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# Predicting Voice Behavior in Work Groups

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This field study of 441 full-time employees in 95 work groups examined voice behavior (constructive challenge to the status quo with the intent of improving the situation rather than merely criticizing) as a function of person-centered (satisfaction with the work group, global self-esteem) and situational factors (group size, self-managed vs. traditional style of management). Using a measure of voice with demonstrated construct validity, the study showed that these person and situation factors explained 10% of the variance in peer-rated voice assessed 6 months later. Significant Person × Situation interactions suggested that individuals with low global self-esteem or high satisfaction with their group were more responsive to the situational factors than individuals with high global self-esteem or low satisfaction. The authors discuss the importance of including person-centered characteristics, situational factors, and their interactions as predictors of voice.



For over 50 years, scholars have recognized the importance of behavior that goes beyond normal role expectations or job requirements and that benefits or is intended to benefit the organization (Barnard, 1938; George & Brief, 1992; Katz & Kahn, 1978). Over the last decade research interest in these discretionary or extra-role behaviors has increased; however, the primary focus has been on affiliative behaviors (e.g., helping) associated with "organizational citizenship" (e.g., Organ, 1988) and "contextual performance" (e.g., Motowidlo & Van Scotter, 1994). Although this research has led to a great deal of insight, other types of extra-role behavior have received far less attention (Graham, 1991; Van Dyne, Cummings, & McLean Parks, 1995). In this study we focused on voice behavior—speaking out and challenging the status quo with the intent of improving the situation. Although scholars have acknowledged the contributions that voice and change-oriented behavior can make to organizational effectiveness (Katz & Kahn, 1978; Nemeth & Staw, 1989; Schein, 1968), voice is particularly important today given the emphasis on flexibility, innovation, and continuous improvement (Howard, 1995).

Nowhere is the need for voice more important than in work groups. Work groups, or sets of interdependent individuals who share responsibility for outcomes (Sundstrom, DeMeuse, & Futrell, 1990), are increasingly being used as a means of dealing with competitive environments that demand flexibility (Ilgen, 1994). Instead of structuring work around individual-level jobs, work is assigned to groups that are expected to devise effective means for accomplishing the work (Cascio, 1995). In such situations, group members must share ideas, knowledge, and insights so that multiple viewpoints are considered in making decisions (Hollenbeck, LePine, & Ilgen, 1996; Ilgen, LePine, & Hollenbeck, 1997; Nemeth, 1986; Schwenk, 1990).

Over the past 30 years, researchers have spent a great deal of effort describing problems that occur when group members fail to speak out and share their ideas with each other (e.g., Janis, 1972; Kelman & Hamilton, 1989; Kiesler & Kiesler, 1969). This research focused on the outcome side of the voice nomological network (i.e., problems when people do not engage in voice). In contrast, less research has focused on antecedents of voice. Furthermore, research on antecedents of voice is still in an early stage of development and has explained only a small amount of variance (e.g., Rusbult, Farrell, Rogers, & Mainous, 1988; Saunders, Sheppard, Knight, & Roth, 1992; Withey & Cooper, 1989). This is a problem because without knowledge of antecedents, researchers cannot make recommendations regarding how to manage voice in work groups. Given that organizations are increasingly dependent on their groups' success, it is critical for researchers to begin to fill this void. The purpose of this article and the study it reports, therefore, is to propose and assess a predictive model of voice that considers several antecedents. Before we can begin, however, we need to explain more precisely what we mean by voice.

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## Voice Research

Van Dyne et al. (1995) reviewed the literature on extra-role behavior and proposed a two-dimensional typology and nomological network. On one dimension, their typology contrasts promotive and prohibitive behavior (encouraging something to happen vs. encouraging something to cease). On the other dimension, their typology contrasts affiliative and challenging behavior (interpersonal behavior that promotes cooperation and strengthens relationships vs. change-oriented behavior that focuses on ideas and issues). Using this typology, Van Dyne and her colleagues distinguished between several forms of extra-role behavior.

Voice, defined as nonrequired behavior that emphasizes expression of constructive challenge with an intent to improve rather than merely criticize (Van Dyne & LePine, 1998, p. 109), falls clearly in the promotive-challenging cell of the Van Dyne et al. (1995) typology. Voice is distinct from affiliative behavior (e.g., helping) normally associated with organizational citizenship (e.g., Smith, Organ, & Near, 1983) or contextual performance (e.g., Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996) because affiliative behavior (e.g., helping) is meant to preserve or improve relationships, whereas voice is challenging and may upset interpersonal relationships. Voice is also distinct from prohibitive behaviors such as whistle-blowing (Near & Miceli, 1987; Miceli & Near, 1992). Whistle-blowing is critical and meant to stop some activity as opposed to being constructive and meant to change (improve) some activity.

From a theoretical and definitional perspective, given the definition of voice above, it is possible to further distinguish voice from other related behaviors. For example, we do not consider principled organizational dissent (Graham, 1986) to be voice because principled organizational dissent focuses on objections based on conscientious or moral principles rather than suggesting more effective ways of doing things. Voice behavior is also distinct from complaining. Complaints reflect expression of dissatisfaction and do not necessarily include suggestions for change (Kowalski, 1996). Because we define voice as a behavior, our use of the term does not refer to the availability of grievance procedures or perceptions of access to grievance procedures. Finally, voice is distinct from normal role or in-role behavior when the expression of constructive challenge is not specified in formal job requirements or descriptions. That is, constructive suggestions made by consultants or other change agents in the context of their job requirements are not voice as defined here. One example of voice as we define it is when a group member makes an innovative suggestion for change to a standard operating procedure in order to improve work flow, even when such a suggestion might upset others.

From an empirical perspective there is evidence that voice is different from other behaviors. In a recent study, Van Dyne and LePine (1998) presented initial construct validity support for a 6-item measure of voice behavior. In their study, supervisors, peers, and employees differentiated in-role from extra-role behavior, and also distinguished between two forms of promotive extra-role behavior—helping and voice. Using multigroup confirmatory factor analysis, they demonstrated that their three-factor (in-role, helping, and voice behavior) measurement model was fairly stable over time (6 months) and across raters (self, peers, and supervisor). They also found that supervisors recognized and rewarded voice because employees who exhibited voice at Time 1 received higher performance ratings at Time 2.

However, despite the empirical evidence that voice is distinct from other work-related behaviors and has practical importance in work group contexts, researchers have not had much success in predicting voice (see, e.g., Withey & Cooper, 1989). We suggest that this can be attributed to at least two factors: (a) focusing on satisfaction and excluding other theoretically relevant predictors, and (b) utilizing measures of voice with questionable construct validity.

### *Focus on Satisfaction*

Research on voice has emphasized the person-centered antecedents of satisfaction, dissatisfaction, or both. This emphasis can be attributed to Hirschman (1970), who proposed that voice is a "political" response (as opposed to exit, which is an "economic" response) of organizational members or customers to their dissatisfaction with organizational-level decline. Researchers extended Hirschman's theory by proposing that voice is also a response to dissatisfaction with specific aspects of work in the context of high levels of overall job satisfaction or prior job satisfaction (e.g., Farrell & Rusbult, 1992; Rusbult et al., 1988). This research on voice made a contribution because it provided an initial theoretical framework for assessing a key antecedent of voice. The emphasis on a single antecedent (satisfaction) or type of antecedent (person-centered) is also consistent with initial research in many areas.

