Markus Christen, Ganesh Iyer, & David Soberman

Job Satisfaction, Job Performance, and Effort: A Reexamination Using Agency Theory

The objective of this article is to clarify ambiguities in the literature regarding the relationships among three key constructs of work relationships: effort, job performance, and job satisfaction. The relationship between job performance and job satisfaction is of central interest to research in organizational psychology. However, empirical research in that area finds that the link between these constructs is weak at best. A negative effect of effort on job satisfaction is consistent with agency theory, but there is limited empirical evidence to support this assumption. Moreover, some studies have found a positive effect of effort on job satisfaction. Using a model that incorporates the main constructs from agency theory and organizational psychology, the current study finds a negative, direct effect of effort and a positive, direct effect of job performance on job satisfaction. The authors show that conflicting findings in the literature are the result of inconsistency in both the measurement and the definition of constructs across studies that do not fully account for all the relationships between constructs. The current findings emphasize the need to distinguish clearly between factors that represent employees' inputs in a work relationship (i.e., effort) and those that represent their outputs (i.e., job performance). The article also demonstrates the importance of properly accounting or controlling for all key variables to eliminate biases that can arise in empirical research on work relationships.

There is an extensive body of research in organizational psychology that considers the role of job satisfaction in managing effective work relationships. Similarly, job satisfaction is a widely studied construct in marketing research on sales force (Brown and Peterson 1993), retail store managers (Lusch and Serpkenci 1990), and service workers (Boyt, Lusch, and Naylor 2001). This research examines the antecedents of job satisfaction and, in particular, the effects of job performance, effort, and the compensation structure. However, findings in this literature about the relationships between job satisfaction and these antecedents have been inconsistent and even controversial. For example, despite the finding that people derive intrinsic value from work, the relationship between job performance and job satisfaction has been found to be inconsistent and weak (Brown and Peterson 1993; Iaffaldano and Muchinsky 1985). Similarly, studies that examine the effect of effort on job satisfaction find that it has a positive effect (Brown and Peterson 1994). This second finding appears to contradict the logic of the equally large literature on agency relationships in economics and marketing, which is based on the assumption that effort is costly to an agent and therefore reduces the agent's utility (or job satisfaction).

The objective of this article is to develop a model of work relationships to investigate the relationship between job satisfaction and its key determinants, job performance and effort. The premise is that a complete understanding of job satisfaction and work relationships must be predicated on a theory of how effort affects job satisfaction and the way that effort affects the relationship between job performance and job satisfaction. To this end, we draw on both agency theory and organizational psychology. We consider a role of effort that is consistent with a principal–agent model (Holmstrom 1979): When compensation and other factors are controlled for, effort is a cost for an agent. We then embed this cost in a job satisfaction model (Porter and Lawler 1968) to clarify the relationships between job satisfaction and its key antecedents. A clear understanding of these relationships is important to design employment contracts that optimize firm performance, while providing satisfactory incentives and compensation for an employee.

When we consider the three constructs of job satisfaction, job performance, and effort jointly, we find a strong positive effect of job performance on job satisfaction, a result that has long been hypothesized in marketing and organizational psychology but has received weak empirical support (Iaffaldano and Muchinsky 1985). In addition, when we account for the moderating effect of job performance, we find that effort has a strong negative effect on job satisfaction, a result that supports the theoretical assumption of empirical studies of contracts, such as sales force compensation plans (e.g., Lal, Outland, and Staelin 1994). Both omitted variables and construct definition problems explain why some previous research has found a posi-

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ISSN: 0022-2429 (print), 1547-7185 (electronic)

Journal of Marketing
Vol. 70 (January 2006), 137–150

tive effect of effort on job satisfaction. The result of our model and analysis is consistent with the agency theoretic view of effort. At the same time, we recognize the manner by which other determinants of job satisfaction mediate the impact of effort on job satisfaction.

Another important factor that must be incorporated into a model of work relationships is compensation. Agency theory makes a distinction between fixed compensation (e.g., salary) and variable compensation that depends on output (e.g., bonuses based on individual or firm performance). The agency theoretic prediction is that fixed compensation should have a significant effect on job satisfaction but not on effort, regardless of an employee's risk preference. Our results support this prediction.

In addition to an examination of fixed salary, our data set enables us to examine a common compensation variable that has received little attention in the literature: corporate-wide profit-sharing plans tied to overall firm performance. This type of compensation is interesting because in a large organization, it is neither fixed nor affected solely by the individual employee's performance. We find that these profit-sharing plans have a significant effect on both job satisfaction and effort.

This article is relevant to researchers in marketing and management who are interested in the relationship between job satisfaction and job performance. The results counter previous findings that there is no relationship between the two factors. Job performance has a direct and positive effect on job satisfaction when we properly account for effort. Effort has a positive effect on job performance and, thus, a positive, indirect effect on job satisfaction.

Next, the article demonstrates the problems of omitted variables and unclear construct definitions in researching work relationships within organizations. Findings about the relationship among effort, job performance, and job satisfaction can be unclear or inconsistent with received theory when key constructs are omitted or lumped together. This suggests the need for empirical research to distinguish clearly between factors that are inputs (i.e., effort) and those that are outputs (i.e., job performance).

We next provide a summary of the relevant literature, beginning with a discussion of the relationship between job performance and job satisfaction in marketing and organizational psychology. We follow this summary with a discussion of the effect of effort as it is purported in agency theory. On the basis of the literature review, we then set forth several hypotheses. We describe our empirical model and discuss the data and estimation approach. After we present the estimation results, we conclude with a discussion of the implications of our findings and highlight several important issues for further research.

