Journal Title: Journal of Applied Psychology

Volume: 77
Issue: 6
Month/Year: 1992
Pages: 963-974

Article Author: Ostroff

Article Title: The relationship between satisfaction, attitudes, and performance: An organizational level analysis

Call #: BF1 .J55

Location: evans

Not Wanted Date: 07/11/2003

Status: Faculty
Phone: 845-9707
E-mail: meb@psyc.tamu.edu

Name: Mindy Bergman

Pickup at Evans

4235 TAMU
College Station, TX 77843
The Relationship Between Satisfaction, Attitudes, and Performance:
An Organizational Level Analysis

Cheri Ostroff
Industrial Relations Center
University of Minnesota

Previous research has consistently shown little relationship between job satisfaction, job attitudes, and performance for individuals, but little work has investigated these relationships at the organizational level of analysis. This study investigated the relationship between employee satisfaction, other job-related attitudes (commitment, adjustment, and psychological stress), and organizational performance. Organizational performance data were collected from 298 schools; employee satisfaction and attitude data were collected from 13,808 teachers within these schools. Correlation and regression analyses supported the expected relationships between employee satisfaction/attitudes and organizational performance. Implications of these findings are discussed.

The notion that job satisfaction and job attitudes are related to job performance continues to intrigue organizational researchers. Yet the bulk of evidence shows the correlation between satisfaction and performance to be relatively low (Grayfield & Crockett, 1955; Iaffaldano & Muchinsky, 1985; Locke, 1976; Vroom, 1964). A recent meta-analytic study (Iaffaldano & Muchinsky, 1985) estimated the true population correlation between satisfaction and performance to be .17. A variety of reasons, such as measurement problems (Fisher, 1980), research design characteristics (Iaffaldano & Muchinsky, 1985), the moderating effects of job characteristics (Ivanchech, 1978), constraints on performance (Bhagat, 1982; Herman, 1973), personality characteristics (Steers, 1975), and rewards (Porter & Lawler, 1968; Schwab & Cummings, 1970), have been offered to explain the small degree of correlation. With the exception of the moderating effect of rewards, the satisfaction-performance research has still failed to produce strong and unambiguous findings. In this study I take a different approach and examine such relationships at the organizational level of analysis.

Most research examining the satisfaction-performance relationship has been done solely on individuals within an organization. Early theorists (e.g., Likert, 1961; Mayo, 1933; McGregor, 1960) implied that employee satisfaction and well-being are related to performance, but they did not explicitly hypothesize about the appropriate level of analysis (e.g., individuals, groups, or organizations) to which their theories applied. The literature in the human relations school does not unambiguously declare that increased satisfaction leads to increased performance, and whether this relationship was implied to hold at the individual level is debatable (Organ, 1977). It is likely that a study of satisfaction–performance at the organizational level would show that organizations that have more satisfied employees are more productive and profitable than organizations whose employees are less satisfied. Furthermore, the satisfaction–performance relationship at the organizational level may be stronger than the relationship at the individual level (B. Schneider & Schmitt, 1986).

Similar arguments can be applied to other job attitudes, such as employee commitment, adjustment, and stress. Research has shown some significant relationships between individuals' commitment and performance (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989), commitment and turnover (Porter, Steers, Mowday, & Boulian, 1974), stress and performance (Bech & Newman, 1978), and stress and turnover (Parasuraman & Alluto, 1984). At a more general level, some have argued that commitment may result in high performance and may decrease turnover (Randall, 1987; Salancik, 1977). Employee stress has been purported to be eroding the bottom line. Stress has been related to lower productivity and to higher medical costs and absenteeism (A. Miller, 1988). Yankelevich (1979/1983) concluded that one major factor contributing to slow productivity in the United States is workers' attitudes. He believed it is important to gain workers' commitment and to make work satisfying in order to deal with the productivity problems in the United States.

A few studies have also examined these relationships at the organizational level. Angle and Perry (1981) showed that employee commitment was related to turnover intentions at the organizational level (but not to organizational efficiency). Schmitt, Colligan, and Fitzgerald (1980) showed that at the individual level, there was little correlation between psychological stress (perceived work pressure), satisfaction, and other job attitudes and physical symptoms; however, the relationships at the organizational level were much stronger.

There has been a considerable amount of rhetoric about the relationships among employee satisfaction, attitudes, and well-being and organizational performance; however, with the ex-

---

I am grateful to Rich Arvey, Paul Sackett, and three anonymous reviewers for their helpful comments on earlier versions of this article. Special thanks to the National Association of Secondary School Principals for financial support of this project.

Correspondence concerning this article should be addressed to Cheri Ostroff, Industrial Relations Center, University of Minnesota, 357 Management and Economics Building, 271 19th Avenue South, Minneapolis, Minnesota 55455.
cept of the study by Angle and Perry (1981), little empirical work has been conducted to support these linkages. A study of the relationships between satisfaction, attitudes, and organizational performance is needed.

Linkages Among Satisfaction, Attitudes, and Performance

The argument that satisfaction or attitudes and performance are related and the confusion over the appropriate level of analysis appear to have a long history. B. Schneider and Schmitt (1986) argued that researchers and managers casually observed that the morale of the workers seemed to be higher in organizations that were efficient and effective than in ineffective and inefficient organizations. Researchers then concluded (perhaps erroneously) that this relationship held for individual measures of job satisfaction and job performance. Writers in the areas of organizational theory and organizational effectiveness have also argued for satisfaction-performance relationships. It has been proposed that satisfaction and the happiness of personnel heighten organizational effectiveness. Organizations that alienate workers through their practices will be less effective and efficient. Satisfied employees usually work harder and better than frustrated ones (Etzioni, 1964; Gross & Etzioni, 1985).

Satisfaction-performance connections have often been discussed by theorists from the sociotechnical and human relations schools. According to the sociotechnical school (Emery & Trist, 1960), organizational effectiveness depends on both the technical and social structure of the organization. Some social psychological structures may be superior to others, both for employee satisfaction and productivity. Organizational effectiveness requires that there is congruence between social and technical organizational domains.

