, & Parker, 1996). Similarly, research has suggested that self-efficacy (competence) contributes to the ability of job control to allay stress-related consequences (Schaubroeck & Merritt, 1997). Moreover, empirical research on specific dimensions of empowerment (i.e., competence, self-determination, and impact) has demonstrated negative effects on job stress (Spreitzer et al., 1997; Thomas & Tymon, 1994). Thus, we predict:

**Hypothesis 5:** Psychological empowerment is negatively related to job stress.

Together, our above hypotheses form a mediation model—we expect that empowerment mediates the relationship between HIWP and employee outcomes (job satisfaction, organizational commitment, job performance, and job stress). The rationale for this mediated relationship is based on the premise that psychological empowerment is the most appropriate mechanism through which to convey the effects of HIWP on employee outcomes. Specifically, organizational practices reflecting the PIRK functions embodying HIWP supply minimally constraining opportunities that directly enhance employees’ perceptions of empowerment. Furthermore, it is through psychological empowerment that employees feel enabled in key aspects of their jobs (Corsun & Enz, 1999), and thus derive satisfaction and commitment to the organization as well as motivation to perform well and ability to alleviate stress. Accordingly, we offer the following mediation hypothesis:

**Hypothesis 6:** Psychological empowerment mediates the relationship between employee perceptions of HIWP and outcomes (i.e., job satisfaction, organizational commitment, job performance, job stress).

**Moderating Effects of Perceived Organizational Support**

Perceived organizational support (POS) is defined as the extent to which employees perceive that their organization values their contributions and cares about their well-being (Eisenberger et al., 1986). Typically associated with Blau’s (1964) social exchange theory, POS signals an employer’s commitment to employees, whereby employees reciprocate with increased efforts to help the organization reach...
its goals (Aselage & Eisenberger, 2003). Such reciprocity may represent an important organizational influence on the relationship between empowerment and employee outcomes.

Some studies have found a strong positive relationship between organizational support and empowerment (Chow, Lo, Sha, & Hong, 2006); however, other studies have failed to find a strong relationship between these two constructs (Corsun & Enz, 1999). One explanation for these inconsistent findings is that empowerment and its relationship with organizational support is more appropriately specified in an interactive manner (i.e., Logan & Ganster, 2007). Organizational attempts to construct the environment, even in a positive way (i.e., increased empowerment), may be viewed as either manipulative or beneficial depending on the general perceptions held regarding the organization itself. It may be that attempts to increase empowerment are more likely to result in beneficial outcomes when organizational efforts are perceived as motivated by genuine concern for employee welfare rather than self-interest. In line with other research on interactive effects of POS (e.g., Stamper & Johlke, 2003), this reasoning suggests POS acts as a key moderator of the relationship between empowerment and employee outcomes. Specifically, high POS should strengthen the relationship between empowerment and employee outcomes (job satisfaction, organizational commitment, job performance, and job stress) because the institutional efforts to positively engineer the workplace are aligned with employees’ positive perceptions of the organization.

**Hypothesis 7a:** POS moderates the relationship between psychological empowerment and job satisfaction, such that the positive relationship between empowerment and job satisfaction is stronger when POS is high relative to when POS is low.

**Hypothesis 7b:** POS moderates the relationship between psychological empowerment and organizational commitment, such that the positive relationship between empowerment and organizational commitment is stronger when POS is high relative to when POS is low.

**Hypothesis 7c:** POS moderates the relationship between psychological empowerment and job performance, such that the positive relationship between empowerment and job performance is stronger when POS is high relative to when POS is low.

**Hypothesis 7d:** POS moderates the relationship between psychological empowerment and job stress, such that the negative relationship between empowerment and job performance is stronger when POS is high relative to when POS is low.

**Method**

The data come from a 3-year, annual survey conducted in cooperation with a large national retailer. Data from the first year of the survey have been published elsewhere; however, only data from the second year of the survey were used in the current study. These data have not been used for any previous publications.

**Participants and Procedure**

Data were collected from 21 retail centers that ranged in size from 150 to 375 employees. All centers were located in the Southeastern United States. A total of 1,723 employees participated and provided usable surveys, representing approximately 44% of all employees at these locations. The number of participants at each center ranged from 40 to 145 (M = 83). Seventy-six percent of participants had worked for the organization for more than 1 year (23% for more than 5 years), and 75% were in nonmanagerial positions. The median age was 36, 59% were married, 66% were male, and 79% were White. Finally, 98% of the sample had at least a high school diploma (14% possessed a 4-year college degree or higher).

