WHEN JOB DISSATISFACTION LEADS TO CREATIVITY: ENCOURAGING THE EXPRESSION OF VOICE

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This study focused on the conditions under which job dissatisfaction will lead to creativity as an expression of voice. We theorized that useful feedback from coworkers, coworker helping and support, and perceived organizational support for creativity would each interact with job dissatisfaction and continuance commitment (commitment motivated by necessity) to result in creativity. In a sample of 149 employees, as hypothesized, employees with high job dissatisfaction exhibited the highest creativity when continuance commitment was high and when (1) useful feedback from coworkers, or (2) coworker helping and support, or (3) perceived organizational support for creativity was high.

Job satisfaction is one of the most widely studied constructs in organizational behavior (see O'Reilly [1991] and Staw [1984], among others, for reviews). Although the intuitively appealing link between job satisfaction and job performance has not been supported by empirical research (e.g., Iaffaldano & Muchinsky, 1985), an implicit and sometimes explicit assumption in job satisfaction theorizing and research is that a high level of job satisfaction contributes positively to organizational effectiveness and employee well-being and that a low level of job satisfaction, or job dissatisfaction, is detrimental for organizations and their members. This perspective is driven, in part, by research linking job satisfaction to important phenomena such as absenteeism, turnover, and citizenship behavior (e.g., Hom, Caranikas-Walker, Prussia, & Griffeth, 1992; Organ, 1988; Steers & Rhodes, 1978).

However, in an era emphasizing the need for change, creativity, and innovation in organizations, particularly employees' initiation of organizational change efforts (Frohman, 1997), one wonders if job dissatisfaction is always a detriment for organizational effectiveness. That is, organization members who are dissatisfied with their jobs are, in essence, discontented with the status quo. Discontentment can be a trigger for change when those who are dissatisfied seek to come up with new ways to improve current conditions. Consistent with this reasoning, a number of authors have suggested that job dissatisfaction may actually have a positive impact on organizational effectiveness (March & Simon, 1958; Staw, 1984). These authors have argued that when employees are dissatisfied with their jobs, they may try to change their current work situations by coming up with new and better ways of doing things (March & Simon, 1958; Staw, 1984; Van Gundy, 1987). Coming up with new and better ways of doing things is the essence of creativity. Employee creativity—the generation of new and potentially valuable ideas concerning new products, services, manufacturing methods, and administrative processes—contributes to organizations' renewal, survival, and growth in today's turbulent and competitive business environment (Amabile, 1988; Woodman, Sawyer, & Griffin, 1993).

Thus, it is possible that under certain conditions, employees' job dissatisfaction may actually lead to creative performance, which ultimately benefits their organization. However, currently little is known about the circumstances under which this functional consequence of job dissatisfaction may occur. That is, it is naive to assert that job dissatisfaction will always lead to creativity in the workplace, and it is known, for example, that job dissatisfaction can lead to turnover, which negates the possibility of dissatisfied organizational members trying to improve conditions in the organization through creative performance. Hence, in this study, we seek to identify the conditions under which job dissatisfaction may actually lead to creativity. Identifying such conditions is important for two reasons. First, dissatisfied employees may provide a

powerful impetus for change in organizations through their creative ideas for improvements, but this is likely to only occur under certain circumstances—when, for instance, they don't quit in response to job dissatisfaction. And, second, it may not be realistic to expect that employees will always experience a high level of job satisfaction in their work lives. If some members of an organization are bound to be dissatisfied at one time or another, perhaps, rather than viewing this scenario as inevitably detrimental, an organization's leaders should view it as presenting an opportunity to make improvements.

REACTIONS TO JOB DISSATISFACTION

Prior theory and research suggest that employees respond to job dissatisfaction in one of four ways: exit, voice, loyalty, and neglect (Farrell, 1983; Hirschman, 1970; Rusbult, Farrell, Rogers, & Mainous, 1988; Withey & Cooper, 1989). First, and consistent with the turnover literature, dissatisfied employees may quit an organization all together in response to their job dissatisfaction *(exit)*. Second, dissatisfied employees may choose to remain in their organization and actively try to improve conditions, actively searching for and coming up with new ways of doing things and advocating changes to make things better *(voice)*. Third, employees may remain in the organization but respond passively to their job dissatisfaction by accepting the status quo without raising any objections or making any suggestions for improvements *(loyalty)*. Lastly, employees may remain in the organization and exhibit passive withdrawal behaviors such as putting forth less effort *(neglect)*.

As Farrell (1983) suggested, exit and voice are active responses, whereas neglect and loyalty are passive responses. The fundamental difference between the two types of active response—exit and voice—is that exit can be destructive to an organization, whereas voice is constructive (Van Dyne & LePine, 1998). An employee's quitting (exit) does not help an organization to correct the existing problems and may be a loss of valuable human resources for it.

The two passive responses to job dissatisfaction also can be dysfunctional for organizations. First, real problems may have triggered employees' job dissatisfaction, and their passively either ignoring them (loyalty) or withdrawing (neglect) will not solve the problems and can cause the dissatisfaction to persist and even spread to other employees. Second, in order to be effective, organizations need to constantly be on the lookout for improvements and new ways of doing things. Discontentment or

dissatisfaction can lead employees to seek out improvements, but only if they respond to their dissatisfaction in an active, rather than a passive, manner. When employees respond to job dissatisfaction with loyalty, they are, in essence, burying their heads in the sand and carrying on as if everything were fine despite their discontentment. And with neglect, the employees are passively disengaging themselves from the organization in response to their dissatisfaction.

In order for dissatisfaction to result in functional outcomes for organizations, employees need to respond to their dissatisfaction in an active and constructive manner—through voice. Voice not only enables organizations to channel employee job dissatisfaction into a positive desire for change, but also helps them to correct existing problems and make improvements (Hirschman, 1970). Past theory and research have described different types of voice behaviors, such as filing grievances, joining unions, and engaging in creative endeavors with the goal of making things better (e.g., Hirschman, 1970; Kay, 1989; Withey & Cooper, 1989). In this study, we focused on creativity as an expression of voice and on the specific conditions that may result in dissatisfaction being channeled into creative performance.