Theorists taking the human relations approach (e.g., Likert, 1961; Mayo, 1933; McGregor, 1960) suggest that satisfied workers are productive workers. The effective functioning of organizations requires both (a) the manufacturing and distribution of a product or service at a profit and (b) keeping individuals and groups working effectively together toward the organization's goals (Roethlisberger, 1959). Organizational productivity is achieved through employee satisfaction and attention to workers' physical and emotional needs (Likert, 1961; McGregor, 1960). Whether or not an employee will give his or her services wholeheartedly to the organization and produce up to potential depends, in large part, on the way the worker feels about the job, fellow workers, and supervisors. Satisfaction and positive attitudes can be achieved through maintaining a positive social organizational environment, such as providing good communication, autonomy, participation, and mutual trust (Argyris, 1964; Likert, 1961).

Employee satisfaction and sentiments influence the development of routine patterns of interaction. Through daily associations with others, employees develop relationships at work that fall into routine patterns, patterns that prescribe behavioral expectations and influence behaviors. Positive attitudes result in patterns that are directed toward achieving the organization's objectives (Roethlisberger, 1959). Furthermore, Organ (1977) posited that the satisfaction-performance hypothesis espoused by human relations theorists could be explained by a social exchange in which employees accorded some manner of social gift would experience satisfaction and feel an obligation to reciprocate, perhaps in the form of increased productivity.

The satisfaction and attitudes of employees are important factors in determining their behavior and responses at work, and it is through these behaviors and responses that organizational effectiveness can be achieved. Thus, the satisfaction and well-being of employees can result in organizational effectiveness through salient productivity-related behaviors of employees (Kopelman, Brief, & Guzzo, 1990; McGregor, 1960; Roethlisberger, 1959).

Kopelman et al. (1990) suggested three categories of pertinent behaviors for organizational effectiveness: attachment, performance, and citizenship. Attachment behaviors include attending to and staying in the organization. Because the cost of turnover and absenteeism is quite high, the effective functioning of the organization requires prevention of such behaviors (Lawler, 1973). However, others argue that organizations can produce a higher level of output if unproductive employees are replaced with more productive employees (Mobley, 1982). Performance behaviors refer to job-related tasks and activities comprising the employee's formal organizational role. Adequate performance of job duties is critical for achieving productivity. Finally, citizenship or prosocial behaviors include cooperation and collaborative efforts. Consideration of employees' attitudes and sentiments is important because they determine collaborative effort. Collaborative effort that is directed toward the organization's objectives is necessary for achievement of organizational goals, and unhappy employees cannot effectively participate in such efforts (Likert, 1961; Roethlisberger, 1959). These predictions are somewhat similar to those made regarding group cohesiveness and norms (e.g., Cartwright & Zander, 1968). Satisfied employees will be more likely to engage in collaborative effort and accept organizational goals that can increase productivity, whereas dissatisfied employees either may fail to work collaboratively or may work collaboratively but divert effort away from the achievement of organizational goals.

Thus, satisfaction and attitudes influence individuals' behaviors; organizational effectiveness is, in large part, a function of these behaviors. Because of interactions and dependences in the work process, it has been argued that organizational performance is not a simple sum of individual or unit performance or productivity (Mahoney, 1984). Measures of organizational effectiveness most likely reflect the combination and interaction of the salient organizational behaviors that promote organizational performance.

This not only suggests that satisfaction and attitudes should be related to organizational effectiveness, but it can also explain, in part, the failure to find satisfaction-performance relationships at the individual level. The definition of performance in individual-level studies may have been restricted too narrowly. Outcomes such as attendance, predictability, compliance, following of rules, cooperation, drug use, sabotage, and so forth may also be important (Fisher, 1980; Organ, 1977). Such outcomes are not usually included in performance measures. Perhaps a wider range of performance-related variables should be included in studies. Furthermore, individual performance may be constrained or facilitated by many other situational factors such as the work environment.
Satisfaction and Organizational Performance

There is a lack of consensus as to what constitutes a valid set of organizational performance and organizational effectiveness criteria (Ford & Schellenberg, 1982; Jobson & Schneck, 1982; Katz & Kahn, 1978). Although many investigators rely on a single indicator, such as turnover or overall firm rating (Cameron, 1986), there seems to be a general agreement that multiple internal (preferred by internal participants) and external (those of clients or outside groups) criteria are needed for a more comprehensive evaluation of organizations (Cameron, 1986; Connolly, Conlon, & Deutsch, 1980; Goodman & Pennings, 1980; Pickle & Friedlander, 1967). However, the determinants of effectiveness are often confused with variables that indicate effectiveness (Cameron, 1986). There rarely are clear rationales and hypotheses suggesting whether a variable is of one type or the other or whether a predictor in one context may be an indicator in another context (Lewin & Minton, 1986).

In this study, satisfaction and attitudes are presumed to be one set of determinants of organizational performance. Whereas general organizational theory holds that the structural features of an organization should fit the demands of the environment and technology (e.g., Burns & Stalker, 1961; Galbraith, 1974; Lawrence & Lorsch, 1967), organizational design alone will not ensure organizational effectiveness—the members of the organization must behave in a manner supportive of organizational goals (Angle & Perry, 1981). My assumption, based on the work of organizational theorists (Argyris, 1964; Kopelman et al., 1990; Likert, 1961; McGregor, 1960; Roethlisberger, 1959), is that employees who are satisfied, committed, and well adjusted will be more willing to work toward organizational objectives and give their services wholeheartedly to the organization, hence promoting organizational effectiveness, than dissatisfied employees, who will be more likely to satisfy minimum expectations of required behavior, perform at less than their potential, and engage in disruptive behaviors that would lower organizational productivity and effectiveness.