All data were collected from employees in small group sessions conducted by researchers at the retail centers. Employees were permitted to take as much time as needed to complete the surveys during normal working hours. Participation was voluntary and confidential.

**Measures**

Participants completed a comprehensive instrument consisting of over 250 items representing approximately 34 constructs previously validated in Wilson, DeJoy, Vandenberk, Richardson, and McGrath (2004). From the larger instrument, 10 multiitem measures were used for the purpose of this study. Unless otherwise noted, participants responded using a 1 (disagree strongly) to 5 (agree strongly) scale.
High involvement work processes. Vandenberg et al.'s (1999) 10-item scale ($\alpha = .92$) was included to assess employee perceptions regarding the presence of policies and programs supporting the four primary characteristics of HIWP—power, information, rewards and knowledge. Items were prefaced with “To what extent does your company as a whole have specific policies and/or programs in place to accomplish each of the following.” The response anchors ranged from 1 (none) to 5 (a great many). Examples are “Involve employees in the design of new practices, systems and methods for enhancing productivity” (power), “Regularly share information about the company’s overall operating results, business plans, and goals with employees” (information), “Link employee’s rewards to how well they actually perform the job” (rewards), and “Help employees develop the careers they want” (knowledge).

Empowerment. The operationalization of empowerment was based on Spreitzer’s (1995) four dimensions of psychological empowerment: (a) meaning, (b) competence, (c) self-determination, and (d) impact. Meaning corresponds to the conceptual framework underlying House et al.’s (1979) six-item measure of job content (e.g., “I can really believe in the value of what I am doing”), and it was included for this purpose ($\alpha = .89$). Competence was measured by Spreitzer’s (1995) three-item scale ($\alpha = .82$). An example item is “I have mastered the skills necessary for my job.” Hackman and Oldham’s (1980) three-item scale of job control/autonomy ($\alpha = .79$) was used to measure self-determination (e.g., “my job gives me considerable opportunity for independence and freedom in how I do the work”). Finally, Spreitzer’s (1995) three-item scale was used to measure impact ($\alpha = .85$). An example item is “I have significant influence over what happens in my work group.”

Perceived organizational support. Nine items from Eisenberger et al.’s (1986) scale were used to measure POS ($\alpha = .94$). An example item is “The organization values my contributions to its success.”

Job satisfaction. Hackman and Oldham’s (1980) five-item job satisfaction scale was used in the current study ($\alpha = .80$). An example item is “Generally speaking, I am very satisfied with my job.”

Organizational commitment. Mowday, Porter, and Steer’s (1982) nine-item scale was used to measure organizational commitment ($\alpha = .90$). An example item is “For me, this is the best of all possible organizations for which to work.”

Job performance. Because of an agreement to maintain strict anonymity, it was not possible to collect objective performance data. Rather, job performance was assessed through two items: (a) “On my last performance evaluation, my supervisor rated my performance as”; and (b) “How would you have rated your performance on your last performance appraisal?” Participants responded on a 1 (unsatisfactory) to 5 (outstanding) scale ($\alpha = .72$).

Job stress. Cohen, Kamarck, and Mermelstein’s (1983) perceived stress scale was adapted to focus on the work environment ($\alpha = .91$). An example item is “How often have you felt nervous and stressed because of work?” All six items were anchored with a 1 (never) to 5 (very often) response scale.

Treatment of Common Method Variance

The marker variable approach (cf., Lindell & Brandt, 2000) was used to assess common method variance (CMV). Specifically, there were approximately 150 unused items from the original instrument that had the same Likert-type response anchors as the measures used in the current study. According to the marker variable approach, for CMV to be an issue it must be of sufficient magnitude to have systematic influence, rather than random influence, across all items sharing the same method. Therefore, strong CMV is present if a randomly selected subset of items from measures representing vastly different constructs displays high reliability and suggests a good-fitting model from a confirmatory factor analysis (CFA) perspective.