Literature Review

The Relationship Between Job Performance and Job Satisfaction

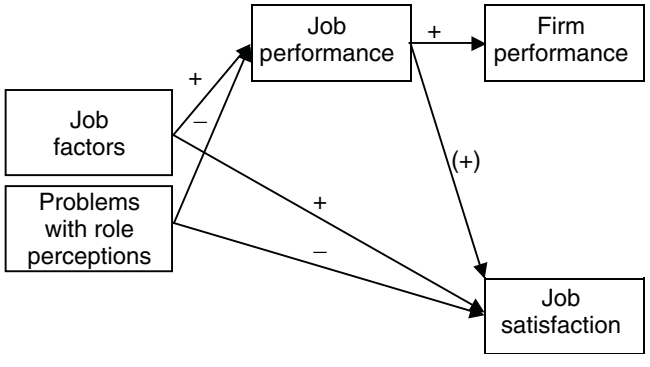
The idea that satisfied employees are more productive held through the 1970s. However, it was difficult to obtain support for the view that job satisfaction has a significant effect on job performance. As a result, the reverse (that an employee's job performance affects his or her job satisfaction) became the focus of research in the area (Lawler and Porter 1967). Although the idea that an employee's job performance affects his or her job satisfaction is consistent with several psychological theories, such as intrinsic motivation theory (Deci and Ryan 1985), few studies have found support for it (Iaffaldano and Muchinsky 1985). Similarly, organizational studies of the sales force in marketing invariably find that the relationship between job performance and job satisfaction is weak (Bagozzi 1980; Brown and Peterson 1993). As Brown and Peterson (1993) note, if the effect of job performance on job satisfaction is insignificant, firm actions designed to increase job performance should not have a direct effect on job satisfaction and related outcomes, such as employee turnover.

Conversely, there seems to be consensus that many antecedents of job satisfaction and job performance are common (e.g., effort, compensation, quality of supervision, clarity of job responsibilities). Consequently, it is essential to account for both direct and indirect effects of common antecedents to reach the conclusion that the effect of job performance on job satisfaction is insignificant.

The literature suggests that the antecedents of job satisfaction can be categorized into personal characteristics, role perceptions, and organizational variables (Brown and Peterson 1993). A typical job satisfaction model appears in Figure 1.

It is intuitive that effort and compensation are critical determinants for the viability of any employment situation. An employee will not be willing to exert effort unless he or she is paid, and the employer will not be willing to pay unless the employee works. A contract needs to be individually rational (i.e., both parties must expect to be better off by engaging in the work relationship). However, few, if any, studies include the employee's effort as an antecedent of job satisfaction (Brown and Peterson 1994). One exception is that of Clark and Oswald (1996), who use job satisfaction as a proxy for utility. They find a negative (albeit weak)

FIGURE 1
A Typical Job Satisfaction Model



Notes: Signs indicate the direction of effects according to the literature (Brown and Peterson 1993). Parentheses indicate a hypothesized relationship that has not been confirmed by empirical results.

effect of effort on job satisfaction. However, because job performance is omitted, its role as a potential mediator of the effect of effort on job satisfaction is not considered.

Many studies treat effort as part of job performance, which is defined broadly as an aggregate construct of effort, skill, and outcomes that are important to the employee and outcomes that are important to the firm (e.g., Behrman and Perreault 1984; Lusch and Serpkenci 1990; Walker, Churchill, and Ford 1977). Similar to the work of Bagozzi (1978), a few studies use a narrow definition of job performance based on actual sales or other objective productivity measures. However, these studies do not include effort as a separate construct.

We argue that it is important to define effort as distinct from job performance. From the perspective of an employee, job performance and effort are different. Effort is an input to work, and job performance is an output from this effort. From a firm's perspective, effort and job performance may be difficult to distinguish, and effort is often inferred from the output produced (the possibility of high effort and low output or low effort and high output is often not considered). This may explain the inclusion of effort in the definition of job performance. Some studies include work motivation as an antecedent to job satisfaction, but motivation ("I want to work hard") is not the same as exerted effort ("I did work hard and spent a lot of time and energy").

The implications of either neglecting effort or considering it a part of job performance for the empirically observed relationship between job performance and job satisfaction can be significant. If effort is costly for an employee, ignoring effort can bias the estimated effect of job performance on job satisfaction (because effort should increase job performance). Failing to control for effort induces a negative spurious correlation, which may reduce or even hide a true positive effect of job performance on job satisfaction. Similarly, by including effort in the measure of job performance, negative and positive aspects can nullify each other, yielding an effect for job performance that is again biased toward insignificance.

In summary, the existing job satisfaction research in marketing and organizational psychology is likely hampered by an omitted-variables bias and imprecise definitions of job performance. The objective of this article is to understand this relationship within a framework that overcomes these problems.

The Impact of Effort on Job Satisfaction

If effort is costly for an employee, it should have a negative, direct effect on job satisfaction. This implies that there is a conflict of interest between the employer, who wants the employee to work hard, and the employee, who wants the salary with the minimum possible effort. This conflict is the basis for the literature in economics on the relationship between principals and agents (Hart and Holmstrom 1987; Holmstrom 1979). Nevertheless, aside from the previously mentioned study by Clark and Oswald (1996), there is little direct empirical evidence that effort is a cost that makes employees less happy. Moreover, studies of job satisfaction that include effort as an antecedent tend to find that it has a positive effect on job satisfaction (Brown and Peterson 1994).

An objective of the article is to resolve the inconsistency between theoretical arguments and empirical findings. Our interest is to confirm empirically that the relationship between job satisfaction and effort is negative, because it is the basis for much of the research on contracts and job design. To accomplish this objective, we rely on prior research in economics that has established job satisfaction as a good proxy for utility (Clark and Oswald 1996; Friedman 1978) to untangle the direct and indirect effects of effort on job satisfaction (e.g., through compensation or job performance). The total effect of effort should indeed be positive, otherwise an employee would be better off not working.

Our conjecture is that the primary impediment to finding a negative relationship in previous empirical studies is a problem of omitted variables. Given that employment situations are typically subject to a problem of moral hazard, employers use a combination of outcome-based control (e.g., performance-based contracts) and behavior-based control (e.g., monitoring) to prevent employees from exerting minimal effort (Anderson and Oliver 1987), but these controls also affect employees' job satisfaction.[1] As a result, it is essential to account for the effect of these controls when estimating the valence and strength of the relationship between effort and job satisfaction. For example, in situations with incentive pay, which employers often use to compensate sales people, high effort (though costly) may lead to strong job performance and, thus, high compensation. This would increase job satisfaction and largely mitigate the negative effect of costly effort on job satisfaction. A model that does not account for the indirect path (through compensation) by which effort affects job satisfaction would find that the direct effect of effort on job satisfaction is either insignificant or even positive. A key requirement to identify the direct effect of effort on job satisfaction is to account for the indirect paths through which effort can affect job satisfaction (especially those created by the employer's control system). Next, we summarize the preceding discussion with a set of hypotheses and then propose a model of job satisfaction that incorporates an agency relationship and the key antecedents of job satisfaction into a comprehensive framework.