Furthermore, there is some evidence that satisfaction represents a fairly stable dispositional trait of employees (cf. Pulakos & Schmitt, 1983; Staw & Ross, 1985). If this is the case, then organizational performance should not be the cause of employee satisfaction, but it could be argued that the satisfaction and attitudes of employees are predictors of effectiveness. It should be noted that the nature of the causal direction is debatable. Performance could lead to satisfaction in that employees in higher performing organizations become more satisfied than those in organizations with poor performance. In this study, only the simple relationship between the two was investigated.

For the present research, the organizations studied were secondary schools. A variety of organizational performance measures spanning both internal and external criteria was desired. In 1985, a task force for the National Association of Secondary School Principals (NASSP) developed a model that delineated some determinants of school effectiveness and was based on relevant theories and research from school and educational psychology, industrial psychology, organizational behavior, social psychology, and sociology (Keele, Kelley, & Miller, 1985). School performance measures included two broad categories: (a) student satisfaction and (b) student productivity, including achievement test scores, attendance rates, discipline problems, vandalism, and retention rates. These two categories were further subdivided into five areas on the basis of reviews of school effectiveness literature (e.g., Cameron, 1978, 1981; Good & Brophy, 1986; MacKenzie, 1983; Reynolds, 1985; J. M. Schneider, Glaser, & Hadley, 1979). Schools are purported to have many goal areas. Among the major goal areas are academic achievement, student behavior, student satisfaction, teacher turnover, and administrative performance. School effectiveness can be defined as the extent to which the school produces students who achieve high academic standards, students with few behavior or vandalism problems, satisfied students, low teacher turnover rates, and a high-performing administrative team. Such schools should have higher performance compared with other similar schools.

Research Focus

Results from previous satisfaction-performance research have consistently shown little relationship between satisfaction/attitudes and performance for individuals in organizations. The present research focuses on a different question—whether the
overall level of satisfaction or the attitudes of employees within organizations is related to organizational performance. I hypothesized that several measures of organizational performance would be sensitive to differences in the levels of satisfaction and other attitudes of the members of the organizations studied. More specifically, organizations with members who are highly satisfied, committed, and adjusted and not highly stressed should have higher levels of organizational performance than organizations with members who are less satisfied, committed, and adjusted and more highly stressed.

**Method**

**Sample and Procedure**

This study was part of a larger project for the NASSP that was designed to evaluate school environment and school effectiveness (Schmitt & Doherty, 1988; Schmitt & Ostroff, 1987). A sample of 364 schools from 36 states and Canada participated in the study. Schools were selected on the basis of randomized cluster sampling. Seventy-five schools (20.6%) were junior high level, 252 (69.2%) were senior high level, and 36 (9.9%) included both junior and senior high school students.

Three types of surveys (principal, teacher, and student) were mailed to school principals by the NASSP. A letter explaining the project and how to collect the requested data accompanied each packet of measures. All responses were anonymous and confidential.

The principal survey asked school principals to report about their school, the performance of its administrative team, and school effectiveness indexes and included additional questions for another purpose. Complete questionnaires were obtained from 352 principals.

School principals were asked to distribute the teacher surveys to teachers in the school. The teacher survey assessed teachers' satisfaction, job attitudes, and turnover intentions and included other measures for another purpose. For schools with fewer than 75 teachers, entire teaching staffs were asked to complete the questionnaire. For larger schools, principals were instructed to obtain at least 75 teacher surveys. The 76 schools were randomly selected—every nth teacher in an alphabetical listing, where n depended on the number of teachers in the school. Measures were obtained from 14,721 teachers in 362 schools. Two schools did not return teacher surveys. Usable data were collected from 13,808 teachers. The number of teachers responding ranged from 8 to 46, with a mean of 40.67 per school.

 Principals also distributed surveys to students. The survey measured students' satisfaction as well as other variables for another purpose. For schools with fewer than 50 students, all students were to complete surveys. For larger schools, principals were instructed to randomly select 15% of the students. Usable data were obtained from 24,874 students. The number of students responding ranged from 14 to 120, with a mean of 69 per school. Once teachers and students completed the measures, they were collected by the school principal, who mailed all surveys to the researchers.

**Measures and Scoring**

Three sets of measures were collected: (a) employee satisfaction and attitudes, (b) characteristics of schools, and (c) organizational performance indices. For all variables, responses were coded such that higher scores indicated a more "positive" response.

**Satisfaction and other attitude measures.** The satisfaction and attitude measures were collected at the individual level and aggregated to the school level. That is, the organizational-level satisfaction and attitude variables were created by averaging the responses from individuals within the school. In order to assess the reliability of the mean scores, a form of intraclass correlation, ICC(2), was computed (James, 1982; Lord & Novick, 1968). ICC(2) is a measure of proportional consistency of variance and can be computed by comparing the mean square between minus the mean square within to the mean square between based on the results of one-way analysis of variance (ANOVA). If another sample of individuals were randomly sampled from the same organizations and the two sets of mean scores correlated, the resulting correlation would be approximately equal ICC(2). Also, ICC(2) indicates whether the organizations can be reliably differentiated in terms of the perceptions on the variable of interest. In addition, another form of intraclass correlation, ICC(1), was computed in order to estimate whether individuals within the organization "agree" in their responses. ICC(1) compares the between-organization sum of squares to the total sum of squares, based on the results of a one-way ANOVA in which organizations are the independent variable. ICC(1) represents the proportion of variance in individuals' perceptions accounted for by differences in organizations. In general, ICC(1) values have ranged from 0 to .5 with a median of .12 (James, 1982). Both ICC(2) and ICC(1) are reported for the satisfaction and attitude measures. The ICC values reported here indicate reliable mean differences between organizations as well as acceptable levels of "agreement." Hence, aggregation was deemed appropriate for the analysis.

Nine items measured teachers' satisfaction with various aspects of their school, including satisfaction with co-workers, supervision, pay administration, career advancement opportunities, student discipline, school curriculum, community and parent support, physical facilities, and communication. The items were a part of a larger inventory of facet satisfaction (Schmitt & Ostroff, 1987). A 5-point Likert-type scale ranging from very satisfied (1) to very satisfied (5) was used. Internal consistency reliability was .80; ICC(2) was .93, and ICC(1) was .26.