To create the marker variable, six items were randomly selected from the remaining measures not used in the current study. The alpha coefficient was .21 among the items, and a CFA indicated very poor fit ($\chi^2/df = 487.50/9$, $CFI = .62$, $TLI = .37$, $RMSEA = .17$). Based on this information, method variance appeared to have little systematic influence across responses. However, to control for any possible method biases, effects of the marker variable were partialled out in accord with Lindell and Brandt (2000). Each item from the measures used in the current study was regressed on the marker variable (i.e., an average of the six items), and the resulting unstandardized residual was used in all subsequent analyses. Using unstandardized residuals after partialing out marker variable effects controlled for any potential contaminating effects of method bias, and it negated the need to center data when testing the moderating effects of POS because centered data are simply unstandardized residuals (Aiken & West, 1991).
Results

Means, standard deviations, and correlations among study variables are presented in Table 1. A general comparison of the correlations above the diagonal (method variance not accounted for) and below the diagonal (methods variance accounted for) indicated that there was a slight reduction in the magnitudes of correlations between variables after accounting for CMV, suggesting CMV only had a small influence on observed relationships.

Measurement Model

Hypotheses were tested with structural equation modeling (SEM) using LISREL 8.8 (Jöreskog & Sörbom, 1993). Following Anderson and Gerbing’s (1988) recommended two-step approach, we used a randomly chosen sample of 700 to test the proposed structural model after the remaining participants (N = 1,023) were used to test the initial measurement model.

Because of the complications caused by accommodating Spreitzer’s (1995) view of empowerment as a higher-order (second-order) latent variable when specifying an interaction effect between empowerment and POS, two separate measurement models were examined. First, we tested a measurement model specifying empowerment as a second-order construct, and then a second measurement model was examined in which empowerment was treated as a 1st-order latent variable represented by four observed variables—meaning, competence, self-determination, and impact (operationalized as the average of all items for each measure). As shown in Table 2, the fit indices for the two measurement models were quite reasonable. Although the χ² values were statistically significant, the remaining fit indices indicated excellent fit for both models. Furthermore, all factor loadings were statistically significant (p < .05), and the standardized factor loadings for the four empowerment dimensions were comparable across the two models. These findings, coupled with the similarity in fit of the two models, gave us empirical justification to treat empowerment as a first-order factor in all subsequent SEM analyses.

Structural Model: Mediation Effects

We conducted our hypothesis testing in two stages. First, we tested the direct effects and mediation hypotheses (Hypotheses 1–6) represented in Figure 1. Then, moderation hypotheses (Hypotheses 7a–7d) were tested by incorporating moderation effects into the final model resulting from the first stage of tests. The existence of mediation was tested by comparing a full mediation model with a partially mediated model and a direct effects-only model (Kelloway,
1998). As shown in Table 2, the proposed full mediation model fit the data quite well (see Mediation Effects, Model 3), and all parameter estimates were significant ($p < .05$) and in the expected direction. Furthermore, utilizing the difference ($\Delta$) in $\chi^2$ test, nested model results from the comparison of the proposed model specifying full mediation of HIWP (see Mediation Effects, Model 3) and alternative models specifying partial mediation of HIWP (see Mediation Effects, Model 1) and HIWP direct effects only (see Mediation Effects, Model 2) indicated that the full mediation model provided the best fit to the data. Together, these findings provide strong support for Hypotheses 1 through 6.

Because it was one of our primary objectives, we also tested our hypothesized empowerment mediation of HIWP on job satisfaction, organizational commitment, job performance, and job stress (Hypothesis 6) by computing a two-tailed Sobel test for each indirect effect (Sobel, 1982). Results indicated that empowerment fully mediated the relationship between HIWP and job satisfaction ($z = 9.35, p < .01$), HIWP and organizational commitment ($z = 8.04, p < .01$), HIWP and job performance ($z = 2.36, p < .05$), and HIWP and job stress ($z = -6.95, p < .01$). Therefore, additional support was found for Hypothesis 6.

### Structural Model: Moderation Effects

Using the final causal model supported in the tests of mediation effects, the moderation hypotheses (Hypotheses 7a–7d) were tested following procedures developed by Jöreskog and Yang (1996). Because of the labor-intensive syntax specification of nonlinear algebraic constraints required to calculate interaction terms with multiple indicators in SEM (Rigdon, 1998), we simplified the procedure by creating three random-item parcels for POS (Floyd & Widaman, 1995). These three parcels were then multiplied by the four observed empowerment items to create 12 product indicators for the latent interaction variable, which were then included along with the POS and empowerment latent variables for model testing. As shown in the results of our moderation tests provided in Table 2, the model (see Moderation Effects, Model 2) specifying direct effects only for POS