As mentioned earlier, creativity, in an organizational context, refers to the generation of novel and potentially useful ideas (Amabile, 1988; Woodman et al., 1993). An idea must have both novelty and usefulness to be considered creative. Employee creativity differs from organizational innovation in that creativity is the generation of new and useful ideas by individual employees, whereas innovation involves the successful implementation of creative ideas by the organization. Thus, employees' creativity is often the starting point for innovation.

Previous research has alluded to the possibility that employees' creativity may be an important form of voice (Farrell, 1983; Hirschman, 1970; Kay, 1989; VanZelst & Kerr, 1953; Withey & Cooper, 1989). For example, Kay (1989) conducted a study in which she asked three groups of participants to describe prototypical voice behaviors. She found that the prototypical voice behaviors identified by the participants included "propose new ways of doing things" and "make suggestions on how to improve things," both of which are consistent with commonly used definitions of employee creativity. Although creativity is a type of voice behavior, few studies have investigated the conditions under which employees engage in creative performance as an expression of voice. It was our goal in the present study to address this issue.

WHEN WILL DISSATISFACTION RESULT IN CREATIVITY?

In order for job dissatisfaction to result in creativity, organization members must have an active and constructive response to their dissatisfaction rather than an active and destructive response or a passive response. Leaving a job is a real option for dissatisfied employees, and when employees respond to dissatisfaction with exit, their potential to be creative in the focal organization and make improvements is negated. However, exit will not be a viable option for employees when high costs are associated with leaving and they are aware of these costs. These costs can include inability to find alternative employment opportunities, being tied to a limited geographical area, inability to replicate job benefits elsewhere, and loss of job security. When the costs of quitting are perceived to be too high, dissatisfied employees often feel that staying in the organization is the better choice. Under these conditions, the employees are committed to their organization, not on the basis of affective attachment or identification with organizational values and goals, but rather because of necessity. This type of commitment has been referred to as "continuance commitment" (Allen & Meyer, 1996).

Continuance commitment is likely to be a necessary, but not sufficient, condition for job dissatisfaction to result in creativity as an expression of voice. Continuance commitment ensures that employees do not resort to exit in response to their dissatisfaction, and it is for this reason that continuance commitment is a necessary condition. It ensures that organization members remain with their organizations despite being dissatisfied or discontented.

However, continuance commitment alone is not sufficient for job dissatisfaction to result in creativity. Dissatisfied employees who stay in an organization because of continuance commitment have two alternative responses to their job dissatisfaction in addition to voice or creativity: loyalty and neglect. Under what conditions, then, will employees choose the voice option? Previous research on voice behaviors suggests that individuals who are dissatisfied but who perceive quitting costs as too high are most likely to engage in voice behaviors when they perceive such actions as potentially effective—that is, as meaningful and influential, in the sense that they can perform the behaviors, that others in the organization will support them, and that they can bring about intended change (Brockner et al., 1998; Hirschman, 1970; Withey & Cooper, 1989). These conditions may be especially important when creativity is used as an expression of

voice. More specifically, voice behaviors such as creative performance can be costly to the employees who engage in them (Rusbult et al., 1988; Withey & Cooper, 1989). Creativity involves coming up with new ideas and new ways of doing things and carries certain risks because the new ideas may or may not deliver their intended positive results. Moreover, creativity entails a departure from the status quo, traditional approaches, and habitual behaviors that are embedded in organizational systems and practices. Thus, engaging in creative activities can be risky and, if they fail, employees who initiate such activities may face negative consequences. Therefore, employees may choose to use creativity as an expression of voice only when they perceive that creative performance has the potential to be effective: New and useful ideas that others in the organization will support can be produced (LePine & Van Dyne, 1998). Reviews of the voice and creativity literatures suggest that organizational context may be a key determinant of these perceptions.

More specifically, the voice literature suggests that two alternative aspects of the organizational context may channel employee job dissatisfaction into creativity: coworker behaviors toward a focal employee and perceived organizational support for creativity (Hirschman, 1970; Rusbult et al., 1988; Withey & Cooper, 1989). Coworker behaviors toward an employee include useful feedback, helping, and support. Perceived organizational support for creativity captures the extent to which organizations are seen as encouraging, respecting, rewarding, and recognizing employees who exhibit creativity.

The idea that employee creative performance can be fostered by a supportive context is consistent with the organizational creativity literature. Recent research in organizational creativity has demonstrated that organizational contexts and practices can play a significant role in facilitating or inhibiting employee creativity (Amabile, 1988; Oldham & Cummings, 1996; Scott & Bruce, 1994; Shalley, 1991, 1995; Woodman et al., 1993). For example, organizational contexts may facilitate creative performance by directing employees' attention and cognitive energy toward the generation of new and useful ideas (Scott & Bruce, 1994; Shalley, 1991).

Thus, research on employee creativity supports our earlier arguments derived from the voice literature suggesting that, by creating an appropriate context, organizations can encourage employees who experience job dissatisfaction to engage in creative activities. Recall that, according to the exit-voice theory, employees can respond to job dissatisfaction in one of four ways: exit, voice, loyalty,

and neglect. When exit is not feasible, we propose that employees will choose the voice option over the loyalty and neglect options only when the organizational context promotes their perception that voice behaviors will be meaningful and influential. Further, prior theory and research on organizational creativity suggest that to foster the use of creativity as an expression of voice, an organizational context needs to direct employees' attention toward being creative and to sustain their interest in and energy for coming up with new and useful ideas. Integrating the exit-voice theory and the organizational creativity literature, we identify three contextual variables—useful feedback from coworkers, coworker helping and support, and perceived organizational support for creativity—that encourage dissatisfied employees to be creative by boosting their confidence that creative activities will be meaningful and influential and by directing their attention to, and sustaining their energy for, creativity. Below, we discuss in more detail how each of these three contextual variables may promote creativity as an expression of voice.