Researchers have traditionally attempted to predict human behavior using either person-centered (e.g., affect, abilities, personality) or situation-centered (e.g., job characteristics, social settings) variables. Recently, however, researchers have begun to recognize that most human behavior is influenced by many independent factors and that relationships may vary systematically depending on the situation and vice-versa (e.g., Brockner, 1988; Eke-

hammer, 1974). Thus, there is a need to develop predictive models that consider the independent and joint effects of theoretically relevant personal and situational variables (Hattrup & Jackson, 1996).

Several recent studies on behaviors closely related to voice illustrate the use of both personal and situational antecedents in the same model. Near and Miceli (1995), for example, theorized that individual and situational variables affect the outcome of whistle-blowing. Scott and Bruce (1994) found support for their hypotheses relating both individual and situational variables to innovative behavior. Ford (1996) included both individual and situational variables in his model of creative behavior. Finally, and more directly relevant to our approach, Van Dyne et al. (1995) proposed an initial nomological network for voice that included both person-centered (affective states and individual differences) and situational (contextual factors) antecedents. In summary, given that satisfaction is only one of several theoretically relevant variables, it is not surprising that predicting employee voice behavior has been difficult.

### *Measurement of Voice*

Schwab (1980) pointed out that concern for measurement has been viewed as secondary to substantive issues in the early stages of research on most new constructs. We suggest that this has been the case with research on voice and the result has been weak and inconsistent empirical findings. First, voice scales used in past research included items with questionable content validity. For example, Leck and Saunders's (1992) 5-item scale contained the items "Voluntarily wear clothing (hat, jacket, pin, etc.) that bears your organization's symbol or insignia" and "Say good things about your job even when others criticize it." The inclusion of such items in scales designed to measure voice inevitably causes construct contamination (Schwab, 1980) and construct stretching (Osigweh, 1989), which may inflate or deflate observed validity coefficients depending on the extent of criterion contamination or deficiency. Second, researchers have used voice scales with low internal consistency reliability (e.g., Rusbult et al., 1988; Withey & Cooper, 1989). Low reliability attenuates validity coefficients. Third, most research on voice (e.g., Farrell & Rusbult, 1992; Leck & Saunders, 1992; Rusbult et al., 1988; Saunders et al., 1992) has used self-reported frequency or intentions/likelihood of engaging in voice behaviors rather than observed frequency of actual behavior. Because of the challenging nature of voice, it is problematic to assume that intentions translate into behavior. To the extent that this assumption does not hold, intention-based measures of voice lack construct validity, which may inflate or deflate the size of relationships depending on what is actually being measured.

### *Summary*

To date, researchers have not had great success in predicting voice. This shortcoming can be attributed to (a) focusing on a single antecedent and (b) using measures with questionable construct validity. Although such shortcomings often occur in relatively new research domains, developing and testing more detailed models and using measures with construct validity will advance theoretical understanding and suggest interventions that can be applied by managers. The objective of this article is to use theory and recent empirical findings to develop and test an initial set of voice antecedents. Following the general recommendations of interactionists and more specific recommendations regarding voice, we propose and assess a predictive model of voice including both person-centered and situational antecedents. In addition, we use a measure of voice with initial evidence of construct validity.

## Person-Centered Antecedents

Although a large number of person-centered characteristics could be considered in a predictive model of voice, practical and statistical concerns limit any single study to a manageable subset of those characteristics (Cohen, 1990). Therefore, in our study, we chose to focus on one person-centered characteristic from each category suggested by Van Dyne et al. (1995; i.e., affective characteristics and individual differences). Building on past voice research, we chose satisfaction as our affective construct because it is the key antecedent in existing models of voice. Extending past research, we included global self-esteem. Global self-esteem was chosen because of its importance in predicting behavior that is somewhat risky to the self.

### *Satisfaction With the Group*

Job satisfaction is defined as a pleasurable emotional state resulting from positive cognitive appraisal of one's job or job experiences (Locke, 1976). To date, satisfaction has been the primary antecedent included in models of voice behavior. Researchers typically use Hirschman's (1970) framework and describe voice as a response to dissatisfaction in the context of overall satisfaction or prior satisfaction. Some studies report no relationship between satisfaction and voice (Saunders et al., 1992), and others report a weak but positive relationship (Farrell & Rusbult, 1992; Rusbult et al., 1988; Withey & Cooper, 1989). However, job satisfaction is complex and multidimensional (Locke, 1976) and the use of overall job satisfaction may be problematic because it confounds sources of satisfaction. Overall job satisfaction scores based on measures containing multiple components (e.g., work itself, pay, promotion opportunities, recognition, benefits,

working conditions) are ambiguous and can lead to weak or inconsistent empirical findings. For example, an individual would be characterized as having moderate overall job satisfaction if he or she reported high levels of satisfaction with some things (e.g., work itself, pay, and promotion opportunities) and low levels of satisfaction with others (e.g., recognition, benefits, and working conditions). Another individual would also be characterized as having moderate job satisfaction if he or she reported moderate levels of satisfaction for everything. Although these two people would have equal overall scores on a measure of job satisfaction, they most likely have different thoughts and feelings regarding their work experience. To the extent that these differences lead to different behaviors, the use of overall job satisfaction may be problematic (Wanous & Lawler, 1972).

We suggest that satisfaction with a specific aspect of the work situation rather than overall job satisfaction may be a better predictor of voice behavior. In most organizations, the most proximal work-related source of affect for employees is their group. When employees must interact with others in their work group to perform their jobs, their affective response to this interdependence can be a major source of low and/or high satisfaction (Hackman, 1992). Consistent with social exchange theory (Blau, 1964), we would expect those who are satisfied with their group to be more highly motivated, to invest effort in developing new ideas, and to take the time to communicate these ideas to others in the group. From this perspective, speaking up with constructive recommendations can be viewed as a reciprocal response based on high levels of satisfaction with the group.

Satisfaction with the group should also relate to voice because those who experience positive affective states are likely to be proactive in taking steps to maintain their good feelings (Carlson, Charlin, & Miller, 1988; George, 1996). According to Locke (1976), "job satisfaction results from the perception that one's job fulfills or allows the fulfillment of one's important job values" (p. 1307). Values are relatively stable and enduring individual beliefs that have pervasive and fundamental effects on behavior (Rokeach, 1973; Schwartz & Bilsky, 1987). Combining the general importance of values and their specific relevance to satisfaction, it is reasonable to expect that individuals who are satisfied with their work group should be more attached to the group and more dependent on the group to maintain feelings of satisfaction and to fulfill their values. The implication is that individuals who are highly satisfied with their group should be more likely to engage in proactive behavior (e.g., voice) in the interest of group viability.