### Table 2

**Comparison of Model Fit Indices**

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Empowerment as a second-order factor</td>
<td>4,115.61**</td>
<td>1,151</td>
<td>.97</td>
<td>.97</td>
<td>.05</td>
</tr>
<tr>
<td>2. Empowerment as a first-order factor</td>
<td>3,058.06**</td>
<td>682</td>
<td>.97</td>
<td>.97</td>
<td>.06</td>
</tr>
<tr>
<td>Structural model: Mediation effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. HIWP partial mediation</td>
<td>3,105.72**</td>
<td>694</td>
<td>.96</td>
<td>.96</td>
<td>.07</td>
</tr>
<tr>
<td>2. HIWP direct</td>
<td>3,378.77**</td>
<td>695</td>
<td>.96</td>
<td>.96</td>
<td>.08</td>
</tr>
<tr>
<td>2. vs. 1.</td>
<td>273.05**</td>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. HIWP full mediation</td>
<td>3,114.69**</td>
<td>698</td>
<td>.96</td>
<td>.96</td>
<td>.07</td>
</tr>
<tr>
<td>3. vs. 1.</td>
<td>8.97</td>
<td>4</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Structural model: Moderation effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Null—No organizational support direct or moderation</td>
<td>6,185.18**</td>
<td>1,247</td>
<td>.94</td>
<td>.94</td>
<td>.07</td>
</tr>
<tr>
<td>2. Organizational support direct</td>
<td>6,085.16**</td>
<td>1,243</td>
<td>.94</td>
<td>.94</td>
<td>.07</td>
</tr>
<tr>
<td>1. vs. 2.</td>
<td>100.02**</td>
<td>4</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Empowerment × Organizational Support</td>
<td>6,066.02**</td>
<td>1,239</td>
<td>.94</td>
<td>.94</td>
<td>.07</td>
</tr>
<tr>
<td>3. vs. 2.</td>
<td>19.14**</td>
<td>4</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Empowerment × Organizational Support—Organizational commitment, job performance, job stress only</td>
<td>6,066.27**</td>
<td>1,240</td>
<td>.94</td>
<td>.94</td>
<td>.07</td>
</tr>
<tr>
<td>4. vs. 3.</td>
<td>.25</td>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. vs. 2.</td>
<td>18.89**</td>
<td>3</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*Note. Measurement model $N = 1,023$; Structural model $N = 700$. Model 3 (HIWP full mediation) represents the hypothesized mediation model. TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation. ** $p < .01$.}
on job satisfaction, organizational commitment, job performance, and job stress fit the data better than the null model (see Moderation Effects, Model 1) specifying no effects for POS ($\Delta \chi^2(4) = 95.83, p < .01$). Furthermore, the proposed interaction model (see Moderation Effects, Model 3) fit the data better than the POS direct effects-only model ($\Delta \chi^2(4) = 19.13, p < .01$). However, the path from the POS and empowerment interaction term to job satisfaction was not statistically significant. After removing this path, the revised moderation model (see Moderation Effects, Model 4) still significantly improved fit over the POS direct effects-only model ($\Delta \chi^2(3) = 19.03, p < .01$), and the three interaction parameters were statistically significant ($p < .05$). The standardized parameter results from this model are presented in Figure 2. All paths were statistically significant ($p < .05$) except for the direct effects of empowerment ($\beta = .03, p > .05$) and POS ($\beta = .08, p > .05$) on job performance, although a significant interaction effect was found for this relationship. This final moderation model explained 65% of the variance in job satisfaction (direct effects only), 55% of the variance in organizational commitment, and 26% of the variance in job stress. However, the model only accounted for 2% of the variance in job performance. To evaluate the effect size of our significant interactions, we looked at the $\Delta R^2$ from our direct effects-only model (see Moderation Effects, Model 2) in relation to the final moderation model specifying three significant interactions (see Moderation Effects, Model 4). The $\Delta R^2$ were as follows: organizational commitment $\Delta R^2 = .02$, job performance $\Delta R^2 = .01$, job stress $\Delta R^2 = .01$. The effect size of these interactions were within

![Figure 2. Standardized parameters for the final model. Dashed arrows represent the latent interaction product term (empowerment $\times$ POS) derived according to the Jöreskog and Yang (1996) method. In the interest of simplicity, parameters for the direct effect of organizational (Org.) support on organizational commitment ($\beta = .49, p < .01$), job performance ($\beta = .08, p > .05$), and job stress ($\beta = -.37, p < .01$) included as a prerequisite of the interaction product term are not shown. Numbers indicated within the variable label ellipses represent $R^2$. HIWP = high involvement work processes; POS = perceived organizational support. $^{**} p < .01$. $^* p < .05$.](image-url)
the typical range (i.e., $\Delta R^2 = .01$ to .03) for moderator effects in nonexperimental research (Champoux & Peters, 1987; Chaplin, 1991).