**Attitudinal commitment.** The relative strength of an individual's identification and involvement in a particular organization (Mowday, Porter, & Steers, 1982), was assessed with nine items and a scale ranging from strongly disagree (0) to strongly agree (4). Seven of the items were adapted from Porter and Smith's (1970) Organizational Commitment Questionnaire, and two items were adapted from Franklin's (1975) Commitment to the Formal Organization Scale. Internal consistency reliability was .82; ICC(2) was .90, and ICC(1) was .18.

A six-item scale measured adjustment to the school and was based on the work of Fisher (1982). Personal adjustment involves feelings of confidence, feeling comfortable with a job, and a sense of belonging (Fisher, 1982). A 5-point Likert-type scale ranging from disagree (0) to strongly agree (4) was used. Internal consistency reliability was .81; ICC(2) was .80, and ICC(1) was .10.

The stress scale measured psychological symptoms of stress, such as feelings of having too heavy a workload or feeling unable to handle all of the work. Five items were adapted from the job-related tension scale of Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964). All items used a 5-point scale ranging from never (0) to quite often (4). Internal consistency reliability was .85; ICC(2) was .85, and ICC(1) was .12.

**School characteristics.** Principals reported six measures of school characteristics, which were used as "control" variables. Research on school effectiveness has consistently shown that school inputs (e.g., school resources, staff characteristics, student ability, background characteristics of families from which students are drawn) are related to student achievement and school effectiveness (cf. Coleman et al., 1966; Hodgson, 1975; Klikaard & Hall, 1974). In addition, some researchers have argued that school process variables (e.g., teaching practices, student climate, internal school processes, teacher attitudes) are also important for explaining between-school variation in outcomes (cf. Bridge, Judd, & Moe, 1979; Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979; Cohen, 1983; Purkey & Smith, 1983).

However, measures of school characteristics were included in the role of the effectiveness.
However, such studies often do not adequately account for the impact of school inputs. Therefore, in order to control for the potential effect of school inputs on school effectiveness, several school characteristics were included to statistically “equate” schools before examining the role of teacher satisfaction and attitudes in explaining school performance.

School characteristics measures included (a) the proportion of non-minority students in the school, with possible scores ranging from 0 to 1; (b) the governing structure of the school, with a 1 indicating public and a 2 indicating private; (c) the age of the school building, for which a categorical scale ranging from less than 5 years (0) to more than 100 years (9) was used; (d) the proportion of students in the school who receive free or reduced-price lunches, with possible scores ranging from 0 to 1; (e) the ratio of students to teachers in the school, which ranged from 6 to 36; and (f) the average per pupil expenditure for the current school year, exclusive of capital outlay, which ranged from $1,000 to $8,125.

The proportion of nonminority students and the proportion of students who receive free lunches are often viewed as proxy measures of the socioeconomic status or “wealth” of the school.

Organizational performance. Five areas of organizational performance were assessed—academic achievement, student satisfaction, teacher turnover, and administrative performance. Academic achievement was measured with two sets of variables. The first set included standardized achievement test scores in the areas of reading, mathematics, and social science. For each area, scores were converted to normalized curve equivalents. Scores across grade levels were averaged when scores were reported for more than one grade level. The second measure was the percentage of students enrolled in all courses who passed them, with possible scores ranging from 0 to 100.

Principals were asked to assess administrative performance by rating various aspects of the school’s administrative team. Ten areas were measured, including curriculum and instruction leadership, coordination of student activities, direction of the behavior of students, staff evaluation and development, community relations, interpersonal communication, and fiscal or monetary management. The scale ranged from unsatisfactory (0) to exemplary (5). Responses to the items were averaged for each school (principal). Internal consistency reliability was .88.

Four measures assessed student behavior. The measures included (a) the proportion of students who dropped out of school (i.e., quit without transferring to another school) during the academic year, with a possible range of scores from 0 to 1; (b) the average daily attendance for the academic year as a percentage of students attending, with a possible range from 0 to 1; (c) the proportion of students who received one or more disciplinary referrals during the academic year, assessed with a 9-point categorical scale ranging from less than 1% (0) to 15% or more (8); and (d) the average annual cost of vandalism (per student) at the school over the last 3 years, which ranged from $0 to $15 per student.

Student satisfaction was assessed with two scales. Seven items measured students’ satisfaction with their teachers. A second 10-item scale measured students’ satisfaction with various aspects of the school, including other students, activities, rules, communication, teachers, and physical facilities. Internal consistency reliabilities were .89 for satisfaction with teachers and .84 for overall satisfaction. For each satisfaction dimension, scores across students within each school were averaged to obtain the organizational-level satisfaction scores for each school.

Teachers’ turnover intentions were measured with three items from the Michigan Organizational Assessment Questionnaire (Cammann, Fishman, Jenkins, & Klesh, 1979). A 5-point scale ranging from strongly agree (0) to strongly disagree (4) was used. Internal consistency reliability was .85. Responses to the measure were aggregated to the school level by averaging across teachers in the school.

Results

The means, standard deviations, and intercorrelations of the satisfaction/attitudes, school characteristics, and organizational performance measures are presented in Table 1. All variables are indexed at the organizational level. With listwise deletion of data, complete data for the satisfaction/attitudes and school characteristics were available for 298 samples. The sample size was varied for the organizational performance measures in order to use as large a sample size as possible, because not all schools reported all variables.

The magnitude of the intercorrelations among the satisfaction and attitude measures ranged from .30 to .73 and were similar to those of prior studies at the individual level. Intercorrelations among school characteristics variables were somewhat low, ranging in magnitude from .03 to .34. Intercorrelations among organizational performance measures ranged in magnitude from .00 to .88. Measures of similar constructs (e.g., achievement test scores and student satisfaction) were fairly high, but correlations across different performance constructs (e.g., achievement and satisfaction, turnover and student behavior) tended to be lower.