Of course, it is possible that those who are highly satisfied with their group may have fewer issues about which to offer voice and, therefore, may be less likely to engage in voice. However, we suggest that individuals who are highly satisfied with their group should be more vigilant and more likely to offer suggestions regarding issues that might detract from the group's long-term viability than individuals who are dissatisfied. Highly satisfied individuals should also be more willing to invest the time and effort required to deal with these issues (i.e., formulating and presenting ideas and suggestions for change). Individuals who are highly dissatisfied with their group (perhaps due to an awareness of many problems and issues), on the other hand, should be more likely to express themselves by complaining (e.g., "I am very unhappy with this group because of all the back stabbing"). Complaints are expressions of discontent or dissatisfaction, and unlike voice, do not include or imply suggestions for change or improvement (Kowalski, 1996). Thus, even though highly satisfied individuals may have fewer issues about which to offer voice than dissatisfied individuals, we believe those who are satisfied are more likely to offer constructive ideas and suggestions for change. Stated as a hypothesis,

> *Hypothesis 1.* Satisfaction with the group will be positively related to voice such that those who are more satisfied with their group will engage in more voice than individuals who are less satisfied with their group.

### *Global Self-Esteem*

Self-esteem is an important predictor of attitudes and behavior in work and nonwork contexts (Brockner, 1988; Wells & Marwell, 1976). Global self-esteem is the degree of positive self-worth that an individual ascribes to him- or herself (Brockner, 1988). It indicates the degree to which individuals believe they are capable, significant, successful, and worthy (Coopersmith, 1981, p. 5) and is often thought of in terms of self-confidence and generalized self-competence (Tharenou, 1979). Research demonstrates that those with high self-esteem conform less (see, e.g., Wells & Marwell, 1976) and exhibit more initiative and assertiveness than those with low self-esteem (Crandall, 1973).

By definition, voice behavior requires proactive and assertive nonconformance. Behavior that is change-oriented and challenging is risky because organizations often view dissent and other nonconforming behaviors negatively (Nemeth & Staw, 1989). In addition, pressure to conform, particularly in work groups, can be substantial because speaking up and engaging in voice can threaten cohesiveness and result in sanctions against those who express divergent opinions (Asch, 1956; Festinger, 1957; Hackman, 1992; Nemeth, 1986). Accordingly, traits such as self-esteem should be important predictors of voice behavior, particularly in the context of work groups. For

example, Staw and Boettger (1990) speculated that self-esteem and willingness to stand up to authority would be important personality determinants of task revision (proactive and innovative behavior that is not specified by the job). Similarly, Van Dyne et al. (1995) included global self-esteem as an important antecedent of voice in their proposed model. This is consistent with Near and Miceli (1985) and Miceli and Near (1992), who suggested, in their work on whistle-blowing, that low self-esteem individuals may withdraw from involvement in controversial situations and also that high self-esteem individuals might be more likely to get involved in attempts to reform the situation (Near & Miceli, 1987). Although whistle-blowing is different from voice in that it focuses on alerting others to wrongdoing, it is similar to voice in that it requires initiative and nonconformance. On the basis of this reasoning, we expect that group members with high self-esteem will be more proactive in engaging their environments and will be less influenced by conformity pressures than individuals with low self-esteem. Thus,

*Hypothesis 2.* Global self-esteem will be positively related to voice such that individuals with high levels of global self-esteem will engage in more voice than individuals with low levels of global self-esteem.

## Situational Antecedents

Although the discussion so far has focused on person-centered antecedents of voice, it is likely that situational factors also influence voice. Situations provide direct stimuli as well as the context for interpreting other stimuli and therefore have the potential to influence behavioral responses directly and indirectly (Hackman, 1992). Although a large number of situational variables could be considered in a comprehensive model of voice, the literature on small groups suggests two factors that should be particularly important for predicting voice. These situational factors are group size and the extent to which groups are self- versus traditionally managed.

### *Group Size*

Past research demonstrates strong relationships between group size and member involvement (Hackman & Vidmar, 1970; Thomas & Fink, 1963) and conformity behavior (Asch, 1956). Diffusion of responsibility tends to be positively related to the number of members in a group (Latane, 1981). In larger groups, it is difficult to identify individual members' relative contributions and therefore individuals feel less responsible for group-level outcomes. Individual members, in essence, feel more anonymous. The result is that members of large groups become less involved in group matters relative to members of smaller groups. In addition, conformity pressure increases with group size (Gerard, Wilhelmy, & Conolley, 1968), making it less likely that individual members will speak up and express challenging or change-oriented ideas. Because voice is proactive, discretionary, and challenging, it should be especially susceptible to the diffusion of responsibility and conformity pressures of large groups. Members of large groups should feel less involved and be less willing to engage in challenging behavior (e.g., voice) than members of small groups. Accordingly, we expected

*Hypothesis 3.* Group size will be negatively related to voice such that individuals in smaller groups will engage in more voice than individuals in larger groups.

### *Style of Management: Self- Versus Traditional Management*

Self-managed work groups are self-regulating. They perform a complete task, encourage differential member contributions based on skills and abilities, and exercise discretion over work methods and task schedules (Cummings, 1978). The amount of autonomy and discretion delegated to a work group influences each member's sense of involvement and responsibility (Walton & Hackman, 1986). In self-managed groups, therefore, members are likely to take "personal responsibility" and feel "personally accountable" for outcomes (Hackman, 1986, p. 93). Employees in self-managed groups are also linked together by high levels of task interdependence and shared responsibility for group performance. Consequently, member jobs are more complex and individuals are more broadly involved in group decision making than those who work in traditional groups that function under control systems based on a hierarchy (Kemp, Wall, Clegg, & Cordery, 1983; Pearce & Ravlin, 1987; Wall, Kemp, Jackson, & Clegg, 1986). Although research on self-managed groups is inconsistent and does not demonstrate higher overall effectiveness (Polley & Van Dyne, 1994), research has shown that self-managed groups have higher job complexity and that individuals in complex jobs exhibit more voice (Van Dyne, Graham, & Dienesch, 1994). On the basis of these findings, we suggest that members of self-managed work groups will be especially proactive in expressing their opinions, making innovative suggestions, and developing recommendations for change. Specifically, we hypothesized

*Hypothesis 4.* Individuals in self-managed groups will engage in more voice relative to individuals in traditionally managed groups.

## Person × Situation Interactions

Although many researchers have argued (see, e.g., Ekehammer, 1974; Schneider, 1983) that "individual be-

havior in organizations is best conceptualized as the result of interactive processes that depend on the simultaneous interplay of differences between situations and differences between individuals'' (Hattrup & Jackson, 1996, p. 507), few have actually pursued this approach. Instead, researchers have tended to focus on either personal or situational predictors. This is certainly the case in voice research where researchers have focused almost exclusively on individual affect (satisfaction) and have rarely considered situational factors or the interaction between person-centered characteristics and situational characteristics. Considering person–situation interactions allows identification of systematic relationships that occur when the behavior of different types of individuals varies based on the situation. In the next two sections, we draw upon and extend behavior plasticity theory (Brockner, 1988) to specify the nature of Person × Situation interactions on voice behavior.