Useful Feedback from Coworkers

Useful feedback from coworkers is helpful or valuable information provided by coworkers that enables an employee to make improvements on the job. It is conceivable that useful feedback from coworkers contributes to channeling job dissatisfaction into creativity via influencing an employees' perceptions of the effectiveness of creative activities (that is, the perception that new and useful ideas can be produced and that others will support these ideas) in the manner discussed below.

First, useful feedback from coworkers may be conducive to the activity of generating new and useful ideas. Although not directly addressing the role of feedback in the context of reactions to job dissatisfaction, the feedback and creativity literatures point to the importance of task-focused feedback in promoting creativity (Kluger & DeNisi, 1996; Zhou, 1998). In essence, these literatures suggest that task-focused feedback, such as useful feedback from coworkers, directs individuals' attention to the task at hand, fosters their interest in the task itself as opposed to external constraints, and nurtures an orientation toward learning and development, all of which may lead to creativity (e.g., Utman, 1997). As indicated earlier, when an employee is dissatisfied with a job yet perceives the cost of quitting to be too high, he or she may choose either to be passive about the job and only work to meet the minimum standard or to proactively change the unsatisfactory and unattractive work

situation into something more interesting and attractive. If the employee receives useful feedback from coworkers that focuses on job improvement, her or his attention is likely to be directed toward learning and making improvements on the job, in the process of which he or she may be stimulated to see things from different perspectives and come up with new and useful ways of doing things (Cummings & Oldham, 1997; Farr, 1990; Scott & Bruce, 1994).

Second, and consistent with its definition, useful feedback from coworkers may signal that coworkers are interested in improvements and change. Thus, the employee who receives useful feedback from coworkers may believe that there is a high likelihood that his or her search for new ways of doing things will be supported by coworkers and subsequently successfully implemented (Farr & Ford, 1990).

Thus, useful feedback from coworkers may direct employees' attention toward improvements on the job and facilitate the generation of new and useful ideas, and it may increase employees' confidence that by engaging in creative activities, they will be able to transform an unsatisfactory work situation into a satisfactory one. In other words, a high level of useful feedback from coworkers increases the employee's perceptions of the effectiveness of creativity, thereby channeling the employee's job dissatisfaction into creative activities. Thus:

Hypothesis 1. Job dissatisfaction, continuance commitment, and useful feedback from coworkers interact to affect creativity in such a way that job dissatisfaction will have the strongest, positive relationship with creativity when continuance commitment is high and coworkers provide useful feedback.

Coworker Helping and Support

Alternatively, coworkers may provide a promotive context for creativity through helping and supportive behavior. In the present study, coworker helping and support refer to coworkers' assisting an employee with his or her tasks when needed by sharing knowledge and expertise or providing encouragement and support. For example, coworkers may share their knowledge and expertise when the employee is faced with a difficult and novel task for which solutions are not readily available (Scott & Bruce, 1994). Creativity often involves combining previously unrelated objects or events in unconventional and useful ways and requires people to put forth significant motivational and cognitive effort to persistently tackle problems when faced

with obstacles. Often, coworkers are exposed to the same work environment as a focal employee, and they interact relatively frequently with the employee. Yet, because coworkers hold little formal administrative authority over the focal employee, the latter has little reason to worry about negative consequences of sharing creative ideas with coworkers. Particularly if the employee's coworkers are helpful and supportive, it would be relatively easy for him or her to use coworkers as a sounding board for new ideas (Farr, 1990; Scott & Bruce, 1994). The employee may also acquire task-relevant knowledge and expertise from coworkers, which may make creating new ways of doing things possible (Woodman et al., 1993).

As described earlier, before deciding to actively and constructively respond to their job dissatisfaction, employees will evaluate the potential effectiveness of creativity. That is, they will assess the chances of making things better through their own actions or through the actions of others (Hirschman, 1970). When an employee is surrounded by coworkers who are able and willing to share expertise and provide encouragement, he or she may believe that creativity is likely to be effective—with the helping hands of coworkers, there is a good chance that useful new ideas will be generated, heard, and successfully implemented (Farr & Ford, 1990). Thus:

> *Hypothesis 2. Job dissatisfaction, continuance commitment, and coworker helping and support interact to affect creativity in such a way that job dissatisfaction will have the strongest, positive relationship with creativity when continuance commitment and coworker helping and support are both high.*

Perceived Organizational Support for Creativity

Alternatively, organizations may choose to emphasize their support for creativity through perceived organizational support for creativity—the extent to which an employee perceives that the organization encourages, respects, rewards, and recognizes employees who exhibit creativity. Employees may attempt to be creative when they perceive that creativity is valued and supported by an organization (Scott & Bruce, 1994), because under these circumstances, the potential risk associated with creativity is minimized and the perception of creative ideas being effective should be high.

As indicated earlier, engaging in voice behaviors such as creativity can be costly for an organization member. Attempts to insert changes and new approaches into an existing system are never easy, and

introducing new and useful ways of doing things may or may not be successful. Employees will only try to do so when they perceive that creativity has the potential to be effective (Hirschman, 1970). If employees perceive that management systems and practices in an organization support creative activities, they are likely to feel that management allows, welcomes, and accepts suggestions for improvement and that employees' inputs are meaningful and influential (e.g., Amabile & Gryskiewicz, 1987; Scott & Bruce, 1994; Siegel & Kaemmerer, 1978). Under these conditions, it is worthwhile for dissatisfied employees to put forth effort and try to find new and useful ways to improve the work situation or procedures. Thus:

> *Hypothesis 3. Job dissatisfaction, continuance commitment, and perceived organizational support for creativity interact to affect creativity in such a way that job dissatisfaction will have the strongest, positive relationship with creativity when continuance commitment and perceived organizational support for creativity are both high.*

METHODS

Research Setting, Participants, and Procedures

Data were collected as part of a large research project on creativity in organizations. Respondents in the present study were 149 office employees from a company that manufactures petroleum drilling equipment. The employees held all types of jobs, including engineer, product coordinator, and human resource generalist, in all functional areas in the company, such as engineering, research and development, marketing, and human resources. The questionnaires were distributed through the company's internal mailing system to the potential respondents, and they were instructed to put the completed questionnaire in a return envelope addressed to us, the researchers. The respondents were told that their names were printed on the questionnaires because we needed to match the questionnaire responses with additional data provided by the company but that no one other than us would have access to the data. Strict confidentiality was guaranteed.