To illustrate the nature of the significant interaction effects found, we plotted the relationship between organizational support and its outcomes (organizational commitment, job performance, job stress) at a high and low levels of empowerment (i.e., 1 SD ± the mean). These plots are presented in Figures 3 through 5. As predicted, the positive relationship between empowerment and organizational commitment was stronger when individuals had high POS (see Figure 3), and the negative relationship between empowerment and job stress was stronger when individuals had high POS (see Figure 5). However, a somewhat unexpected effect for POS was found regarding the relationship between empowerment and job performance. Specifically, empowerment alone did not have a positive effect on job performance; rather, empowerment had a positive effect on job performance when individuals had high POS but a slightly negative effect on job performance when individuals had low POS (see Figure 4). In summary, Hypothesis 7b and 7d were fully supported, and some support was found for Hypothesis 7c. Because no interaction effect was found, Hypothesis 7a was not supported.

**Discussion**

The purpose of the present study was to examine individual responses to HIWP while focusing on the possible intervening role of empowerment and moderating effects of POS. In this study, we have begun to explore the process of how participatory work systems affect employee outcomes by demonstrating that psychological empowerment mediated that relationship between HIWP and employee outcomes of job satisfaction, organizational commitment, job performance, and job stress. These findings have both theoretical and practical significance. Theoretically, these findings suggest avenues to refine and build...
upon the associations found between HIWP, empowerment, and employee outcomes. Each of the four dimensions of empowerment stems from a rich conceptual and empirical background. For example, Hackman and Oldham’s (1980) job characteristics model includes elements of what Spreitzer (1995) refers to as meaning and self-determination, and Bandura (1989) has advanced accumulated knowledge of self-efficacy (competence). It follows that HIWP may serve as an important variable for examining differential effects for dimensions of empowerment. Practically speaking, this study suggests that HIWP may garner greater gains for employees by organizations instituting supportive interventions targeted at employees’ competence, meaning, self-determination, and impact; the four dimensions underlying empowerment (Spreitzer, 1995).

As predicted, we found evidence that POS moderated the relationship between empowerment and the employee outcomes of organizational commitment, job performance, and job stress. More specifically, empowerment had a stronger positive relationship with employee outcomes (organizational commitment, job performance, job stress) when POS was high rather than low. Although the moderating effects of support-related variables have been confirmed in other studies (e.g., Carlson & Perrewe, 1999), this is the first study to specifically examine interactive effects between POS and empowerment. From a practical standpoint, these moderation results suggest that individuals designing and implementing HIWP need to be cognizant of broader organizational factors, and should identify those aspects of the organizational environment that could either potentially undermine those initiatives or perhaps maximize desired effects. Our moderation results also suggest that formal attempts to increase empowerment may not achieve the intended effects without simultaneous attention given to informal organizational aspects (i.e., POS) that influence the employer-employee relationship.

Figure 4. Plot of significant interaction for empowerment by perceived organizational (Org.) support (outcome = job performance).
One surprising finding in this study was that POS did not moderate the relationship between empowerment and job satisfaction. A possible explanation for this finding is that unlike other work-related attitudes, job satisfaction is greatly influenced by the day-to-day experiences of individuals (Spector, 1997), whereas POS is more characteristic of long-term, stable beliefs regarding the organization (Eisenberger et al., 1990). Because empowerment has easily visible links to daily experiences on the job, it may have effects on job satisfaction that are unyielding to, and separate from, the influence of POS. Our results also suggest that POS and empowerment demonstrate substantial predictive power of job satisfaction ($R^2 = .64$), and thus, they represent important antecedents that should be incorporated into future research on job satisfaction.

Our results also have some important implications for occupational health and well-being theory and practice. First, our findings suggest that formal and informal organizational action is central to creating and maintaining a “healthy work organization” (DeJoy & Wilson, 2003; Wilson et al., 2004) as indicated by increased job satisfaction, organizational commitment, and lowered job stress. By placing emphasis on the engineering of work and acting as a source of support, organizations can have powerful effects on important indicators of employee health and well-being (i.e., job satisfaction, organizational commitment, job stress).