Correlations between the satisfaction and attitude variables and the school characteristics variables were moderate for some measures. A larger percentage of students receiving free lunches was related to lower adjustment. Older school buildings were related to less satisfaction and greater stress. Satisfaction and commitment were higher and stress was lower in private schools than in public schools.

Significant correlations, in the expected direction, between nearly every performance measure and the satisfaction and attitude measures were found. Notable correlations were observed between the satisfaction and attitude measures and turnover intentions, between satisfaction and achievement test scores, between student behavior and student satisfaction, between administrative performance and adjustment, and between commitment and student behavior and student satisfaction. In general, correlations among adjustment, stress, and organizational performance tended to be lower.

Given the degree of intercorrelation among the satisfaction and attitude measures and the fact that some school characteristics were related to satisfaction and attitudes, a series of multiple regressions was performed. For each organizational performance measure, a hierarchical multiple regression was conducted by entering the set of school characteristics first in the equation, followed by the set of satisfaction and attitude measures. Thus, school characteristics were controlled for in the regression of organizational performance on satisfaction and attitudes. A significant increment in $R^2$ would indicate that satisfaction and attitudes contributed to school performance once the effects of school characteristics were accounted for. Results of these regressions are contained in Table 2.

Significant increases in $R^2$ were found for nearly every organizational performance measure. The greatest contributions were seen for reading and math achievement, student satisfaction, teacher turnover, and administrative performance.
Table 1

Means, Standard Deviations, and Intercorrelations of Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction/attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Satisfaction</td>
<td>3.23</td>
<td>0.28</td>
<td>298</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Commitment</td>
<td>2.95</td>
<td>0.26</td>
<td>298</td>
<td>.73</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Adjustment</td>
<td>3.27</td>
<td>0.13</td>
<td>298</td>
<td>.35</td>
<td>.51</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Stress</td>
<td>1.96</td>
<td>0.23</td>
<td>298</td>
<td>—.34</td>
<td>—.30</td>
<td>—.33</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>School characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. % White</td>
<td>0.88</td>
<td>0.16</td>
<td>298</td>
<td>.12</td>
<td>—.13</td>
<td>—.10</td>
<td>.08</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Governing structure</td>
<td>0.06</td>
<td>0.24</td>
<td>298</td>
<td>.21</td>
<td>.20</td>
<td>.11</td>
<td>—.17</td>
<td>—.05</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Age of building</td>
<td>4.48</td>
<td>1.96</td>
<td>298</td>
<td>—.14</td>
<td>—.05</td>
<td>—.02</td>
<td>—.19</td>
<td>—.07</td>
<td>.06</td>
<td>—</td>
</tr>
<tr>
<td>8. % free lunch</td>
<td>0.02</td>
<td>0.04</td>
<td>298</td>
<td>—.10</td>
<td>—.12</td>
<td>—.34</td>
<td>.07</td>
<td>.03</td>
<td>—.15</td>
<td>.08</td>
</tr>
<tr>
<td>9. Student/teacher ratio</td>
<td>17.19</td>
<td>4.38</td>
<td>298</td>
<td>—.05</td>
<td>.08</td>
<td>.15</td>
<td>.13</td>
<td>—.21</td>
<td>—.07</td>
<td>—.07</td>
</tr>
<tr>
<td>10. Per pupil expenditure ($)</td>
<td>3,219.89</td>
<td>995.37</td>
<td>298</td>
<td>.10</td>
<td>—.06</td>
<td>.19</td>
<td>—.11</td>
<td>—.01</td>
<td>—.03</td>
<td>.05</td>
</tr>
</tbody>
</table>

Organizational performance

Academic achievement

| 11. Reading                    | 54.46 | 4.36 | 254 | .30  | .11  | .16  | .04  | .34  | .02  | —    |
| 12. Math                       | 55.50 | 4.82 | 253 | .31  | .15  | .19  | —.01 | .28  | .05  | .01  |
| 13. Social science             | 54.56 | 4.93 | 193 | .24  | .08  | .13  | —.03 | .28  | —.06 | —.12 |
| 14. % pass                     | 91.17 | 6.84 | 278 | .20  | .05  | —.08 | —.07 | .29  | .14  | —.04 |

Administrative performance

| 15. Administrative performance| 3.72  | 0.63 | 296 | .24  | .22  | .30  | .01  | —.08 | —.02 | —.05 |
| Student behavior               |      |      |     |      |      |      |      |      |      |      |
| 16. % drop out                 | 0.03  | 0.03 | 288 | —.28 | —.17 | —.13 | .14  | —.17 | —.23 | —.06 |
| 17. % attend                   | 0.94  | 0.03 | 289 | .24  | .24  | .08  | —.02 | .11  | —.12 | —.08 |
| 18. % discipline problem       | 3.62  | 1.92 | 297 | —.27 | —.19 | —.04 | —.03 | —.23 | —.28 | —.15 |
| 19. Vandalism cost ($)          | 1.48  | 1.94 | 275 | —.11 | —.10 | —.09 | .14  | .01  | —.03 | .08  |

Student satisfaction

| 20. With teachers              | 3.37  | 0.20 | 298 | .24  | .28  | .13  | —.18 | —.04 | .15  | —.07 |
| 21. Overall                    | 3.28  | 0.19 | 298 | .44  | .45  | .17  | —.14 | —.01 | .22  | —.16 |
| Teacher turnover               |      |      |     |      |      |      |      |      |      |      |
| 22. Quit intent                | 0.98  | 0.30 | 300 | —.54 | —.60 | —.50 | .42  | —.01 | .06  | —.04 |

Note. Correlations ≥ .10 are significant at p ≤ .05.

To further elucidate the relationship between satisfaction, attitudes, and performance, the beta weights and significance of the beta weights for the school characteristics and satisfaction and attitudes measures were examined (see Table 2). With respect to the school characteristics variables, the percentage of nonminority students had a large impact on student achievement and some of the student behavior measures. The percentage of students receiving free lunches was related to student achievement and vandalism, whereas the governing structure of the school was related to the percentage of students who drop out, the percentage who have discipline problems, student satisfaction, and teacher turnover. Lower student/teacher ratios were related to academic achievement.