Hypotheses

The first hypothesis addresses the relationship between job performance and job satisfaction. By treating job performance as distinct from effort and accounting for the direct effect of effort on job satisfaction, we expect the following relationship:

H_1: All else being equal, an employee's job satisfaction increases with his or her job performance.

[1]Moral hazard is a contracting problem between a principal and an agent when an agent expends effort that only he or she observes and the effect of effort on output is uncertain. Consequently, the agent will not choose an efficient level of effort.

In the context of our organizational setting, we show how null effects can be found by adopting approaches used in previous job satisfaction studies.[2]

H_2: All else being equal, omitting effort as a separate antecedent of job satisfaction, either by excluding it from the model or by combining it with job performance, reduces the effect of job performance on job satisfaction.

The next three hypotheses are based on the existence of a typical agency relationship between the firm and an employee.

H_3: All else being equal, job performance increases with an employee's effort and ability.

H_4: All else being equal, firm performance increases with an employee's job performance.

A basic assumption of agency theory is that effort is costly to an agent. By defining effort as an input and by considering indirect paths through which effort affects job satisfaction, we hypothesize that effort should be costly for an employee:

H_5: All else being equal, an employee's job satisfaction decreases with his or her effort.

Our last hypothesis posits a direct implication of the agency model for fixed compensation (i.e., compensation that does not change with an employee's output).

H_6: All else being equal, fixed compensation has a significant, positive effect on an employee's job satisfaction but no significant effect on the employee's effort.

[2]The positive effect of job performance on job satisfaction appears at odds with standard agency theory. However, a positive effect may be consistent with a model of repeated interactions between a principal and an agent.

Model

The firm's objective is to maximize financial performance within the business unit or department affected by the employee's job performance. Similarly, the employee maximizes job satisfaction. Business unit performance is assumed to be, in part, a result of the employee's job performance, which is determined by the employee's effort and ability. Our data consist of the performance and satisfaction of store managers in a retail chain, so the relevant business unit for each employee is a store. The firm (in our case, the retail chain) controls compensation and promotion opportunities and can influence other aspects of the job (e.g., responsibilities). The idea is that these variables potentially influence both the employee's job satisfaction and the employee's willingness to work hard. We summarize the model in Figure 2.

The model translates into a system of four equations that represent (1) the relationship among store performance, SP_i; the employee's job performance, JP_i; and the employee's effort, ME_i (Equations 1–3) and (2) the relationship between job satisfaction, JS_i, and relevant aspects of the employee's work situation, including effort and job performance (Equation 4):

$$(1) \quad SP_i = \alpha_1 + \beta_{JP1}JP_i + \varepsilon_{1i},$$

$$(2) \quad JP_i = \alpha_2 + \beta_{ME2}ME_i + \beta_{MA2}MA_i + \varepsilon_{2i},$$

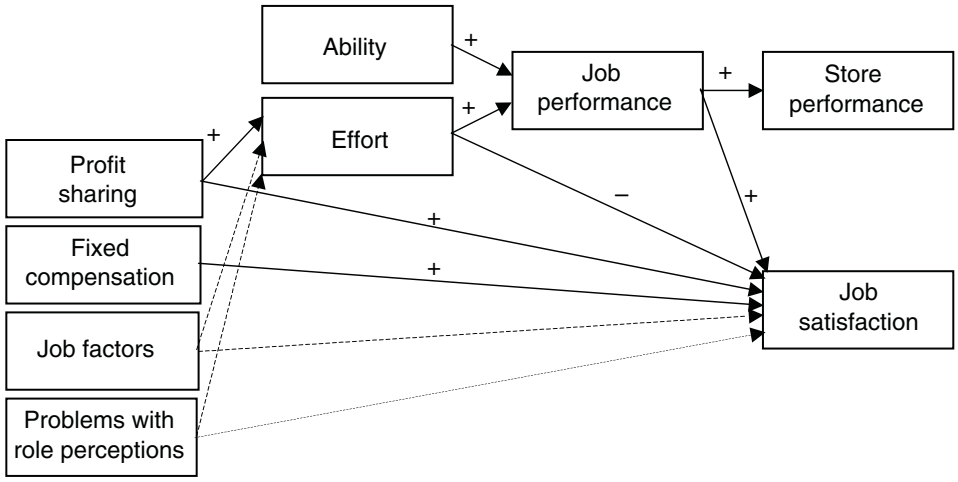
$$(3) \quad ME_i = \alpha_3 + \beta_{C3}C_i + \beta_{PS3}PS_i + \gamma_{j3}X_{ji} + \delta_{k3}Y_{ki} + \varepsilon_{3i},$$

and

$$(4) \quad JS_i = \alpha_4 + \beta_{ME4}ME_i + \beta_{JP4}JP_i + \beta_{C4}C_i + \beta_{PS4}PS_i + \gamma_{j4}X_{ji} + \delta_{k4}Y_{ki} + \varepsilon_{4i},$$

where C_i is employee i's perception of compensation and PS_i is a dummy variable indicating participation in the

FIGURE 2
Proposed Model of Job Satisfaction and Store Performance



Notes: Signs indicate the direction of hypothesized effects. The dashed lines indicate relationships included in the model without specifying hypotheses.

profit-sharing plan. Following the literature, we divide the aspects of the job into job characteristics, X_{ji}, and role perceptions, Y_{ki}. Job characteristics include the employee's perception of the job's attractiveness, the job's autonomy, the quality of supervision, and the social climate at the work place. Role perceptions refer to the employee's perception of his or her responsibilities in terms of clarity, degree of overload, and degree of conflict. The nine β parameters are estimated to assess our hypotheses. We subsequently define and describe the four endogenous constructs and the key exogenous factors (we discuss measurement issues in the "Data and Estimation" section).

The store performance equation (Equation 1) reflects a vertical relationship in which the employee (in this case, the store manager) performs different tasks to generate outputs for the firm (the retail chain), and SP_i is a measure of a store's financial performance. The summary construct, JP_i, is a measure of the employee's job performance. We define this as a qualitative assessment of a store's performance relative to targets and objectives set for that store (as summarized by a supervisor). We treat job performance as an intermediate outcome variable (between effort and store performance), but our framework also recognizes that other factors affect store performance.[3]

The job performance equation (Equation 2) reflects the idea that the employee's job performance, JP_i, is a function of his or her effort, ME_i. Consistent with the work of Campbell and Pritchard (1976), we define effort as the amount of energy and time an employee puts into the job. Employees are not endowed with the same ability to perform the job, MA_i (ability refers to an employee's skill and knowledge related to the specific duties of the job). This should also have a significant effect on observed job performance.