Second, our results have particular relevance for job stress research. Specifically, our findings for empowerment contribute to the burgeoning evidence that job aspects reflecting high levels of control serve an important role in alleviating job stress (e.g., Schaubroeck & Merritt, 1997). Furthermore, the moderating effect found for POS on the empowerment-stress relationship is in line with research suggesting social support within the organization can buffer against detrimental effects even in the
presence of low job control (e.g., Johnson & Hall, 1994). Together, these results illustrate that the job stress literature could benefit from more fine-grained studies that investigate a variety of job control dimensions and job stress/strain outcomes.

Finally, our findings suggest two important means by which managers may attempt to alleviate employees’ job stress. First, organizational practices that emulate HIWP can be adopted to maximize employee psychological empowerment. Second, and perhaps most importantly, the organization may be able to buffer the detrimental effects of stress by demonstrating care and support for employees. Our moderation results for job stress (see Figure 5) show that POS has an ameliorating effect on job stress above and beyond the effect of empowerment. This finding is in line with research suggesting that informal organizational support explains a greater share of variance in employee outcomes than formal practices (Behson, 2005). Future research could investigate these relationships in more detail by examining the relative importance of various sources of work and nonwork support (i.e., coworkers, managers, subordinates, spouse, children, and friends) for determining job stress and strain within the context of participatory work systems.

Limitations and Future Research

Interpretation of this study’s findings should take into consideration at least four limitations. First, the design of this study was cross-sectional, and all measures were collected during the same time period. Thus, establishing sequential relationships between predictors and outcomes is admittedly difficult. However, we did test alternative models of causality, which provided some evidence of cause and effect. In addition to replicating our findings using longitudinal data, we recommend future studies adopt systematic tests of alternative models to rule out competing theoretical explanations as well as reverse causality and reciprocal relationships among variables.

A second limitation of our study is that all data were collected using self-report measures, thus raising concerns about possible common method bias. To alleviate some of these concerns, we residualized CMV from our variables using Lindell and Brandt’s (2000) marker variable approach. However, this procedure fails to account for some of the most powerful causes of common method bias (i.e., positive/negative affect, social desirability), and it erroneously assumes CMV impacts all variables in the same manner (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Additionally, although this approach partials out CMV, it does not provide explicit information on the possible degree of CMV present in the data. Thus, to examine the degree of susceptibility to CMV, we utilized the “single unmeasured latent method factor” CFA approach (Williams, Cote, & Buckley, 1989). Although our model including measurement factors and a method factor exhibited good fit with the data ($\chi^2/df = 3432.40/645$, CFI = .98, TLI = .98, RMSEA = .05), the average proportion of variance attributed to the measurement factors was substantially higher than the average proportion of variance attributed to the method factor (47% vs. 9%, respectively). This provides some evidence that substantive relationships, and not merely common method bias, are likely responsible for the observed findings.

The characteristics of our sample are a third potential limitation. Our study was conducted in large retail centers comprised of mostly male participants. We do not know whether these results would generalize to retail centers in other types of industries or other types of organizations. Therefore, future studies should test the generalizability of our results in other settings with more heterogeneous samples to substantiate their validity.

Finally, our analyses were conducted at the individual level of analysis, when in fact some of our theoretical questions may also be suitable for investigation using organizational or multilevel analyses. Our data came from 21 separate retail stores in different cities, which realistically may have each had varied reactions to HIWP. Conceptually, a multilevel perspective may also be appropriate because individual perceptions of organizational support may be partially determined by collective group norms and impressions at the store or unit level, just as psychological empowerment has been conceptualized at the group level of analysis (Kirkman & Rosen, 1999). An avenue for future research would be to include multiple store locations as well as departmental units, and focus on examining within and between unit variance to provide additional insight into the conclusions presented here.

Conclusion

Although research interest on participatory work systems continues to accumulate (Wright & Boswell, 2002), our understanding of the processes and mechanisms through which these practices affect employee outcomes is still in the embryonic stage. This study illustrates that the relationships between HIWP, empowerment, and POS play key roles in
determining employee job satisfaction, organizational commitment, job performance, and job stress. This study also provides a springboard for more research examining the complicated effects (i.e., beyond main effects) of HIWP and POS on employee outcomes. Lastly, our findings suggest that organizations and individuals can reap benefits from participatory work systems, but close attention should be given to both formal (i.e., HIWP) and informal (i.e., POS) aspects of the organizational environment in order for gains to be maximized.

References


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