Once the effects of these school characteristics were accounted for, it appears that employee satisfaction made the largest contribution in explaining most of the organizational performance indexes. In addition, commitment was positively related to attendance and student satisfaction with teachers and negatively related to turnover. Surprisingly, stress was positively related to reading and math achievement and administrative performance, but it was related to teacher turnover in the expected direction. Adjustment generally showed little relationship to organizational performance, but it was positively related to reading and math achievement.

Discussion

This study investigated the relationship between satisfaction, attitudes, and performance at the organizational level of analysis. Although much rhetoric has addressed organizational-level satisfaction, attitude, and performance relationships, this study is one of the few that empirically investigated these relationships. Support was found for links between satisfaction and organizational performance. In addition, some support was found for linkages between other job attitudes and performance.

Across the 12 organizational performance indexes, the magnitudes of the zero-order correlations between satisfaction and organizational performance ranged from .11 to .54, with a mean of .28, and those between commitment and performance ranged from .05 to .60 with a mean of .22. Lower average correlations were observed for adjustment (17) and psychological stress (10) across the performance measures. When characteristics of schools were controlled for in regressions of organizational performance on satisfaction and attitudes, the additional variance accounted for by the satisfaction and attitudes measures ranged from 2% to 49%, with a mean of 10% and a median of 6% across the performance measures.

The strongest results were found for employee satisfaction;
organizations with more satisfied employees tended to be more effective than organizations with less satisfied employees. Furthermore, these relationships were somewhat stronger than those typically observed at the individual level. Therefore, the conclusion of many researchers that satisfaction and performance are not strongly related can be questioned. It may be true that the relationship is weak at the individual level. Yet it is also possible that the weak results are due to the fact that individual-level measures of performance do not reflect the interactions and dependencies in the work process or the role of other salient productivity-related behaviors (e.g., attachment or citizenship) that measures of organizational effectiveness encompass. Nevertheless, the results presented here are promising for examining satisfaction–performance relationships at the organizational level of analysis. Perhaps it is time to shift more attention on this issue to the organizational level.

It is important to note that correlations based on aggregated data can be spuriously inflated by many factors such as random error at the individual level, correlated errors when the same individuals provide responses to different measures, grouping procedures, or unmeasured third variables (Hannan, 1971; Ostroff, in press-a; Richards, Gottfredson, & Gottfredson, 1991). Thus, researchers must exercise some caution in interpreting correlations based on aggregates, especially when making comparisons to correlations based on individuals. One important consideration focuses on random measurement error. Individual-level correlations should first be corrected for this error before comparisons are made to correlations based on aggregates (Ostroff, in press-a). This is because individual-level measurement error attenuates individual-level correlations; however, correlations based on aggregates do not contain such error (i.e., the random errors are uncorrelated with the aggregated mean score and the individual's deviation from the mean of the organization on that variable, and they "average out" across individuals). Thus, if we assume that the reliabilities of the individual level satisfaction and performance measures are .8, correcting for unreliability in the .17 individual level satisfaction–performance correlation (Iaffaldano & Muchinsky, 1985) results in a correlation of .21. This correlation is still lower than almost all of the correlations reported here between satisfaction and organizational performance.

It should also be noted that particularly strong relationships were found among satisfaction, attitudes, and turnover (intentions to quit). Although this finding is similar to findings in other work that examined commitment and turnover intentions at the organizational level (Angle & Perry, 1981), these correlations may be spuriously inflated because all measures were derived from the same individuals and then aggregated to the school level. That is, the correlations can be artificially high because the problem of correlated errors (e.g., response bias) becomes exacerbated in aggregated correlations (Richards et al., 1991).
Table 2
Hierarchical Regressions of Performance, School Characteristics, and Satisfaction/Attitudes

<table>
<thead>
<tr>
<th>Performance measure</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$F$</th>
<th>$\Delta R^2$</th>
<th>$\Delta F$</th>
<th>Significant betas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Reading</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sat, adjust, stress</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.44</td>
<td>.20</td>
<td>.18</td>
<td>10.12</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.52</td>
<td>.27</td>
<td>.24</td>
<td>9.05</td>
<td>**</td>
<td>.07</td>
<td>6.17**</td>
</tr>
<tr>
<td>Math</td>
<td>.40</td>
<td>.16</td>
<td>.14</td>
<td>7.73</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.49</td>
<td>.24</td>
<td>.21</td>
<td>7.80</td>
<td>**</td>
<td>.09</td>
<td>6.82**</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.43</td>
<td>.19</td>
<td>.16</td>
<td>7.08</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Social science</td>
<td>.48</td>
<td>.23</td>
<td>.18</td>
<td>5.31</td>
<td>**</td>
<td>.04</td>
<td>2.35*</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.37</td>
<td>.14</td>
<td>.12</td>
<td>7.27</td>
<td>**</td>
<td></td>
<td>Sat, adjust, stress</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.41</td>
<td>.14</td>
<td>.14</td>
<td>5.40</td>
<td>**</td>
<td>.03</td>
<td>2.37*</td>
</tr>
<tr>
<td>% pass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch (−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.23</td>
<td>.05</td>
<td>.03</td>
<td>2.77</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Administrative performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.39</td>
<td>.15</td>
<td>.12</td>
<td>3.18</td>
<td>**</td>
<td>.10</td>
<td>8.37**</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sat, adjust, stress</td>
</tr>
<tr>
<td>Student behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>% drop out</td>
<td>.34</td>
<td>.12</td>
<td>.10</td>
<td>6.27</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.40</td>
<td>.16</td>
<td>.13</td>
<td>5.35</td>
<td>**</td>
<td>.04</td>
<td>3.62**</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.21</td>
<td>.04</td>
<td>.03</td>
<td>2.17</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>% attend</td>
<td>.31</td>
<td>.09</td>
<td>.06</td>
<td>2.90</td>
<td>**</td>
<td>.05</td>
<td>3.86**</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.41</td>
<td>.17</td>
<td>.15</td>
<td>9.68</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.45</td>
<td>.21</td>
<td>.18</td>
<td>7.15</td>
<td>**</td>
<td>.03</td>
<td>2.96*</td>
</tr>
<tr>
<td>% discipline problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.21</td>
<td>.05</td>
<td>.02</td>
<td>2.11</td>
<td>*</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.26</td>
<td>.07</td>
<td>.03</td>
<td>1.86</td>
<td>*</td>
<td>.02</td>
<td>1.46</td>
</tr>
<tr>
<td>Vandalism cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Student satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>With teachers</td>
<td>.18</td>
<td>.03</td>
<td>.01</td>
<td>1.65</td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.32</td>
<td>.10</td>
<td>.07</td>
<td>3.38</td>
<td>**</td>
<td>.07</td>
<td>5.81**</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.28</td>
<td>.08</td>
<td>.06</td>
<td>4.00</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>.51</td>
<td>.26</td>
<td>.24</td>
<td>10.11</td>
<td>**</td>
<td>.18</td>
<td>17.89**</td>
</tr>
<tr>
<td>School characteristics</td>
<td>.27</td>
<td>.07</td>
<td>.05</td>
<td>3.87</td>
<td>**</td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td>.74</td>
<td>.55</td>
<td>.54</td>
<td>35.62</td>
<td>**</td>
<td>.48</td>
<td>77.15**</td>
</tr>
<tr>
<td>Teacher turnover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>School characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
<tr>
<td>Satisfaction/attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% White, % lunch(−), S:T ratio(−)</td>
</tr>
</tbody>
</table>