The effort equation (Equation 3) reflects the assumption that effort, ME_i, is influenced by various job factors, some of which the firm controls. The set of job factors included in Equation 3 consist of compensation, C_i; access to the profit sharing plan, PS_i; four job characteristics, X_{ji}; and three role perception factors, Y_{ki} (we elaborate on these characteristics and factors subsequently). We used a dummy variable to indicate an employee's participation in the profit-sharing plan (29% of the store managers in the sample were included in the plan).

Finally, the job satisfaction equation (Equation 4) is based on the assumption that an employee's job satisfaction is a function of his or her job performance, his or her effort, and the job characteristics and role perceptions that affect his or her effort (see the discussion of Equation 3).

Our model includes four job factors, X_{ji} ($j = 1, \ldots, 4$), that are standard in the literature: job autonomy, job attractiveness, quality of supervisory feedback, and social climate. Together with the compensation variables, they represent the job's core characteristics (Fried and Ferris 1986). We define "job autonomy" as the degree to which the firm provides independence and discretion to the employee in fulfilling his or her role. We define "job attractiveness" as the degree to which a job is exciting, challenging, and provides a sense of accomplishment. We define "supervisory feedback" as the extent to which the employee receives information about his or her performance. Supervisory feedback is important because it often has psychological value for an employee. It is also a key element of the firm's control system. Finally, we define the variable "social climate" as the degree to which there is a good working relationship among the employees within the store. We use the employee's perception of these factors because perceptions are the primary drivers of the effort taken and satisfaction received (see, e.g., Judge, Bono, and Locke 2000).[4]

We include three role perception variables, Y_{ki} ($k = 1, \ldots, 3$): role ambiguity, role conflict, and role overload. These are known to have significant, negative effects on both job performance and job satisfaction (Brown and Peterson 1993). We do not have a direct interest in the effect of these variables, but we include them in the model because of their acknowledged importance in explaining job performance and job satisfaction. We define "role ambiguity" as a combination of uncertainty about the relationship between action and output and a lack of clear directions and behavioral requirements from the supervisor (Rizzo, House, and Lirtzman 1970). We define "role conflict" in terms of the congruency of various job responsibilities (i.e., the degree to which goals, objectives, and responsibilities of a position conflict with one another; Rizzo, House, and Lirtzman 1970). Role conflict can arise from inconsistent demands from different role partners (e.g., supervisors, coworkers, customers) on the employee; incongruencies with personal values; conflicts among different roles; and conflicts among time, resources, and demands (role overload). Because the workload of the employees in our data set is high and a distinctive job attribute, we include "role overload" as a separate factor.

To complete the model specification, we include intercepts, α_ℓ, and error terms, $\varepsilon_{\ell i}$, for each of the $\ell = 1, \ldots, 4$ equations to account for unobserved factors and random measurement error. We also add a set of variables that capture store and store manager characteristics for control and identification purposes. We provide details in the discussion of our estimation approach. Next, we describe the data set and discuss measurement and estimation issues.

Data and Estimation

Data Set

We use data that Lusch and Serpkenci (1990) collected for their study of the effect of personal difference variables on

[3]When the performance of a firm depends on various other exogenous factors, it is important to control for bad (good) outcomes, even when a manager's job performance is high (low). Therefore, eliminating job performance from the model and using only store performance could give a misleading result for the effect of effort. If the most talented and hardest working store managers were assigned to the worst-performing stores to improve them, it might be possible to find a negative effect of effort on store performance.

[4]Effort and job satisfaction may also be affected by promotion opportunities. A factor analysis of the data (see the "Data and Estimation" section) indicates that "promotion" cannot be identified independently of compensation. Thus, we exclude promotion as an independent factor from the analysis.

the job satisfaction of retail store managers. This data set is based on a survey of a U.S. grocery retailer with more than 200 supermarkets. It contains typical measures collected for job satisfaction studies and extensive operating and accounting information for each store. The stores are uniform in terms of merchandise and layout, and most stores have 7000 to 10,000 square feet of selling space. Stores are about equally distributed over metropolitan and rural areas. Each store is staffed by a store manager and one or more assistant managers. A district supervisor monitors the operations of 10 to 15 stores and reports directly to senior management.

The data consist of three individual data sets collected from three different sources. The retailer provided operating and financial data for each store for the most recent three years. District managers (supervisors) completed a survey to provide an assessment of store managers' performance, effort, and ability. Store managers completed a survey on the quality of their work life, which provides the data for the store managers' assessment of job factors, role perceptions, and job satisfaction. This survey also captured several of the store managers' personal and attitudinal characteristics.

For the statistical analysis, there were 188 usable observations from 226 stores (18 surveys were not returned, and 20 were eliminated because of missing data). In addition, we eliminated 11 observations from store managers who were at the current job for less than one year, which left us with 177 observations for estimation.

Measurement of Constructs

Job satisfaction. Locke (1976, p. 1300) defines job satisfaction as "a pleasurable or positive emotional state," which is "a function of the perceived relationship between what one wants from a job and what one perceives it is offering." In essence, job satisfaction is an overall state that is derived from experiencing a work situation. Because our approach embeds a principal–agent structure within a job satisfaction model, we use job satisfaction as a proxy for the utility from working (derived by the employee). This assumption follows other "workplace studies" that have an economic orientation (Clark 1997; Clark and Oswald 1996; Friedman 1978).[5]

There are two general approaches to measure overall job satisfaction. The first determines job satisfaction by the measurement of satisfaction with different job "facets" (e.g., Smith, Kendall, and Hulin's [1969] job descriptive index); the second measures overall or "global" job satisfaction directly (e.g., Hackman and Oldham's [1975] job diagnostic survey). Research shows that in many cases, the global approach is superior to the facet approach (e.g., Scarpello and Campbell 1983). As a result, we use a global three-item measure of job satisfaction.