We collected data from two sources: the employees and their supervisors. The employees filled out a questionnaire that included items measuring the independent variables used in the present study and demographics. On a separate rating form, each employee's supervisor rated the employee's creative behaviors. Before designing the questionnaire and the rating form, we met with management,

studied relevant written documents (such as job descriptions) provided by the organization, and spent time in the organization. These activities ensured that the attitudes, perceptions, and behaviors that we measured were relevant to and generally present in the organization. We sent the questionnaires and rating forms to all 200 office employees and their supervisors whose names appeared on the company roster and received 149 pairs of completed and usable questionnaires and rating forms back for an overall response rate of 74.5 percent. The average age of the employees was 42.55 years (ranging from 24 to 64 years); the average company tenure was 14.05 years (ranging from 1 to 36.17 years); and the average job tenure was 5.79 years (ranging from 1 to 36 years). There were 39 women (26.2%) and 110 men (73.8%) in the sample. The most frequently reported education level was "some college or technical school" (responses could range from "high school diploma" to "doctoral degree"). The sample included 15 African Americans (10.1%), 8 Asians (5.4%), 8 Hispanics (5.4%), 114 Caucasians (76.5%), and 4 "other" (2.7%).

Measures

Measures are outlined below; the Appendix gives all the component items.

Creativity. We developed a 13-item scale to measure creativity. Three items in the scale were adopted from Scott and Bruce (1994), and the remaining 10 items were developed for the present study. On a five-point scale ranging from 1, "not at all characteristic," to 5, "very characteristic," supervisors who were familiar with the employees' work behavior indicated how characteristic each of the 13 behaviors was of the employee they were rating. Each employee was rated by one supervisor. We averaged the 13 items ($\alpha = .96$).

Job dissatisfaction. Job dissatisfaction was measured with a three-item scale adapted from the Michigan Organizational Assessment Questionnaire (Seashore, Lawler, Mirvis, & Cammann, 1982). When necessary, we reverse-scored the items so that higher scores reflected greater job dissatisfaction. The three items were averaged for an overall score ($\alpha = .86$). For this and all subsequent scales, response options ranged from 1, "strongly disagree" to 7, "strongly agree."

Continuance commitment. We averaged the six items from the continuance commitment scale developed by Allen and Meyer (1996) ($\alpha = .78$).

Useful feedback from coworkers. We averaged three items created for the current study ($\alpha = .82$) to measure useful feedback from coworkers.

Coworker helping and support. Four items adapted from Podsakoff, Ahearne, and MacKenzie (1997) were averaged to create a measure of coworker helping and support behavior ($\alpha = .73$).

Perceived organizational support for creativity. Four items adapted from Scott and Bruce (1994) were averaged to create a measure of perceived organizational support for creativity ($\alpha = .84$).

RESULTS

Table 1 displays means, standard deviations, and correlations among all variables.

Hypothesis Testing

Hypothesis 1 predicts that job dissatisfaction, continuance commitment, and useful feedback from coworkers will interact to predict creativity so that job dissatisfaction will have the strongest, positive relationship with creativity when continuance commitment and useful feedback from coworkers are both high. We conducted moderated regression analysis to test this hypothesis, entering job dissat-

TABLE 1
Means, Standard Deviations, and Correlations[a]

Variable	Mean	s.d.	1	2	3	4	5	6
1. Creativity	3.19	0.79	(.96)					
2. Job dissatisfaction	1.88	0.77	−.11	(.86)				
3. Continuance commitment	3.77	1.22	−.24**	−.07	(.78)			
4. Useful feedback from coworkers	4.85	1.15	.18*	−.35**	−.13	(.82)		
5. Coworker helping and support	4.94	0.88	.17*	−.25*	.08	.48**	(.73)	
6. Perceived organizational support for creativity	4.96	1.10	.07	−.35**	.05	.36**	.41**	(.84)

[a] $n = 149$.
Internal consistency reliabilities are in parentheses.
  * $p \le .05$
  ** $p \le .01$

isfaction, continuance commitment, and useful feedback from coworkers into an equation with creativity as the dependent variable at the first hierarchical step; at the second step, the three two-way cross-product terms were entered. Support for Hypothesis 1 would require that two conditions be met. First, the third step (job dissatisfaction by continuance commitment by useful feedback from coworkers) should explain a significant amount of variance in creativity, above and beyond the total amount of variance explained by the three "main effects" and the three two-way interactions (Cohen & Cohen, 1983; Pedhazur, 1982). In other words, the change in the multiple squared correlation coefficient (ΔR^2) associated with the three-way interaction term should be statistically significant. Second, the pattern of this three-way interaction should be consistent with what was predicted.

Table 2 summarizes the regression analysis results. In support of Hypothesis 1, the results demonstrated that the statistic associated with the three-way interaction was statistically significant ($\Delta R^2 = .03$, $p \leq .05$). Figure 1 is a graphic representation of this three-way interaction. We created the figure by following the procedure suggested by Aiken and West (1991) and by Cohen and Cohen (1983). Specifically, we used the unstandardized regression coefficients and constant from the final regression equation to plot the relation between job dissatisfaction and creativity at high (one standard deviation above the mean) and low (one standard deviation below the mean) levels of continuance commitment and coworker useful feedback. As shown in the figure, the strongest, positive relationship between job dissatisfaction and creativity was observed when both continuance commitment and coworker useful feedback were high. Thus, Hypothesis 1 is supported.