Note. School characteristics refer to the percentage of nonminority students (% White), governing structure (gov), age of building (age bdg), percentage of students who receive free lunches (% lunch), student-teacher ratios (ST ratio), and per-pupil expenditures (pup exp). Satisfaction/attitudes refer to satisfaction (sat), commitment (commit), adjustment (adjust), and stress. School characteristics were entered in the equations first, followed by satisfaction/attitudes measures. Significant betas indicate those variables with significant standardized beta weights; a negative sign following a variable indicates a negative beta.

* $p \leq .05$. ** $p \leq .01$.

It is also possible that the relationship between satisfaction and performance was underestimated in this study because of the use of an overall satisfaction measure. On the basis of a review of attitude-behavior studies, Fisher (1980) concluded that more specific attitude measures are better predictors of criteria. Thus, it follows that more specific measures of facet satisfaction should show stronger relationships to performance. Future research should be directed at studying whether different facets of satisfaction are related to different facets of effectiveness.

The findings from this study are also supportive of the notion that internal social processes in schools are important factors in student achievement and school effectiveness. There has been a continued debate concerning the relative contributions of school inputs and school process variables in explaining school outcomes. Researchers (cf. Coleman et al., 1966; Gottfredson & Gottfredson, 1985) have consistently demonstrated that achievement or other school outcomes are limited by either resource constraints (e.g., student-teacher ratios, physical facilities, monetary resources), student ability, or the background characteristics of the families from which the students are drawn (e.g., socioeconomic status, race). Some work has shown that in addition to school inputs, social characteristics within schools (e.g., teacher satisfaction, teacher-student relationships, differentiation in student programs) have an impact on student achievement (cf. Brookover et al., 1979; Good & Brophy, 1986; MacKenzie, 1983; Purkey & Smith, 1983). Yet this research has often failed to indicate which school process variables have

important roles.
important effects and has not been conducted in such a way as to determine the extent to which such process variables make important contributions to explaining variance in outcomes. Results from this study indicate that satisfaction and other attitudes are important social process factors in school effectiveness. Furthermore, the findings suggest that when some resource and background characteristics (inputs) are controlled for, social processes still have an important influence on school outcomes. More work is needed that includes other input variables, such as student ability (which was not included in this study), to determine how much variance in school outcomes beyond that accounted for by student inputs is accounted for by social processes.

Similarly, it might be argued that some school characteristics that make the school a "good" or "desirable" school (e.g., low student:teacher ratios, private school, few students from poor families, larger resources per student) affect and contribute to the satisfaction and well-being of employees. In this study, these characteristics were controlled for in the analyses, and significant results still emerged.

Given the fact that significant and practically important relationships between satisfaction, attitudes, and organizational effectiveness were found, it is important to question which factors contribute to satisfaction, with the implication that organizations that can enhance the satisfaction of employees may be more effective or increase their effectiveness. Two schools of thought appear to dominate work on the causes of satisfaction.

One view is that satisfaction is a fairly stable characteristic of individuals (Pulakos & Schmitt, 1983; B. Schneider & Dachler, 1978; Staw, Bell, & Clausen, 1986; Staw & Ross, 1985). Satisfaction may result as much from the unique way a person views the world and from dispositional causes as from any social influence or job characteristic (Staw, 1986). A second view has focused on the situational context as a cause of satisfaction and has indicated that the climate of the organization (e.g., Friedlander & Margulies, 1969; Ostroff, in press-b; Payne & Pugh, 1976; B. Schneider & Snyder, 1975), job characteristics (e.g., Hackman & Oldham, 1976; Loher, Noe, Moeller, & Fitzgerald, 1985), and participation in decision making (e.g., K. J. Miller & Monge, 1986) are related to employees' satisfaction. These findings imply that organizations that desire satisfied employees could either select employees with a predisposition to be satisfied or create a work environment that facilitates satisfaction, or both. Clearly, more research is needed to determine which of these is a more viable option.

It may also be useful to search for moderators of the satisfaction-performance relationship at the organizational level in future research. For example, worker control or freedom from situational constraints (cf. Bhagat, 1982; Herman, 1973) has been found to moderate relationships among satisfaction, attitudes, and performance at the individual level. At the organizational level, autonomous climates or technical or social systems in which performance variation is maximized may moderate the relationship between satisfaction and organizational effectiveness. Future work should also be directed at the linkages among satisfaction or attitudes, salient organizational behaviors, and organizational effectiveness.