### *Self-Esteem and Behavior Plasticity*

Research on self-esteem as a main effect has yielded weak and inconsistent results. To address this issue, Brockner (1988) developed behavior plasticity theory. This theory proposes that self-esteem moderates the relationship between situational factors and individual behavior such that those with low self-esteem are more responsive to external cues (situational factors) than those with high self-esteem. Brockner gave three reasons for this relationship. First, low self-esteem individuals are less certain of their own beliefs and behaviors and are more influenced by their environments. Second, because low self-esteem individuals are dependent on others for positive feedback, they respond to others by conforming in an attempt to gain approval. Finally, low self-esteem individuals are especially sensitive to negative feedback. They tend to overgeneralize, apply the feedback broadly, and change their behavior in a variety of situations. In contrast, those with high self-esteem are less influenced by situational factors and are more likely to exhibit behavioral autonomy.

Many studies have demonstrated that self-esteem moderates the relationship between events and circumstances in the workplace. (e.g., Brockner, Derr, & Laing, 1987; Greenhaus & Badin, 1974; Korman, 1966, 1970; Pierce, Gardner, Dunham, & Cummings, 1993; Tharenou & Harker, 1984; Weiss & Knight, 1980). Mossholder, Bedeian, and Armenakis (1981, 1982), for instance, demonstrated that self-esteem moderated the relationship between peer-group interaction and performance/tenure/stress such that those with low self-esteem were more responsive to the elements in their work environment.

Overall, the literature on self-esteem suggests that low self-esteem individuals tend to be more responsive to a variety of organizational stimuli including peer-group interaction, evaluative feedback, socialization, leadership influence, role strain, and work layoff. In contrast, those with high self-esteem are less responsive to external cues and influence. Applying this logic to our study, we hypothesized that self-esteem would moderate the link between situational factors and voice behavior. Individuals with low self-esteem should be more responsive to the contextual influence of group size and style of management (self- vs. traditional management). More specifically, those with low self-esteem would be more sensitive to the diffusion of responsibility that typically occurs in large groups. They would feel less involved, less influential, and would be less willing to engage in challenging behavior such as voice. Thus, low self-esteem would enhance the negative relationship between group size and voice.

Likewise, we hypothesized that the predicted relationship between style of management and voice will be stronger for those with low self-esteem. That is, those with low self-esteem will be more responsive to the personal responsibility, job complexity, and accountability of self-managed work teams and this will enhance their willingness to be proactive and exhibit voice. On the basis of the above we hypothesized the following:

> *Hypothesis 5a.* Voice will be an interactive function of self-esteem and group size such that the negative relationship between group size and voice will be stronger (more negative) for individuals with low self-esteem relative to those with high self-esteem.
>
> *Hypothesis 5b.* Voice will be an interactive function of self-esteem and self- versus traditional management such that the relationship between self-management and voice will be stronger (more positive) for individuals with low self-esteem relative to those with high self-esteem.

### *Satisfaction With the Group and Behavior Plasticity*

Although behavior plasticity theory was developed by Brockner (1988) specifically to explain self-esteem by situational factor interactions, it also seems reasonable to propose that satisfaction may have plasticity characteristics. That is, just like for self-esteem, we suggest that satisfaction with the group will moderate the relationship between situational factors and individual behavior.

Satisfaction is based on individuals' assessment that they are fulfilling important values (Locke, 1976). Satisfaction with the group implies that individuals believe they are fulfilling their values, in part, through the group. They are attached to the group, the group is important to them, and they are willing to reciprocate by taking the time to develop and express ideas for change. Their behavior, therefore, is a function of their own values and their preference for fulfilling these values through their group.

As such, they should be less sensitive to contextual factors and should not increase or decrease their voice in response to those factors. That is, highly satisfied group members will engage in voice regardless of the situation.

In contrast, those who are less satisfied are also less attached and less dependent on the group. Their behavior in the group is not based on fulfilling their values through group involvement. Instead it is more a function of the characteristics of the situation. That is, situational factors are more salient to individuals who are less satisfied with their group and their behavior is more "plastic." Therefore, we expected individuals with low satisfaction to be more responsive to the conformity pressure, feelings of anonymity, and diffusion of responsibility that are characteristic of large groups. Similarly, we expected individuals with low satisfaction to be more responsive to feelings of accountability and personal responsibility that are characteristic of self-managed groups. In essence, we propose that low satisfaction magnifies the relationship between situational factors and voice. That is, low satisfaction strengthens the negative relationship between group size and voice and the positive relationship between style of management and voice. Accordingly, we hypothesized the following:

*Hypothesis 6a.* Voice will be an interactive function of satisfaction with the group and group size such that the negative relationship between group size and voice will be stronger (more negative) for individuals who are less satisfied with their group relative to those who are more satisfied with their group.

*Hypothesis 6b.* Voice will be an interactive function of satisfaction with the group and self- versus traditional management such that the positive benefit of self-management on voice will be stronger (more positive) for individuals who are less satisfied with their group relative to those who are more satisfied with their group.

## Summary

Consistent with the notion that voice in work groups is a function of more than just satisfaction, we have used theory and related empirical findings to hypothesize relationships for two person-centered constructs (satisfaction with the group and global self-esteem), two situational constructs (group size and style of management), and their interaction in expanding our understanding of the antecedents of voice. In the next section, we report a study that assessed these hypotheses using a construct valid measure of voice behavior.

## Method

### *Respondents and Procedure*

The proposed relationships in this study are not limited to any particular type of employee, job, or organization. Consequently, we collected data from individuals in a broad range of jobs in a variety of organizations. This allowed us to rule out the possibility that results might be unique to a particular type of job or organization and would support generalization to a broad range of settings. We considered 74 firms in the Midwest as possible data collection sites and assessed each on four characteristics (likelihood of being able to study multiple groups from the same organization, likelihood of being able to study groups in which jobs were interdependent, likelihood that a personal contact would be willing to endorse the study, and our subjective assessment of the probability of successfully collecting data in the organization). On the basis of this analysis we contacted 44 firms and 21 (48%) agreed to participate, providing us with access to 95 work groups that met our criteria for inclusion. We excluded temporary groups (i.e., task forces and committees) and groups with low task interdependence where work was performed primarily by individuals working alone (i.e., bank tellers, research scientists with individual accountability for projects, and sales personnel with individual incentive programs). In summary, groups in the study were of an ongoing or permanent nature and composed of at least three employees in interdependent jobs who reported to the same supervisor. The resulting convenience sample consisted of data from 597 employees, their peers, and their supervisors from 95 work groups (median group size = 8) from 21 organizations. The data on voice behavior and respondent demographics were originally collected for cross-validation purposes as part of a larger construct validity study (Van Dyne & LePine, 1998). For the current study variables, we obtained complete data on 441 employees and conducted our analyses on these responses.