Hypothesis 2 predicts that job dissatisfaction, continuance commitment, and coworker helping and support will interact to predict creativity in such a way that job dissatisfaction will have the strongest, positive relationship with creativity when both continuance commitment and coworker helping and support are high. We conducted moderated regression analysis to test this hypothesis. As Table 3 shows, the statistic associated with the three-way interaction of job dissatisfaction, continuance commitment, and coworker helping and support was statistically significant ($\Delta R^2 = .02$, $p \leq .05$), indicating that this interaction term explained a significant amount of the variance in creativity beyond that accounted for by the three main effects and the three two-way interactions. Figure 2 plots this relationship in a way that parallels the procedure used to plot Figure 1. The strongest, positive relationship between job dissatisfaction and creativity was observed when continuance commitment and coworker helping and support were both high. Thus, Hypothesis 2 is supported.

Hypothesis 3 predicts that job dissatisfaction, continuance commitment, and perceived organizational support for creativity will interact to predict creativity so that job dissatisfaction would have the strongest, positive relationship with creativity when both continuance commitment and perceived organizational support for creativity are high. Moderated regression analysis was used to test Hypothesis 3. As the results in Table 4 demonstrate, the interaction between job dissatisfaction, continuance commitment, and perceived organizational support for creativity explained a statistically significant amount of variance in creativity, above and beyond the variance accounted for by the three main effects and the three two-way interactions ($\Delta R^2 = .03$, $p \leq .05$), in support of Hypoth-

TABLE 2
Results of Hierarchical Regression Analysis Regressing Creativity on Job Dissatisfaction, Continuance Commitment, Useful Feedback from Coworkers, and Their Interactions[a]

Hierarchical Step	Independent Variable	Total R^2	ΔR^2
1	Job dissatisfaction Continuance commitment Useful feedback from coworkers	.08**	.08**
2	Job dissatisfaction × continuance commitment Job dissatisfaction × useful feedback from coworkers Continuance commitment × useful feedback from coworkers	.12**	.04
3	Job dissatisfaction × continuance commitment × useful feedback from coworkers	.15**	.03*

[a] $n = 149$.
* $p \leq .05$
** $p \leq .01$

FIGURE 1

Effects of the Interaction of Job Dissatisfaction, Continuance Commitment, and Useful Feedback from Coworkers on Creativity
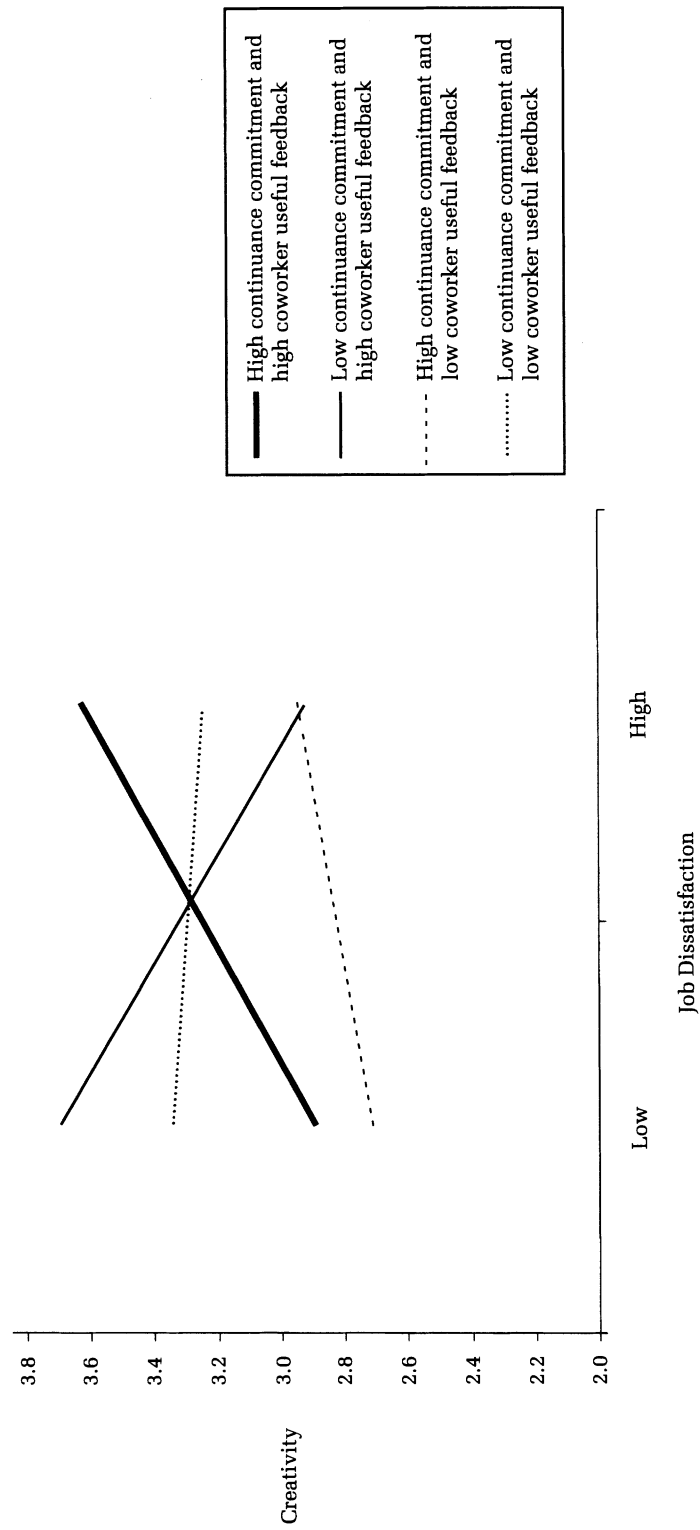
TABLE 3
Results of Hierarchical Regression Analysis Regressing Creativity on Job Dissatisfaction, Continuance Commitment, Coworker Helping and Support, and Their Interactions[a]

Hierarchical Step	Independent Variable	Total R^2	ΔR^2
1	Job dissatisfaction Continuance commitment Coworker helping and support	.09**	.09**
2	Job dissatisfaction × continuance commitment Job dissatisfaction × coworker helping and support Continuance commitment × coworker helping and support	.13**	.04
3	Job dissatisfaction × continuance commitment × coworker helping and support	.16**	.02*

[a] $n = 149$.
* $p \leq .05$
** $p \leq .01$

esis 3. Figure 3 depicts this interaction. As indicated in the figure 3, and consistent with Hypothesis 3, the strongest, positive relationship between job dissatisfaction and creativity was observed when continuance commitment and perceived organizational support for creativity were both high.