One major question that can be raised about the results of this study relates to the causal nature of the relationship between satisfaction, attitudes, and performance. This concern has been debated at the individual level (Organ, 1977) and can be applied equally well to the organizational level. In this study, satisfaction and other attitudes were treated as "predictors" of organizational performance, that is, increased satisfaction and well-being were posited to lead to increased performance. However, it is equally likely that high organizational performance could lead to satisfaction and well-being. It could be argued that employees who are in higher performing organizations are more likely to be satisfied, committed, adjusted, and less stressed than those in lower performing organizations simply because their organization is doing well. For example, at the individual level, feedback regarding the degree of task success or the degree of achievement attained has been posited to be a determinant of work satisfaction (e.g., Hackman & Oldham, 1976; Vroom, 1964). The same notion might apply at the organizational level in that employees may derive satisfaction from knowledge or feedback that their organization is performing well or accomplishing its goals. In schools, for example, teachers may feel more satisfied when they are confronted with well-behaved, high-achieving students who have good attitudes, and they may become discouraged and unhappy when confronted with low-achieving, poor students.

Like many other studies, the results from this study cannot fully address the causality issue. Although satisfaction and attitudes were treated as predictors in the analyses, the performance indexes could also have been used as predictors of satisfaction and attitudes. In fact, this alternative analysis yields similar results and leads to the conclusion that satisfaction, attitudes, and performance are related and can be predicted from one another. Future research is needed that uses longitudinal designs and time-lagged correlations to more adequately address causality. In fact, the school situation may provide a unique opportunity for addressing the causality issue because the group of employees who work in the school may remain the same over many years while the students from which many of the effectiveness outcomes are derived turn over every few years. Thus, for example, if satisfaction causes performance, we should see that a high level of teacher satisfaction promotes effectiveness in future groups of students; if performance causes satisfaction, then a new group of well-performing students should increase the satisfaction of teachers. Studies of this type may reveal that both relationships—satisfaction causes performance and vice versa—exist in varying degrees (Organ, 1977). It is likely that a reciprocal relationship exists and that, as noted by Gross and Etzioni (1985), "organizational rationality and human happiness go hand and hand" (p. 4). Thus, causality may work in both directions.

A related issue is whether employee satisfaction and well-being are a measure of organizational performance or a determinant of performance. Some models of organizational effectiveness (e.g., Pickle & Friedlander, 1967) focus on employee satisfaction as one measure of organizational success, whereas others view satisfaction or employee attitudes as predictors of success. This issue continues to be debated by organizational effectiveness theorists and researchers (Lewin & Minton, 1986). One way to look at this might be to view effectiveness as comprising two areas: (a) adaptation to the environment (disposing of outputs, acquiring of inputs, etc.) and (b) internal adap-
tation (employee satisfaction, organizational strain, etc.; Goodman & Penning, 1980). If one adopts this view, the present study shows fairly strong relationships between the two areas of organizational performance.

Alternatively, one might view internal adaptation as a precursor to adaptation to the environment. That is, organizations must have a well-adjusted internal workforce that allows for smooth internal operations before they can show effectiveness in the environment. Longitudinal studies that include a variety of internal and external adaptation and effectiveness measures are needed to further elucidate these notions. In addition, it may be that internal adaptation is important for effectiveness in some contexts and not others. For example, Thompson (1967) suggested that when the internal transformation process is well defined and when the desired outcomes or outputs are unclear or cannot be defined easily, employee cooperation and satisfaction are important; however, when desired outputs are clear but knowledge about how to attain them is vague, output or attainment of profit goals is important. Thus, future studies should include characteristics of the situational context and type of environment in which the organization is operating to determine if such variables moderate the relationship between satisfaction and organizational performance.

A final concern pertains to the nature of the sample. In this study, all of the organizations were secondary schools. Future research is needed to examine relationships between satisfaction, attitudes, and organizational performance in other types of industries, including service, manufacturing, nonprofit, and profit organizations, to determine if these relationships hold for other types of industries and occupations.

References


Schneider, B., & Snyder, R. A. (1975). Some relationships between job...


Received June 6, 1991
Revision received April 22, 1992
Accepted April 22, 1992

---

**P&C Board Appoints Editor for New Journal:**

**Experimental and Clinical Psychopharmacology**

In the fall of 1993, APA will begin publishing a new journal, *Experimental and Clinical Psychopharmacology*. Charles R. Schuster, PhD, has been appointed as editor. Starting immediately, manuscripts should be submitted to

Charles R. Schuster, PhD
P.O. Box 2795
Kensington, MD 20891-2795

*Experimental and Clinical Psychopharmacology* seeks to promote the discipline of psychopharmacology in its fullest diversity. Psychopharmacology necessarily involves behavioral changes, psychological processes, or their physiological substrates as one central variable and psychopharmacological agents as a second central variable. Such agents will include drugs, medications, and chemicals encountered in the workplace or environment. One goal of *Experimental and Clinical Psychopharmacology* is to foster basic research and the development of theory in psychopharmacology. Another is to encourage the integration of basic and applied research, the development of better treatments for drug abuse, and more effective pharmacotherapeutics. To this end, the journal publishes original empirical research involving animals or humans that spans from (a) behavioral pharmacology research on social, behavioral, cognitive, emotional, physiological, and neurochemical mechanisms of drug–or chemical–behavior interaction and behavioral toxicity; to (b) descriptive and experimental studies of drug abuse including its etiology, progression, adverse effects, and behavioral and pharmacological treatment; to (c) controlled clinical trials that, in addition to improving the effectiveness, range, or depth of application, will also increase our understanding of psychological functions or their drug modulation. The journal also publishes theoretical and integrative analyses and reviews that promote our understanding and further systematic research in psychopharmacology. Although case studies are not appropriate, occasional small-sample experiments with special populations may be considered. The journal is intended to be informative and useful to both basic and applied researchers and to practitioners operating in varied settings. *Experimental and Clinical Psychopharmacology* seeks to be the vehicle for the best research and ideas integrating pharmacology and behavior.