Store manager effort, ability, and job performance. We obtained measures of effort, ability, and job performance (for each store manager) from two different scales completed by the district supervisor. The Appendix provides a summary of the different scale items we used to measure the different constructs in our model. As we show in Table 1, all measures have good reliability properties. Cronbach's alpha values range from .81 for ability to .89 for effort.[6]

Store performance. The economic outcome of interest to the retail chain is store profits. To reduce potential accounting problems, we use a store's operating profit, which we define as store sales less store operational expenses for the current year. To control for store size, we divide the operating profit measure by available store selling space for the same year.[7]

Compensation, job factors, and role perceptions. The scales that Lusch and Serpkenci (1990) use to measure a store manager's perception of compensation and job factors are derived from the job descriptive index (Smith, Kendall, and Hulin 1969). They contain sufficient items to measure a store manager's perceptions of the five factors reliably (i.e., compensation, job attractiveness, job autonomy, supervisory feedback, and social climate). Individual store managers provided answers. Each of the five factors is measured by its respective scores on two to four items based on a five-point Likert scale, ranging from "strongly agree" to "strongly disagree," or on a six-point Likert scale, ranging from "definitely yes" to "definitely no." The scale items appear in the Appendix. Table 1 shows that Cronbach's alpha values range from .71 for job autonomy and social climate to .85 for compensation. As we previously noted, we indicated inclusion in the corporate profit-sharing plan with a dummy variable. Lusch and Serpkenci (1990) measure the three different role factors with a multi-item scale (see the Appendix). Cronbach's alpha for these three factors ranges between .69 for role conflict and .80 for role overload.

To ensure that the factors measure unique aspects of a store manager's job situation, we conducted a factor analysis. An exploratory factor analysis yielded eight factors with eigenvalues greater than one. We then conducted a confirmatory factor analysis to test the eight-factor solution, and we compared it with other possible solutions. Table 2 provides a summary of various goodness-of-fit indicators for different factor solutions. Although the chi-square test statistic indicates that the restrictions underlying the eight-factor solution are significant (which is expected given the

[5]These studies define a worker's utility function as u = u(y, e, i, j), where y is income, e is effort extended, and i and j are sets of individual and job parameters, respectively. In contrast to this specification, however, we also include job performance as a determinant of utility.

[6]Effort, ability, and job performance are significantly correlated (see Table 1). Nevertheless, a factor analysis of the data strongly indicated the presence of three factors. For each construct, we selected scale items on the basis of the results of the factor analysis. Moreover, higher correlation hurts efficiency, but estimates are still consistent.

[7]Note that unobserved store-specific factors and the retailer's strategy can affect both store performance and a store manager's effort. This can lead to biased parameter estimates if not properly controlled for. By measuring job performance relative to store objectives, we can account for heterogeneity in profit potential across stores. We also include several store characteristics in the estimation to mitigate this problem further.

TABLE 1
Pairwise Correlation Coefficients and Measurement Properties of Variables

	Variables													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Compensation														
2. Profit sharing[a]	.02													
3. Attractiveness	.35	–.04												
4. Autonomy	.38	.00	.42											
5. Supervisor	.37	.14	.37	.38										
6. Social climate	.48	.05	.53	.45	.36									
7. Role ambiguity	–.28	–.03	–.39	–.46	–.46	–.30								
8. Role conflict	–.11	.05	–.13	.06	–.11	–.12	.40							
9. Role overload	–.28	.04	–.37	–.24	–.30	–.24	.40	.35						
10. Ability	.13	.09	–.02	.13	.10	–.03	–.07	–.04	–.16					
11. Manager effort	.06	.10	–.02	.17	.15	–.06	–.04	.08	–.10	.69				
12. Job performance	.14	.02	–.07	.08	.11	–.03	–.16	–.05	–.17	.66	.66			
13. Job satisfaction	.47	.10	.58	.43	.27	.62	–.34	–.16	–.34	.10	.08	.09		
14. Store performance[b]	.06	–.07	–.04	–.13	.01	–.08	–.04	–.10	–.19	.35	.19	.33	–.01	
M	1.88	.29	3.74	4.13	2.99	3.54	1.87	2.11	2.75	4.45	4.39	4.30	4.53	56.8
SD	.77	.46	.75	.85	.73	.87	.77	.88	.79	.89	.78	1.21	1.19	21.8
Number of scale items	4	1	4	2	4	2	4	3	3	3	5	3	3	—
Cronbach's α	.85	—	.75	.71[c]	.73	.72[c]	.79	.69	.80	.81	.89	.88	.67	—

[a]Indicator variable.
[b]Store operating profit relative to selling space.
[c]Simple correlation.

TABLE 2
Goodness-of-Fit Statistics for Different Factor Solutions

Number of Factors[a]	Steiger–Lind RMSEA	Chi-Square (d.f.)	Jöreskog GFI	Bentler Comparative Fit Index	Parsimonious Fit Index	Bollen's Rho	Bollen's Delta
3	.116	998.7 (321)	.696	.695	.559	.575	.698
4 (Overload)	.101	918.7 (319)	.736	.730	.584	.607	.733
5 (Social climate)	.090	810.9 (315)	.765	.777	.614	.648	.780
6 (Autonomy)	.077	714.5 (310)	.793	.818	.638	.685	.820
7 (Supervisor)	.062	628.3 (304)	.825	.869	.654	.728	.866
8 (Conflict)	.049	481.6 (297)	.875	.912	.685	.764	.904
9 (Promotion)	.048	474.1 (289)	.883	.907	.690	.768	.899

[a]The three factors are compensation (compensation, promotion, social climate), work (attractiveness, role conflict, role overload), and organization (autonomy, role ambiguity, supervisor). The subsequent rows indicate higher-factor solutions. The factor that is separated from the previous solution with fewer factors is in parentheses.
Notes: RMSEA = root mean square error of approximation, and GFI = and goodness-of-fit index.

sample size), its goodness-of-fit increases significantly compared with solutions with fewer factors. In addition, the indicators have reasonably high values.

In summary, we use standard measures for the constructs of interest, and they satisfy typical reliability standards. Because our data contain several five-, six-, and seven-point Likert scales, we standardized all item responses before creating indicators for estimation.