Data were collected from employees in group meetings held at company facilities during normal working hours. Participants were told that their individual responses would remain confidential and that they could withdraw from the study at any time. Respondents completed questionnaires in the presence of a researcher and other group members to assure that all participants were exposed to the same stimuli, had the same background information on the study, and completed their questionnaires under the same circumstances. On average, employees were 36 years of age and were employed by their organizations for 7 years. Women made up 54% of the sample and 44% had at least some college education. Respondents were all full time and 65% held manager or professional jobs.

To ensure a stringent assessment of our hypotheses, we assessed voice 6 months after we obtained data on the predictors. Time 1 data collection included employee and supervisor questionnaires. At Time 2, 4 peers rated each employee's voice behavior. Prior to the data collection meetings, group supervisors provided the researchers with names of all group members. We excluded temporary workers and employees who had been group members less than 3 months to ensure that group members had adequate knowledge to assess voice behavior. We prepared peer rating questionnaires in advance, by writing a specific peer's name on the top of each subsection of the peer report instrument. In groups that contained 5 or fewer employees, each group member described all peers. In groups of more than 5, we randomly selected which 4 peers' names were written on each questionnaire. We did this to avoid potential selection bias that might have occurred if respondents chose specific peers.

This also provided a balanced design where each individual was described by an equal number of peers. The primary advantage of using peers as raters is that in most interdependent work groups there is daily interaction among peers that allows them to observe a wide range of behaviors under different circumstances. Peer ratings, therefore, should be more reflective of behavior than self ratings (which may be subject to self-presentation bias) and supervisor ratings (which may reflect atypical impression management behaviors; Eastman, 1994).

## Measures

*Voice.* We measured voice at Time 2 with Van Dyne and LePine's (1998) 6-item scale, which itself was based on a modification of the Van Dyne, Graham, and Dienesch (1994) Advocacy Participation Scale. Item anchors were 1 = *strongly disagree* to 7 = *strongly agree.* Items were prefaced by "This particular co-worker" and ended with (1) "develops and makes recommendations concerning issues that affect this work group"; (2) "speaks up and encourages others in this group to get involved in issues that affect the group"; (3) "communicates his/her opinions about work issues to others in this group even if his/her opinion is different and others in the group disagree with him/her"; (4) "keeps well informed about issues where his/her opinion might be useful to this work group"; (5) "gets involved in issues that affect the quality of work life here in this group"; and (6) "speaks up in this group with ideas for new projects or changes in procedures." We used the mean of the peer ratings to operationalize voice. Internal consistency and interrater agreement for the scale were high ($\alpha$ = .95, mean $rwg_{(j)}$ = .88, *SD* = .20).

*Satisfaction with the group.* We assessed satisfaction with the group with four items based on Kunin's (1955) Faces Scales. For each item, employees circled the number of the face (1 = *big frown* to 7 = *big smile*) that best represented their feelings as a member of the work group. Example items include "Consider this work group. Select the face which best expresses how you feel about this work group here" and "Consider your co-workers. Select the face which best expresses how you feel about your co-workers here." Cronbach's alpha was .86.

*Global self-esteem.* We measured global self-esteem using Brockner's (1988) 17-item scale (1 = *never* to 7 = *always*). Participants were asked to think of their overall life experiences and then indicate the extent to which they believed in statements such as "How often do you feel that you have handled yourself well at a social gathering?" and "How often do you have the feeling that you can do everything well?" Cronbach's alpha was .89.

*Situational measures.* Supervisors provided information on group size (number of employees in the group) and style of management (0 = *traditional,* 1 = *self*). Because the general context of work can effect attitudes and behavior, we controlled for the firm type (0 = *manufacturing,* 1 = *nonmanufacturing*) and firm size (number of employees in the organization).

*Demographic control variables.* Employee questionnaires included demographic information that we used as controls in our analysis. Ascribed demographics included age (in years), gender (0 = *female,* 1 = *male*), and ethnicity (0 = *non-White,* 1 = *White*). Achieved demographics included education (0 = *no college,* 1 = *at least some college*), group tenure (number of years in the group), and job status (0 = *support staff,* 1 = *manager or professional*).

## Analyses

To assess the amount of incremental variance explained by each type of antecedent, we analyzed data with hierarchical regression. First we entered the control variables (firm type, firm size, age, gender, ethnicity, education, group tenure, job status). Consistent with the work on contextual analysis (e.g., Bedeian, Kemery, & Mossholder, 1989; Firebaugh, 1979; Mossholder & Bedeian, 1983), we entered the individual-level predictors (satisfaction with the group and global self-esteem) prior to the group-level predictors (group size and style of management). Given the past emphasis on satisfaction as an antecedent of voice, we entered satisfaction prior to self-esteem. In the final step, we entered the product terms for each interaction. We assessed the significance of each step with the $\Delta F$ and evaluated individual parameters at each step with $t$ values. We plotted significant interactions using median splits.

# Results

Descriptive statistics and intercorrelations are reported in Table 1, and results for the hierarchical regression analysis are summarized in Table 2. Overall, our model explained 17% (14% adjusted) of the variance in voice behavior assessed 6 months later, $F(16, 424) = 5.41$, $p < .001$.

As a block, the control variables explained 7% of the variance in voice behavior 6 months later, $F(8, 432) = 3.99$, $p < .001$, and several of the control variable terms were significant. Individuals in nonmanufacturing firms engaged in significantly more voice than individuals in manufacturing firms. Men, Whites, and those with at least some college experience engaged in more voice than women, non-Whites, and those with no college experience.

Satisfaction with the group explained an additional 3% of the variance in voice behavior 6 months later, $\Delta F(1, 431) = 16.73$, $p < .001$, providing support for Hypothesis 1. As expected, group members who were more satisfied with the group engaged in more voice than group members who were less satisfied with their group.

Global self-esteem explained an additional 1% of the variance in voice behavior 6 months later over and above the variance accounted for by satisfaction with the work group and the controls; however, this relationship was only marginally significant, $\Delta F(1, 430) = 2.80$, $p < .10$. Consistent with Hypothesis 2, group members with higher levels of global self-esteem engaged in more voice than group members with lower self-esteem.

As a block, the situational factors explained 3% of the variance in voice behavior 6 months later over and above that explained by the controls, satisfaction with the group,