DISCUSSION AND CONCLUSIONS

This study examined conditions under which employee job dissatisfaction may lead to creativity. Creativity was posited to be a consequence of job dissatisfaction when conditions conducive to the expression of voice as a response to dissatisfaction exist. A necessary but not sufficient condition under which dissatisfaction can lead to creativity is continuance commitment. Continuance commitment ensures that dissatisfied employees remain in their organizations and thus have the potential to engage in voice. However, dissatisfied employees with high continuance commitment may also have passive responses to their dissatisfaction. Creativity, as an expression of voice, is an active, constructive response.

Past research suggests that in order for job dissatisfaction to lead to creativity as an expression of voice, employees must perceive that their creative efforts will be effective, because these behaviors, although having the potential to improve job conditions, are not without costs (Brockner et al., 1998; Hirschman, 1970; Rusbult et al., 1988; Withey & Cooper, 1989). Our results showed that employees who were dissatisfied with their jobs but were committed to remaining in their organizations because of necessity were more likely to be creative when their coworkers provided them with useful feed-

back that enabled them to make improvements on the job. We reasoned that such feedback might have contributed to the employees' belief that their creative actions would be effective because (1) the feedback directed the employees' attention toward learning and making improvements on the job, in the process of which they might be stimulated to see things from different perspectives and come up with new and useful ideas, and (2) the feedback increased employees' confidence that their creative ideas had a good chance of being supported by coworkers and subsequently implemented. Although our results are consistent with this reasoning, we cannot be certain that the coworker feedback we measured in fact led employees to believe that their creative actions would be effective via the mechanisms we proposed, because we did not directly measure the proposed intervening processes. Direct examination of the impact of these intervening processes should be a priority in future research.

Additionally, results showed that dissatisfied employees with high continuance commitment were more likely to be creative when their coworkers were helpful and supportive. Coming up with new and useful ideas is a real challenge in organizations, and if employees feel their efforts will not be successful, they may respond to their dissatisfaction in a passive rather than an active manner. Presumably, when coworkers are helpful and supportive, employees know that they will have assistance when problems arise and that coworkers will be willing to share their knowledge and expertise to solve problems and ensure that new ideas are viable.

Our results suggest that perceived organizational support for creativity also can play a positive role

FIGURE 2
Effects of the Interaction of Job Dissatisfaction, Continuance Commitment, and Coworker Helping and Support on Creativity

Legend:
- High continuance commitment and high coworker helping and support
- Low continuance commitment and high coworker helping and support
- High continuance commitment and low coworker helping and support
- Low continuance commitment and low coworker helping and support

Y-axis: Creativity (3.8, 3.6, 3.4, 3.2, 3.0, 2.8, 2.6, 2.4, 2.2, 2.0)
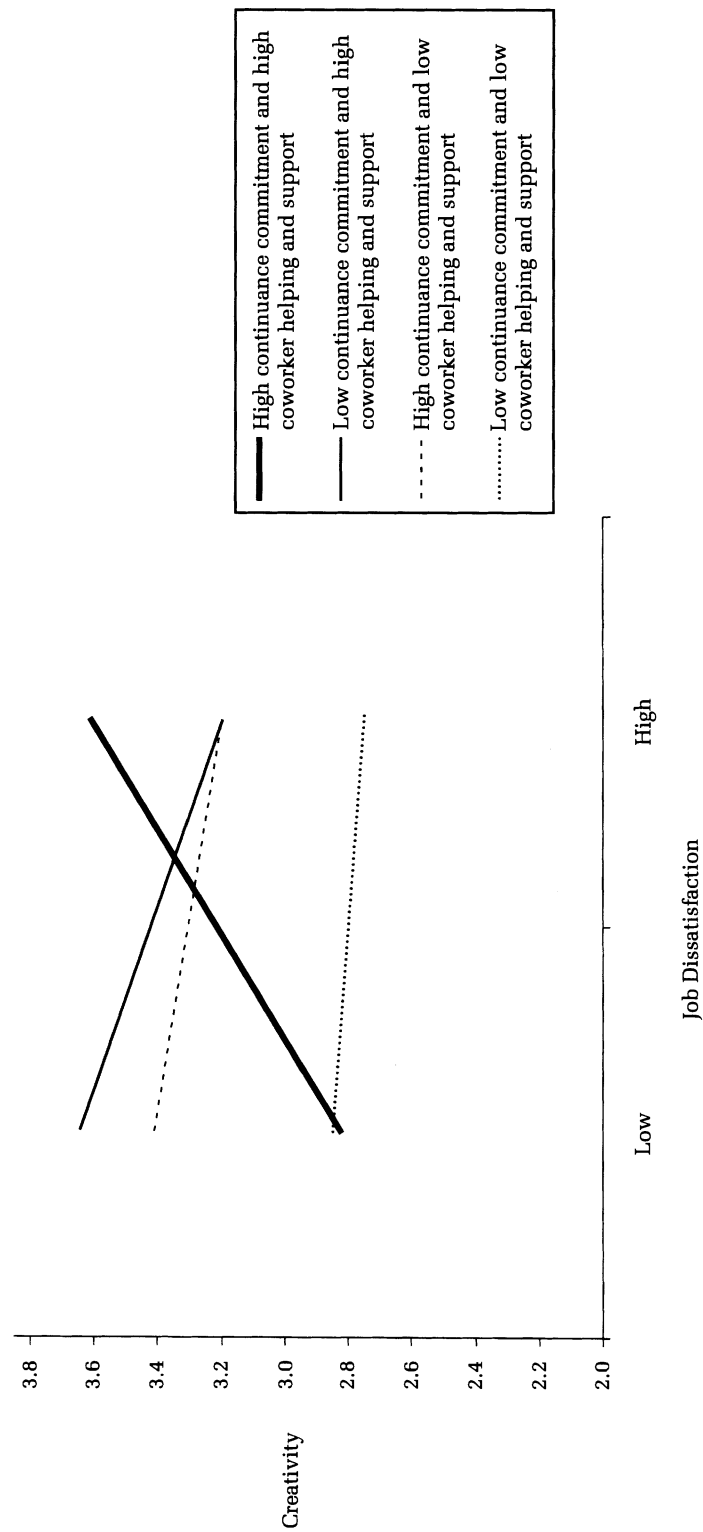
X-axis: Job Dissatisfaction (Low, High)