Estimation Approach

The model we outlined in the previous section is a triangular system of four simultaneous equations with four endogenous variables (effort, job performance, job satisfaction, and store performance), ten exogenous variables (a store manager's ability, six job factors, and three role perception variables), and several store and store manager characteristics added for control and identification purposes. To simplify the exposition, we do not discuss them in detail.[8] However, the error terms across the four equations

[8]We included the following variables in our system of equations: store performance equation (Equation 1): age of the store, number of store employees, tenure of the store manager, and a dummy variable for a urban store location; job performance equation (Equation 2): a series of dummy variables to indicate the supervisor; effort equation (Equation 3): a dummy variable for urban store location, tenure, and age of store manager and four personal difference variables we adapted from Lusch and Serpkenci's (1990) study; and job satisfaction equation (Equation 4): four personal difference variables. Thus, for every equation, the number of exogenous variables is larger than the number of included endogenous variables, which satisfies the order condition of identification. The restriction that effort and job satisfaction do

are most likely correlated (i.e., the error covariance matrix is not diagonal, that is, the system is not fully recursive). In this situation, Lahiri and Schmidt (1978) show that a triangular system can be estimated in the manner of seemingly unrelated regression models (ignoring the simultaneity) with maximum likelihood estimation. This approach yields consistent and efficient estimates of the error variances, which is necessary for parameter estimates to be consistent (Greene 1991).[9]

One estimation problem is the possibility that access to the profit-sharing plan is determined through self-selection by the store managers or by the chain. A comparison of demographic and personality variables between store managers with and without the plan suggests that enrollment in the plan was random. A second problem is the possibility of random shocks that can simultaneously affect job performance and store performance. This can lead to a problem of contemporaneous correlation in the store performance equation (Equation 1), which we control for by using instrumental variable estimation. Specifically, we use store performance and other available variables lagged by one and two years as instruments. We then use the predicted value of store performance to estimate the system of equations.

Results

We first present the results for our four-equation model, which yield tests of H_1 and H_3–H_6. We then analyze two alternative models to replicate several controversial results in job satisfaction studies. These alternative models enable us to assess H_2.

Effort, Job Performance, and Compensation

The estimation results for Equations 1–4 appear in Table 3. Rows 2–4 show the results for the direct and indirect effects of a store manager's effort and job performance, Rows 5–6 show the results for the compensation variables, Rows 7–10 show the results for the effects of job characteristics, and the bottom three rows show the effect of role perceptions.

First, the effect of job performance on the manager's job satisfaction is positive and highly significant, providing strong support for H_1 ($\hat{\beta}_{JP4} = .286$, $p < .001$).[10] The data can also be used to refute the idea that happy employees are more productive. If we reverse this relationship by adding job satisfaction to Equation 2 and by removing the effect of job performance from Equation 4, we find no significant effect of job satisfaction on job performance ($\hat{\beta} = .098$, $p = .20$).

Second, as we proposed in H_3, job performance increases with both effort ($\hat{\beta}_{ME2} = .158$, $p < .05$) and ability ($\hat{\beta}_{MA2} = .387$, $p < .001$). Consistent with H_4, store performance increases with job performance ($\hat{\beta}_{JPI} = 6.67$, $p < .001$). We also conducted a series of tests to assess the robustness of our findings with respect to alternative assumptions. For several variables, we tested for nonlinear effects on job satisfaction. All were insignificant. The positive effect of job performance on store performance is robust with respect to different store performance measures (e.g., net profit, sales per square foot). Because of unob-

not directly affect store performance ensures that the rank condition is satisfied as well.

[9]Three-stage least squares estimation can provide more efficient results by imposing greater constraints on the system. However, this makes estimates more susceptible to model specification problems. In any event, the results generated with three-stage least squares estimation lead to identical conclusions (the magnitudes of some estimated parameters are different).

[10]When our hypotheses make clear directional predictions, we report the statistical significance based on one-tailed t-tests. We report the significance of effects of other parameters based on two-tailed t-tests. Estimation details for additional analyses we presented in this section are available on request.

TABLE 3
Estimation Results

Parameter	Store Performance (Equation 1)	Store Manager Job Performance (Equation 2)	Store Manager Effort (Equation 3)	Store Manager Job Satisfaction (Equation 4)
Intercept (α_ℓ)	27.0*** (4.93)	−.495** (.211)	.078 (.213)	−.054 (.051)
Effort ($\beta_{ME\ell}$)		.158** (.074)		−.269*** (.061)
Ability ($\beta_{MA\ell}$)		.387*** (.073)		
Job performance ($\beta_{JP\ell}$)	6.67*** (1.33)			.286*** (.054)
Compensation ($\beta_{C\ell}$)			−.001 (.087)	.168*** (.057)
Profit sharing ($\beta_{PS\ell}$)			.183* (.109)	.246*** (.080)
Job autonomy ($\gamma_{1\ell}$)			.249*** (.079)	.096* (.053)
Job attractiveness ($\gamma_{2\ell}$)			.020 (.092)	.476*** (.061)
Supervisory feedback ($\gamma_{3\ell}$)			.140* (.080)	−.128** (.060)
Social climate ($\gamma_{4\ell}$)			−.204** (.083)	.176*** (.056)
Role ambiguity ($\delta_{1\ell}$)			.093 (.091)	−.026 (.060)
Role conflict ($\delta_{2\ell}$)			−.024 (.054)	−.047 (.031)
Role overload ($\delta_{3\ell}$)			−.119* (.070)	−.083* (.045)

*$p < .10$ (two-tailed t-test).
**$p < .05$ (two-tailed t-test).
***$p < .01$ (two-tailed t-test).
Notes: Number of observations = 177; total number of parameters estimated (including control variables) = 67. Standard errors are in parentheses.

served contemporaneous effects, we used an instrumented store performance variable in our estimations. The actual measure of store performance can artificially inflate the measured effect of job performance on store performance. We repeated the estimation with actual store performance and found this to be the case. To determine whether a manager's job satisfaction depends on the performance of his or her store (Ostroff 1992), we added store performance to Equation 4. We found that the effect of store performance on job satisfaction is insignificant ($\hat{\beta} = .002$, $p = .21$).

Third, and most important, we found strong support for H_5 (i.e., effort is a "cost" to the store manager; $\hat{\beta}_{ME4} = -.269$, $p < .001$). Finally, the estimate for the effect of compensation on job satisfaction has the expected positive sign and is statistically significant ($\hat{\beta}_{C4} = .168$, $p < .01$), whereas its effect on effort is not significant ($\hat{\beta}_{C3} = -.001$, $p = .99$), as we expected. These two results support H_6. We also estimated the system with an estimate of the store manager's annual salary added to Equations 3 and 4 and found that the results are unaffected. For job satisfaction, the effect of actual salary is only marginally significant.