Table 1
*Descriptive Statistics and Intercorrelations (N = 441)*

| Variable | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Firm type[a] | 0.54 | 0.50 | — | | | | | | | | | | | | |
| 2. Firm size[b] | 17.21 | 37.00 | .09 | — | | | | | | | | | | | |
| 3. Age | 35.81 | 9.22 | −.27** | −.04 | — | | | | | | | | | | |
| 4. Gender[c] | 0.44 | 0.50 | −.26** | −.19** | .20** | — | | | | | | | | | |
| 5. Ethnicity[d] | 0.92 | 0.28 | −.02 | −.02 | −.01 | −.01 | — | | | | | | | | |
| 6. Education[e] | 0.44 | 0.50 | −.04 | .12* | −.12* | .11* | .15** | — | | | | | | | |
| 7. Group tenure | 3.02 | 3.73 | −.14** | .02 | .31** | .10* | .09 | −.16** | — | | | | | | |
| 8. Job status[f] | 0.65 | 0.48 | −.09 | .08 | .07 | .24** | .09 | .42** | .00 | — | | | | | |
| 9. Satisfaction with group | 5.23 | 1.05 | .11* | .10* | .19** | .03 | .03 | .09 | .03 | .11* | .86[h] | | | | |
| 10. Global self-esteem | 4.96 | 0.76 | −.06 | .03 | .13** | .20** | −.00 | .17** | −.07 | .17** | .23** | .89[h] | | | |
| 11. Group size | 7.66 | 3.05 | .05 | −.07 | −.03 | −.12* | −.02 | −.15** | −.03 | −.30** | −.27** | −.12** | — | | |
| 12. Style of management[g] | 0.34 | 0.47 | .15** | −.10* | −.11* | −.20** | −.06 | −.13** | −.21** | −.40** | −.14** | −.12** | .46** | — | |
| 13. Time 2 peer-rated voice | 5.35 | 0.90 | .08 | .03 | −.01 | .13** | .10* | .17** | −.07 | .11* | .22** | .16** | −.15** | .06 | .95[h] |

[a] 0 = manufacturing, 1 = nonmanufacturing. [b] (×1,000). [c] 0 = female, 1 = male. [d] 0 = non-White, 1 = White. [e] 0 = no college, 1 = at least some college. [f] 0 = support staff, 1 = manager or professional. [g] 0 = traditionally managed, 1 = self-managed. [h] Cronbach's alpha.
* $p < .05$. ** $p < .01$.

and global self-esteem, $\Delta F(2, 428) = 8.06$, $p < .001$. Consistent with Hypothesis 3, individuals in small groups engaged in more voice than individuals in large groups. Consistent with Hypothesis 4, individuals in self-managed groups exhibited more voice behavior than individuals in traditionally managed groups.

Finally, the block of interactions explained 3% of the variance in voice behavior 6 months later, $\Delta F(4, 424) = 3.56$, $p < .01$. Table 2 shows that both of the self-esteem–situation interactions reached significance. Figure 1 illustrates the global self-esteem–group size interaction. Consistent with Hypothesis 5a, the negative relationship between group size and voice was stronger for individuals with low self-esteem than for those with high self-esteem. Figure 2 shows the global self-esteem and style of management interaction. As predicted by Hypothesis 5b, the positive relationship between self-management and voice was stronger for individuals with low self-esteem than for individuals with high self-esteem.

Although Table 2 shows that both of the satisfaction–situation interactions reached statistical significance, the plots illustrated in Figures 3 and 4 did not support Hypotheses 6a and 6b. Whereas we expected stronger relationships between the situational factors (group size and style of management) for individuals with low levels of satisfaction, the plots indicated stronger relationships for individuals who were highly satisfied with their group. Specifically, Figure 3 illustrates the stronger negative relationship between group size and voice for individuals who were more satisfied with the group and Figure 4 depicts the stronger positive relationship between self-management and voice for individuals who were more satisfied with their group.

## Discussion

Given the increasing prevalence of work groups and the need for flexibility, adaptation, and innovation (Jelinek & Schoonhoven, 1993), voice behavior is an important concept that merits increased research attention. Although some studies have examined voice on the basis of Hirschman's (1970) model of exit, voice, and loyalty, past research had weak explanatory power. This difficulty stems from conceptual and methodological issues. In this study, we built on existing conceptual and empirical literatures to specify and test a predictive model of voice that included several of the possible person-centered and situational antecedents of voice. Using a reliable measure of voice with initial construct validity support, our model explained 17% of the variance in peer ratings of employee voice behavior assessed 6 months later.

### *Overview of Results*

The results of our study indicate support for the notion that voice is more than a function of satisfaction. Although

Table 2
*Hierarchical Regression of Time 2 Peer Ratings of Voice Behaviors on Antecedents (N = 441)*

| Step | $R^2$ | $\Delta R^2$ | $\Delta F$ | Variables | $\beta$ | $t$ | $df$ |
|---|---|---|---|---|---|---|---|
| 1 | .07 | | 3.99*** | Firm type[a] | .13 | 2.57* | 432 |
| | | | | Firm size[b] | .03 | 0.68 | 432 |
| | | | | Age | .04 | 0.71 | 432 |
| | | | | Gender[c] | .15 | 2.90** | 432 |
| | | | | Ethnicity[d] | .09 | 1.98* | 432 |
| | | | | Education[e] | .13 | 2.46* | 432 |
| | | | | Group tenure | −.06 | −1.29 | 432 |
| | | | | Job status[f] | .02 | 0.29 | 432 |
| 2 | .10 | .03 | 16.73*** | Satisfaction with group (SG) | .20 | 4.09*** | 431 |
| 3 | .11 | .01 | 2.80† | Global self-esteem (SE) | .08 | 1.67† | 430 |
| 4 | .14 | .03 | 8.06*** | Group size (GS) | −.15 | −2.81** | 428 |
| | | | | Style of management[g] (SM) | .20 | 3.70*** | 428 |
| 5 | .17 | .03 | 3.56** | SG × GS | −.76 | −3.11** | 424 |
| | | | | SE × GS | .82 | 2.31* | 424 |
| | | | | SG × SM | .66 | 2.52* | 424 |
| | | | | SE × SM | −.85 | −2.81* | 424 |
| Total adjusted | .14 | | $F$ = 5.41*** | | | | |

[a] 0 = manufacturing, 1 = nonmanufacturing. [b] (×1,000). [c] 0 = female, 1 = male. [d] 0 = non-White, 1 = White. [e] 0 = no college, 1 = at least some college. [f] 0 = support staff, 1 = manager or professional. [g] 0 = traditional management, 1 = self-management.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

satisfaction with the group explained 3% of the variance in voice behavior 6 months later, it accounted for less than 20% of the total variance explained in our model. The variable *self-esteem* was also a marginally significant predictor of voice 6 months later. Individuals with high levels of global self-esteem were more likely to engage in voice than individuals with low levels of self-esteem. The situational variables also explained a significant amount of variance in peer-rated voice behavior. Consistent with expectations, individuals in small groups engaged in more voice relative to individuals in large groups. Although the zero-order correlation was not significant, the regression analysis suggested that after several other variables were considered, there was a relationship between style of management and voice such that those in self-managed groups engaged in more voice than those in traditional groups.

In addition, our results demonstrated the importance

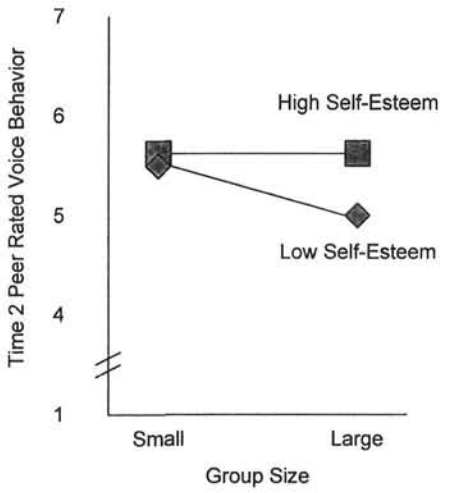


*Figure 1.* Plot of Global Self-Esteem × Group Size on Time 2 peer-rated voice.