TABLE 4
Results of Hierarchical Regression Analysis Regressing Creativity on Job Dissatisfaction, Continuance Commitment, Perceived Organizational Support for Creativity, and Their Interactions[a]

Hierarchical Step	Independent Variable	Total R^2	ΔR^2
1	Job dissatisfaction Continuance commitment Perceived organizational support for creativity	.07*	.07*
2	Job dissatisfaction × continuance commitment Job dissatisfaction × perceived organizational support for creativity Continuance commitment × perceived organizational support for creativity	.11**	.04
3	Job dissatisfaction × continuance commitment × perceived organizational support for creativity	.13**	.03*

[a] $n = 149$.
* $p \leq .05$
** $p \leq .01$

in channeling job dissatisfaction into creativity. That is, when employees who experienced a high level of job dissatisfaction but had to stay in the organization perceived a high level of support for creativity, they exhibited a high level of creativity. We reasoned that perceiving management systems and practices to be supportive of creative activities and welcoming suggestions for change would result in creativity as an expression of voice as employees would be more likely to perceive that their creative efforts would be effective. Although we measured perceived organizational support for creativity, it would be interesting in future research to investigate the actual management systems and practices that are likely to lead to perceptions of organizational support for creativity.

These results are consistent with the conceptual framework that we developed on the basis of the literature concerning individual responses to job dissatisfaction. According to this framework, contextual variables affect whether individuals choose to engage in creative performance as a response to job dissatisfaction by influencing individuals' perception of the extent to which creativity can be effective in changing an undesirable or unattractive work situation. In our framework, factors that are related to the employees' coworkers, such as useful feedback from coworkers and coworker helping and support, as well as perceived organizational support for creativity, play an important role in shaping perceptions of the effectiveness of creativity.

Although our results supported the theoretical predictions, it is important to note that we did not directly measure the underlying psychological mechanisms described in the conceptual framework, including the perceived effectiveness of cre-

ativity. Research is now needed that directly examines the possibility that these psychological mechanisms are responsible for explaining the effects of contextual conditions on the relations among job dissatisfaction, continuance commitment, and creativity. Such research might also include measures of whether coworkers or the organization supported new and useful ideas generated by an employee in the past. Positive past experience with generating and implementing new and useful ideas might lead employees to perceive future creative actions as having the potential to be effective.

The results of our study demonstrate that job dissatisfaction is not necessarily an undesirable outcome for organizations. Under favorable contextual conditions, such as the presence of high levels of useful feedback from coworkers, coworker helping and support, or perceived organizational support for creativity, job dissatisfaction can be redirected into a positive outcome—employee creativity. Future research is needed to identify and investigate whether there are other contextual variables, including supervisor behaviors, coworker behaviors, and organizational policies and practices, that might also be useful in channeling job dissatisfaction into creativity.

Future research might also investigate what types of employees, when experiencing job dissatisfaction, are more likely to engage in creative behaviors as an expression of voice. It is possible that employees with certain characteristics may be more likely than others to choose creative performance as an expression of voice (Rusbult et al., 1988). For example, Brockner and his colleagues (1998) pointed out that individuals who have high self-esteem are more likely to express voice, because they tend to

FIGURE 3

Effects of the Interaction of Job Dissatisfaction, Continuance Commitment, and Perceived Organizational Support for Creativity on Creativity
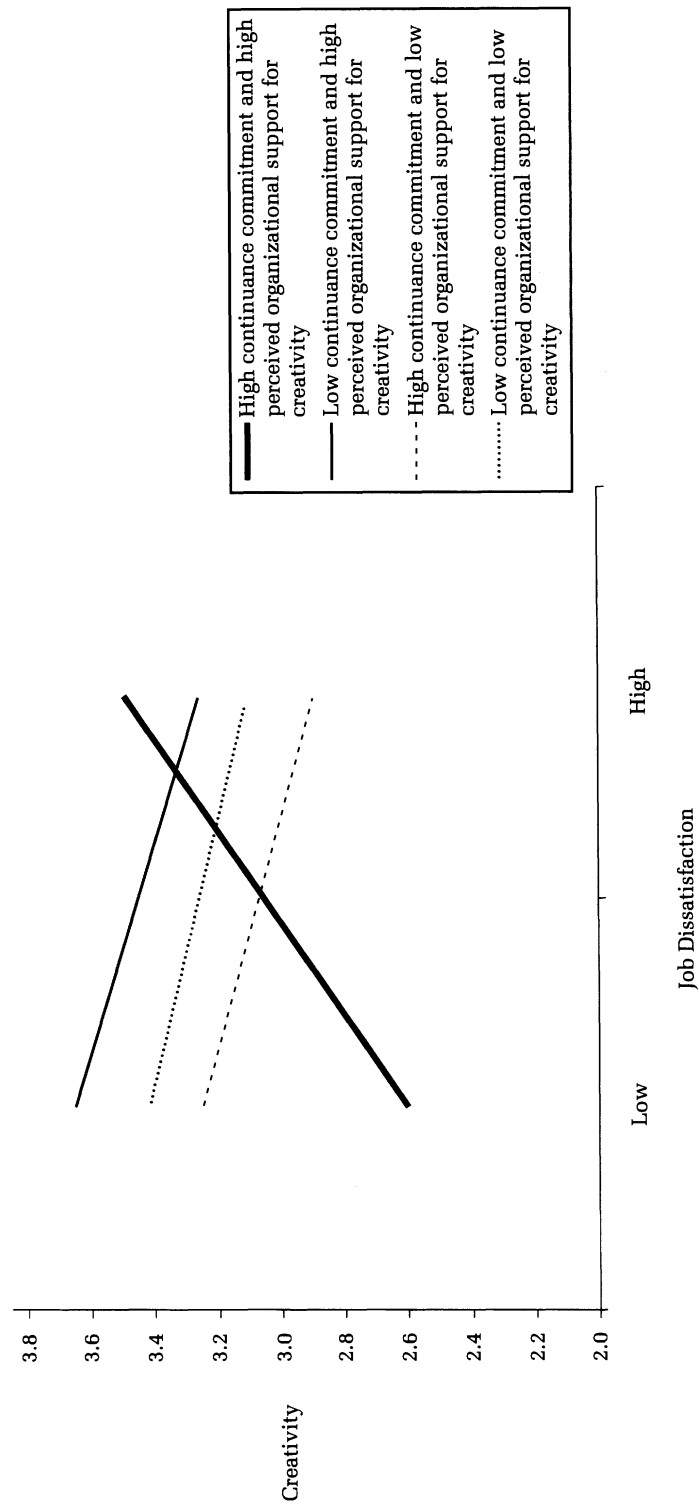
believe that their actions will be influential and effective. Thus, we expect that individuals with high self-esteem will react more positively to the contextual conditions investigated in the present study by exhibiting greater creativity than individuals with relatively low self-esteem.