As we previously mentioned, our data set provides us with the ability to examine the effects of a compensation component that is used frequently in firms but has not been subject to significant empirical research: corporate-level profit-sharing plans. As with other compensation elements, access to this plan, which some store managers had, should increase job satisfaction (all else being equal). As we show in Table 3, we find a positive effect of the profit-sharing plan on job satisfaction ($\hat{\beta}_{PS4} = .246$, $p < .001$). The effect of this plan on effort is less obvious. According to agency theory, there should be no effect, because the effort of an individual store manager has only a small impact on corporate profitability. Conversely, arguments in the organizational psychology literature suggest a positive effect because contingent rewards that depend less directly on a person's own performance are considered less controlling (Deci 1971; Ryan, Mims, and Koestner 1983). We found that access to the profit-sharing plan leads to greater effort ($\hat{\beta}_{PS3} = .183$, $p < .05$). Therefore, it would be useful to investigate further the mechanism through which such plans affect the agent's effort.

By carefully separating input (store manager's effort) from output (store manager's job performance), we find support for both the importance of intrinsic rewards that store managers obtain through job performance (H_1) and the assumption that effort per se is a disutility or cost for them (H_5). Because a store manager's effort increases job performance (H_3), it has a positive, indirect effect on job satisfaction. However, this positive, indirect effect of effort ($.158 \times .286 = .045$) is of smaller magnitude than the negative, direct effect (–.269). This implies that a store manager must receive compensation for his or her effort.

Other Job Factors and Role Perceptions

The estimates for the four job factors and the three role perceptions included in the job satisfaction equation (Equation 4) have signs that are consistent with existing research, except for the effect of the supervisor, which is negative. A store manager's job satisfaction increases with job autonomy ($\hat{\gamma}_{14} = .096$, $p < .1$), job attractiveness ($\hat{\gamma}_{24} = .476$, $p < .001$), and good social climate ($\hat{\gamma}_{44} = .176$, $p < .01$). In addition to the quality of supervisory feedback ($\hat{\gamma}_{34} = -.128$, $p < .05$), the three role perception factors also decrease job satisfaction, though at best, their effects are only marginally significant (ambiguity: $\hat{\delta}_{14} = -.026$, $p = .67$; conflict: $\hat{\delta}_{24} = -.047$, $p = .13$; overload: $\hat{\delta}_{34} = -.083$, $p < .1$).

For the store manager effort equation (Equation 3), we found (expected) positive effects of job autonomy ($\hat{\gamma}_{13} = .249$, $p < .01$) and the quality of supervisory feedback ($\hat{\gamma}_{33} = .140$, $p < .1$). Conversely, job attractiveness has no significant effect on effort ($\hat{\gamma}_{23} = .020$, $p = .83$). Notably, we found that a better social climate is associated with lower effort ($\hat{\gamma}_{43} = -.204$, $p < .05$). This finding indicates that in hierarchical organizations, such as a retail store, excessive socialization might interfere with the retailer's objectives of extracting high effort from the store employees. Although the store manager gains satisfaction from positive work relationships, having subordinates that are more than just employees (i.e., friends) may interfere with the ability to manage them. This counters the argument that retailers that create close working relationships between employees and store management have higher levels of performance (Dunne and Lusch 1999). Of the three role perception variables, only the effect of role overload is marginally significant ($\hat{\delta}_{34} = -.119$, $p < .1$).[11] In general, we find that the effect of the role perception variables are weaker than reported in other job satisfaction studies (Brown and Peterson 1993; Lusch and Serpkenci 1990). This difference may be caused by the exclusion of effort, as was the case in these studies (i.e., the disutility from effort could have been partially attributed to stress factors).

As we mentioned previously, we included several variables that were indicative of store and store manager characteristics in the estimation for control and identification purposes. We do not discuss them except for noting that the signs of the personal difference variables are consistent with Lusch and Serpkenci's (1990) hypotheses.

Alternative Models

We now examine how the results of our analysis are affected by changing the definition of job performance and excluding effort as an antecedent from the model (as H_2 suggests). To test these ideas, we eliminate effort (i.e., the effort equation) from the model and add the job characteristic and role perception variables to the job performance equation. In a first alternate model, we use an "aggregate" measure of job performance that includes effort and ability, as Walker, Churchill, and Ford (1977) advocate and as

[11]We estimated a model that combined the three role perception variables into a single "job tension" factor. We found a marginally significant effect on job satisfaction ($\delta = -.100$, $p < .1$) and an insignificant effect on effort ($\delta = -.096$, $p = .28$). In addition, we allowed for direct effects of job factors and role perception variables on store performance and found no significant effect and no change in the parameter estimates of interest. However, these factors could potentially moderate the effect of effort on job performance. Such a test is left to further research.

Lusch and Serpkenci (1990) use. We then estimate this same model (without effort) with the "narrow" measure of job performance we used in our original model. This replicates Bagozzi's (1978) approach. We expect the first alternate model to replicate the insignificant effect of job performance on job satisfaction that Lusch and Serpkenci (1990) report: The negative and the positive elements in the job performance measure should cancel each other out. By completely eliminating effort, the second version should yield a somewhat larger effect of job performance on job satisfaction, but it should still be substantially smaller than the one we obtained from the fully specified four-equation model.

The estimation results shown in the second and third columns of Table 4 support these conjectures. (To facilitate the comparison, we repeated the relevant results from Table 3 in the first column of Table 4.) Using an aggregate measure of job performance leads to an insignificant effect of job performance on job satisfaction ($\hat{\beta}$ = .023, p = .76). This result is equivalent to the insignificant effect that Lusch and Serpkenci (1990) report. The use of the narrow measure of job performance leads to a positive but much smaller effect ($\hat{\beta}$ = .136, $p < .05$).[12] These results strongly support H_2 and indicate that failing to control properly for the effect of effort on job satisfaction leads to results that are biased toward insignificance.[13]

Note that the effects of different job factors on job performance and job satisfaction are different in the alternate models. In particular, when we exclude effort from the job performance measure, the results show a negative and significant effect of job attractiveness and a negative and marginally significant effect of job autonomy on job perfor-

[12]The second alternate model is a nested version of the full model. As a result, we can statistically test the implied restrictions using a chi-square test. The alternate model can be rejected with a high degree of significance (χ^2 = 21.4, degree of freedom = 1).