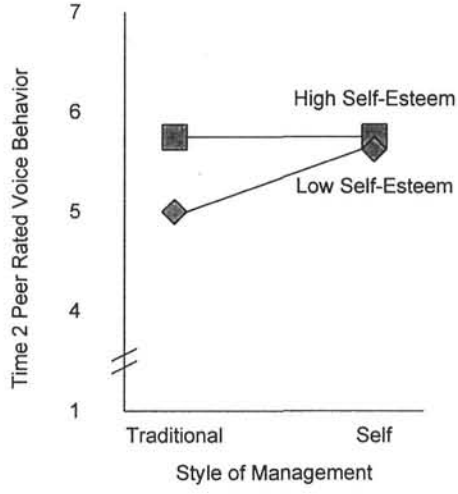


*Figure 2.* Plot of Global Self-Esteem × Management Style on Time 2 peer-rated voice.

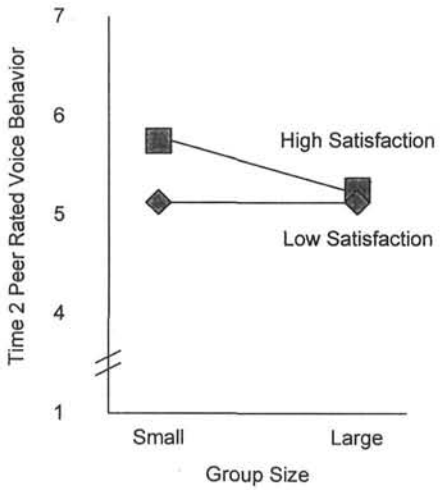


*Figure 3.* Plot of Satisfaction With Group × Group Size on Time 2 peer-rated voice.

of considering interactions between person-centered and situational factors as predictors of voice. Consistent with Brockner's (1988) behavior plasticity theory, the relationship between the situational variables and voice was stronger for individuals with lower self-esteem. Low self-esteem individuals were more responsive to situational stimuli that foster voice. Extending the general idea of behavior plasticity theory to satisfaction, we proposed that the relationship between the situational variables and voice would be stronger for individuals with lower satisfaction. Instead, we found stronger situational relationships for those individuals with higher levels of satisfaction.

### *Rethinking the Satisfaction–Contextual Factors Interactions*

Although we found significant interactions between satisfaction and contextual factors, the pattern of the relationships was the opposite of what we had predicted. Those with higher satisfaction were more responsive to the situational factors than those with lower satisfaction. This unexpected finding suggests the need to review the assumptions behind our hypotheses.

*High satisfaction implies high plasticity.* We had assumed that those with high satisfaction with the group were fulfilling their values, in part, through the group and that this would cause them to be more attached to the group. We expected that their attachment to and dependence on the group for continued satisfaction would cause them to engage in voice regardless of contextual factors. That is, we did not expect voice to vary significantly across situations for highly satisfied individuals. The pattern illustrated by the plots in Figures 3 and 4, however, reveals that the favorability of group conditions (i.e., small or self-managed groups) had a strong influence on the voice behavior of highly satisfied individuals. Highly satisfied individuals in large or traditionally-managed groups engaged in the same amount of voice as those who were less satisfied. However, when highly satisfied individuals were in small or self-managed groups, they engaged in more voice than those who were less satisfied. Kahn's (1990) research on "personal engagement" provides one possible explanation for this finding.

When individuals feel their work situation has meaningfulness (perceiving a positive return on their physical, cognitive, or emotional energy), they tend to become personally engaged in their work. That is, they more fully employ themselves in terms of harnessing their physical, cognitive, and emotional energy so that they are more mindful and cognitively vigilant during task performance. Perhaps, in contrast to our initial thinking, satisfied individuals' attachment to the group increased their personal engagement. Perhaps their dependence on the group for continuing satisfaction made them particularly sensitive to contextual information that might bear on the group's well-being. In the context of the present study, favorable conditions based on group size and style of management may convey information to those strongly attached to the group regarding means of dealing with the group's issues. That is, relative to large or traditionally-managed groups, the ambient and discretionary stimuli in small or self-managed groups may signal that it is desirable, appropriate, and/or at least acceptable to engage in challenging or controversial behavior for the benefit of the group.

*Low satisfaction implies low plasticity.* We had also expected that individuals with lower satisfaction with the group would be less attached and less dependent on the

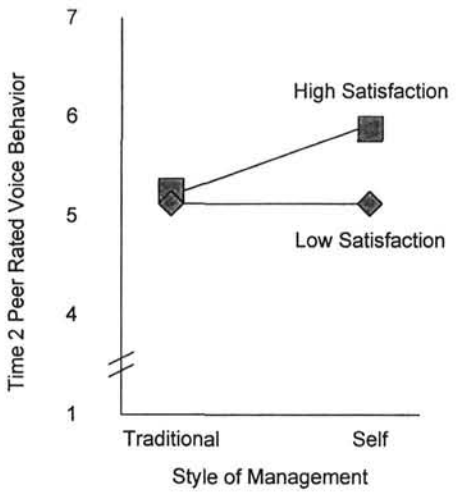


*Figure 4.* Plot of Satisfaction With Group × Management Style on Time 2 peer-rated voice.

group for fulfilling their needs. Accordingly, we had expected them to be less self-determined and more influenced by situational factors. Instead, our data demonstrated that the voice of those who were less satisfied varied less as a function of situational factors than the voice of those who were more satisfied. The lower responsiveness of less satisfied individuals to the contextual factors can also be explained in terms of Kahn's (1990) research.

When individuals do not perceive positive returns on their physical, cognitive, or emotional effort, they may withdraw from their work role. Such personal "disengagement" entails an absence of physical, cognitive, and emotional energies directed toward the task. Personal disengagement implies behavior that is automatic, detached, and effortless. Personally disengaged individuals are "cognitively unvigilant" and therefore, less responsive to situational stimuli. To the extent that individuals with low satisfaction do not perceive positive returns from their energies, they are likely to be personally disengaged and, thus, should be less responsive to situational factors such as group size and style of management.

The research on positive affectivity (e.g., Tellegen, 1985) provides a similar explanation for the lower situational responsiveness of less satisfied individuals. Positive affectivity is the global tendency to experience positive emotions and moods. It indicates the extent to which individuals are "positively engaged in the world around them" (George, 1996, p. 146). Perhaps those with low satisfaction (like those with low positive affectivity) are "disengaged" from their environment and, thus, less responsive to situational characteristics. We note that although positive affectivity refers to a global personality trait, satisfaction with the group reflects an individual's general attitude toward an object (the group). Thus, whereas low positive affectivity relates to disengagement from the environment in general, low satisfaction with the group relates to disengagement within a particular group.

Overall, our results suggest that voice will be highest when personal factors (high self-esteem or high satisfaction) are combined with favorable situational factors (small group size or self-management). Although the above provides a plausible explanation for our unexpected findings, the logic is post hoc and accordingly should be examined in future research.