In interpreting our results, it is important to note that we are *not* advocating that managers somehow try to increase levels of job dissatisfaction in order to promote creativity and change. We simply suggest that, given the fact that in most organizations, some employees are bound to be dissatisfied with their jobs at one time or another, managers treat such dissatisfaction as an opportunity for encouraging the generation of new and useful ideas rather than view it as a problem or nuisance. By doing so, managers may not only improve the well-being of employees, but may also benefit the organization by promoting meaningful and necessary change. It is also important to note that employee creativity—the generation of new and useful ideas—is only the first step toward organizational innovation. Consistent with the creativity literature (e.g., Amabile, 1988), the present study focused on creativity at the individual employee level, instead of focusing on organizational innovation, or the implementation of employees' creative ideas at the organizational level. Although employee creativity may not always lead to the successful implementation of creative ideas at the organizational level, it often provides the starting point for such innovation.

The present study is not without limitations. First, although our results are consistent with the theoretical predictions, the cross-sectional nature of our study precludes our being able to unequivocally determine the direction of causality. For example, research that measures creativity a few months after measuring job dissatisfaction, continuance commitment, and the contextual variables might allow researchers to draw somewhat firmer conclusions. Such longitudinal designs need to be pursued before the findings of the present study are applied to organizational settings. Second, we were not able to assess what happened after the employees engaged in creative performance in response to job dissatisfaction. If the new ideas proposed by the employees were accepted and subsequently implemented by the organization, it is possible that employees' job dissatisfaction would decrease. However, if these creative ideas were not accepted and implemented by the organization, it is possible that the employees would become even more dissatisfied with their jobs, which might be detrimental for both the employees and the organization. Research is now needed to directly address these interesting and important issues.

These limitations notwithstanding, the present study provides interesting implications for managing job dissatisfaction and creativity in organizations. By ensuring that one of the three contextual factors is present—coworkers provide useful feedback, coworkers are helpful and supportive to each other, or the organizations support creativity and effectively communicate this support to employees—managers may be able to channel employee dissatisfaction into creativity. Such creativity may not only result in the production of new and useful ideas that will help eliminate the sources of dissatisfaction, but may also result in enhanced organizational effectiveness. In the literature on organizational change, the difficulty organizations have overcoming inertia and forces of resistance to change is often lamented (Woodman, 1989). Organization members who are discontented with the status quo may be a valuable resource in instigating change and overcoming this inertia. Our results suggest that in order to take advantage of this potential resource, managers need to ensure that an organizational context supports creativity.

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APPENDIX

Scales and Items

Creativity

Suggests new ways to achieve goals or objectives.

Comes up with new and practical ideas to improve performance.

Searches out new technologies, processes, techniques, and/or product ideas.[a]

Suggests new ways to increase quality.

Is a good source of creative ideas.

Is not afraid to take risks.

Promotes and champions ideas to others.[a]

Exhibits creativity on the job when given the opportunity to.

Develops adequate plans and schedules for the implementation of new ideas.[a]

Often has new and innovative ideas.

Comes up with creative solutions to problems.

Often has a fresh approach to problems.

Suggests new ways of performing work tasks.

Job Dissatisfaction

In general, I like working at [company]. (reverse-scored)

In general, I don't like my job.

All in all, I am satisfied with my job. (reverse-scored)

Continuance Commitment

Right now, staying with [company] is a matter of necessity as much as desire.

It would be very hard for me to leave [company] right now, even if I wanted to.

Too much of my life would be disrupted if I decided I wanted to leave [company] right now.

I feel that I have too few options to consider leaving [company].

If I had not already put so much of myself into [company], I might consider working elsewhere.

One of the few negative consequences of leaving [company] would be the scarcity of available alternatives.

Useful Feedback from Coworkers

I find the feedback I receive from my coworkers very useful.

My coworkers provide me with valuable information about how to improve my job performance.

The feedback I receive from my coworkers helps me improve my job performance.

Coworker Helping and Support

Willingly share their expertise with each other.

Help each other out if someone falls behind in his/her work.

Encourage each other when someone is down.

Try to act like peacemakers when there are disagreements.

Perceived Organizational Support for Creativity

Creativity is encouraged at [company].

Our ability to function creatively is respected by the leadership.

The reward system here encourages innovation.

[Company] publicly recognizes those who are innovative.

[a] Item is from Scott and Bruce (1999); we developed all the other creativity items.

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