### *Significant Control Variables*

In addition to the nature of the satisfaction–context interactions, we were also surprised by the relatively large amount of variance explained by the control variables ($R^2$ = .07). In retrospect, however, several of these relationships could have been predicted in advance and perhaps even included as a priori hypotheses. The sex differences literature, for example, suggests that males tend to participate more in groups than females (Johnson & Schulman, 1989), especially in task-related as opposed to socio-emotional behaviors (Piliavian & Martin, 1978). This literature also suggests that males tend to initiate communications and provide their opinions, whereas females tend to be more reactive and strive for consensus (Strodtbeck & Mann, 1956). Finally, this literature suggests that females may have less influence than males in mixed-sex groups (Izraeli, 1985; Ridgeway, 1982); thus, females may have lower confidence that they will be "heard" above members of the traditional majority. We note that a similar argument could be made for a relationship between ethnicity and voice. Overall, therefore, the literature suggests that males and Whites would tend to engage in more voice than females and non-Whites.

The relationship between education and job status and voice could have also been predicted a priori. Education imparts general knowledge that translates into a greater ability to recognize problems or opportunities and to offer a greater number of possible solutions. Education may also increase an individual's confidence that he or she possesses the skills and knowledge necessary in order to make suggestions at work (Farr & Ford, 1990). Thus, it is probable that those who possess more knowledge and confidence will be more likely to engage in voice. Job status reflects access to information and the freedom one has regarding behavior on the job. The more status, the more information and latitude one has regarding acceptable job behaviors. Suggestions that "buck-the-system" or challenge the status-quo may require such latitude. In addition, higher job status may provide a sense of power as well as a sense of responsibility for outcomes that facilitate expression of voice. This is different for individuals in low-level jobs who may have less access to information, fewer degrees of freedom regarding their behavior at work, and who may feel less responsible for group outcomes.

Research on the related behavior of whistle-blowing also suggests that demographics might be important in predicting voice. Whistle-blowers tend to be older, male, more tenured, more educated, and hold supervisory or professional jobs (Near & Miceli, 1996). Thus, in sum, there is certainly empirical support for the linkage between demographics and voice behavior. Future research, however, needs to focus on developing an understanding of the nature of these relationships. The explanations for the demographic relationships outlined in the two previous paragraphs suggest at least two crucial mediating variables—ability to engage in voice and efficacy to engage in voice. That is, before individuals engage in voice they must have the ability to generate suggestions for improvement and the confidence that they can get their message across. As suggested above, factors such as education,

tenure, and job-status should promote this type of ability and efficacy. However, it is also likely that contextual variables influence individuals' ability and efficacy to engage in voice. Organizations that are supportive of whistle-blowing, for example, have higher levels of this behavior (Near & Miceli, 1996).

### *Practical Implications*

We believe the findings reported in this study are important because they expand our understanding of the antecedents of voice. This knowledge should be especially relevant to managers in organizations with dynamic environments where change and new ideas are essential for organizational adaptation, innovation, survival, and success (Howard, 1995). For instance, the relationships between the person-centered characteristics and voice suggest staffing interventions. When an organization wants to increase voice, group members could be selected on traits known to be associated with satisfaction (e.g., positive affectivity). Alternatively, other literature links group composition with members' cohesion (Haythorn, 1968) and cohesion with members' satisfaction with their group (Lott & Lott, 1965; Shaw, 1981). Thus, it may be possible to staff groups to promote cohesion, and in turn, promote voice. Group composition may also promote voice through group members' reactions to one another. For example, research suggests that group members may be less willing to suggest ways to overcome a weak member's performance deficiency if the weak member is low on conscientiousness (LePine, Hollenbeck, Ilgen, & Hedlund, 1997). In addition to staffing interventions, our results for the situational antecedents also suggest group-design interventions that will enhance voice. For instance, it may be possible to increase voice by structuring groups such that they are smaller and self-managed.

The significant Person × Situation interactions suggest that it may be worthwhile to consider the benefits of contingent staffing and group-design interventions. That is, either fit people to certain types of groups or structure groups to fit certain types of people. For instance, if an organization has members with low global self-esteem, it may be beneficial (in terms of promoting voice) to structure groups so they are smaller, self-managed, or both (see Figures 1 and 2). Likewise, if an organization has small, self-managed, or both types of groups, it may be beneficial to select people who are somewhat predisposed to be being satisfied (see Figures 3 and 4).

Overall, we believe that it may be possible to promote voice in work group settings. However, additional research needs to investigate the validity of our suggestions. Research should also examine additional variables that might influence voice in organizational settings.

### *Limitations*

Although our study had several strengths (longitudinal design, data collected from multiple sources, fairly large and diverse sample), it had several limitations that we note here. As alluded to above, we examined a limited subset of the many possible theoretically-based personal and situational antecedents, and thus, our predictive model explained a relatively small amount of variance in voice. Assessing models of voice with other theoretically relevant antecedents should be a goal of future research. Researchers could begin by assessing other antecedents suggested by Van Dyne et al. (1995) such as psychological ownership, career–professional involvement, justice perceptions, need for achievement, and environmental dynamism.

A second limitation of our study was that we did not examine the processes associated with our predictions. For example, we did not manipulate management style and observe changes in member affect, cognition, and behavior. As another example, although we originally assumed that group performance is an outcome of voice, one reviewer suggested that it may play an indirect role as an antecedent. High levels of group performance may increase member satisfaction and the amount of autonomy given to a group to manage its own affairs. As a final example of the need to consider process issues in the future, certain types of groups may attract and retain certain types of people, and thus, it is possible that management style and group size are really capturing some individual difference variable.

A third limitation is that we did not sample randomly within some population of firms. Accordingly, it is difficult to specify where our results might or might not generalize. Although no single study is likely to address this question adequately (Cook & Campbell, 1979), research with theory-based predictions as to the generalizability of our findings should be conducted.

Finally, although our sampling strategy was designed to rule out situations where peers could not directly observe group members' behavior, we did not directly ask group members how much day-to-day interaction they had. Although our measure of voice did demonstrate acceptable levels of interrater agreement, we nevertheless suggest that researchers ask about frequency of peer interaction when using peer rating scales in the future.

### *Conclusion*

Innovation is critical for the long-term survival of organizations (Ancona & Caldwell, 1987). Innovation begins with recognition and generation of novel ideas or solutions that challenge past practices and standard operating procedures (Scott & Bruce, 1994). However, if individuals generate ideas and solutions but are unwilling to speak

up and share them with others, the innovation process stops. Our model explained a moderate amount of variance in voice. However, it is problematic to equate variance explained with practical significance (Abelson, 1985; Prentice & Miller, 1992). The research reported in this study has important implications for managers because it suggests levers (i.e., staffing and group-design interventions) that managers can use to influence the extent to which employees speak up with constructive suggestions for change. Given the importance of innovation in today's competitive environment, we recommend future research that continues to enhance our understanding of voice. We suggest that researchers broaden their focus and examine additional variables as well as the underlying processes that lead to voice.



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