[13]We also estimated a model similar to that of Brown and Peterson (1994), which excluded job characteristics, especially the compensation variables. In this case, we found a positive effect of effort.

TABLE 4
Estimation Results for Alternate Models

Parameter	Relevant Results from Table 3	Job Satisfaction Models[a]: Aggregate Job Performance Measure	Job Satisfaction Models[a]: Narrow Job Performance Measure
Job Satisfaction			
Constant	−.054 (.051)	−.044 (.066)	−.072 (.077)
Effort	−.269*** (.061)		
Job performance	.286*** (.054)	.023 (.076)	.136** (.062)
Compensation	.168*** (.057)	.299*** (.085)	.239*** (.086)
Profit sharing	.246*** (.080)	.163 (.121)	.166 (.119)
Job autonomy	.096* (.061)	.285*** (.084)	.380*** (.079)
Job attractiveness	.476*** (.053)	.304*** (.092)	.357*** (.092)
Supervisory feedback	−.128 (.060)	−.081 (.091)	−.099 (.089)
Social climate	.176*** (.056)	.168** (.083)	.190** (.083)
Role ambiguity	−.026 (.060)	.019 (.097)	−.026 (.090)
Role conflict	−.047 (.031)	.026 (.073)	−.009 (.054)
Role overload	−.083 (.045)	.057 (.081)	−.040 (.080)
Effort/Job Performance[b]			
Constant	.078 (.213)	−.190 (.331)	−.630* (.376)
Compensation	−.001 (.087)	.090 (.075)	.186* (.086)
Profit sharing	.183* (.109)	.289*** (.111)	.134 (.126)
Job autonomy	.249*** (.079)	.166** (.074)	−.101 (.081)
Job attractiveness	.020 (.092)	−.088 (.081)	−.195** (.081)
Supervisory feedback	.140* (.080)	.129* (.078)	.052 (.088)
Social climate	−.204** (.083)	−.213*** (.072)	−.107 (.083)
Role ambiguity	.093 (.091)	.0711 (.063)	−.106 (.090)
Role conflict	−.024 (.054)	−.028 (.072)	.045 (.055)
Role overload	−.119* (.070)	−.096 (.071)	−.156* (.080)
χ^2 (d.f.)		12.9*** (1)	21.4*** (1)

*$p < .10$ (two-tailed t-test).
**$p < .05$ (two-tailed t-test).
***$p < .01$ (two-tailed t-test).
[a]We left the control variables as in the original model.
[b]Because the two job satisfaction models did not include effort, the various job characteristic and role perception variables were directly linked to job performance.
Notes: Standard errors are indicated in parentheses.

mance. Again, these results suggest that omitting effort leads to biased estimates.

Discussion

This study was motivated by inconsistencies across different studies in the job satisfaction research, including limited and contradictory evidence that high levels of effort are costly for employees. An examination of the literature suggests that the inconsistencies most likely arise from differences in construct definitions and a failure to account for effort properly. Effort and compensation are the most important factors in a vertical work relationship, yet few job satisfaction studies account for both as separate constructs. Furthermore, in marketing, the majority of studies examine the job satisfaction of salespeople (i.e., a context in which compensation is frequently related to job performance and, thus, effort). The failure to account for effort here (and, thus, the effort–compensation relationship) also biases estimates of the relationship between compensation and job satisfaction. In addition, we were interested in understanding the effects of corporatewide profit-sharing plans, which is a relatively unresearched element of the compensation package in many organizations.

The Relationship Between Job Performance and Job Satisfaction

The empirical analysis in this article uses data collected for a typical job satisfaction study, but the model we propose incorporates the basic constructs from an agency relationship and the key antecedents of job satisfaction. In contrast to previous models, this framework accounts for both the direct and the indirect effects of effort (through job performance) on job satisfaction and leads to conclusions that are significantly different.

First, we find a significant, positive effect of job performance on job satisfaction. This contrasts with Lusch and Serpkenci's (1990) reported negative (but insignificant) effect of job performance, using the same data set. We show that not accounting for effort biases the estimated effect of job performance on job satisfaction, and this can lead to incorrect conclusions. Second, by changing the model and construct measures to be consistent with prior studies, we replicate small or insignificant effects of job performance on job satisfaction and a positive effect of effort on job satisfaction, as reported in the existing literature. This supports the argument that problems with construct definition can explain inconsistent findings in the job satisfaction literature. This finding also challenges the now widely accepted view about the relationship between job performance and job satisfaction in organizational psychology and the sales force literature that the two constructs do not affect each other. In particular, decades of research have failed to find a significant or consistent link between job performance and job satisfaction (Brown and Peterson 1993; Iaffaldano and Muchinsky 1985).

A positive effect of job performance on job satisfaction also has important implications for a firm that wants to motivate and retain talented employees. It implies that actions to increase job performance can also increase employees' job satisfaction. As a result, benefits such as reduced turnover and less absenteeism (a result of higher job satisfaction) may be useful for justifying the cost of a policy, even when that policy is directed primarily toward improving job performance.

Effort, Job Performance, and Job Satisfaction

Because job satisfaction is a proxy for utility (Clark and Oswald 1996; Friedman 1978), a negative relationship between manager effort and job satisfaction follows from the principal–agent framework. Nevertheless, the relationship has proved elusive to empirical validation. Recognizing the different possible paths through which an employee's effort may affect his or her satisfaction enables us to confirm a negative relationship empirically. This finding, combined with the positive effect of job performance on store performance, is consistent with the economic view that there is an inherent conflict of interest in vertical relationships. When accounting for effort, we also find relatively weak effects of the role perception variables. Factors such as role ambiguity and role conflict are considered key determinants of job satisfaction in the sales force literature (Brown and Peterson 1993). Because these factors capture work-related stress, it is possible that they captured the omitted effect of effort.

The positive effect of job performance on job satisfaction also has important implications for research based on agency theory. In a standard agency model (e.g., Lal, Outland, and Staelin 1994), it is assumed that job performance can increase job satisfaction only indirectly (through factors such as compensation or promotion). Our research demonstrates that this standard assumption of agency theory may not be justified. The omission of job performance's effect on job satisfaction has the potential to bias the effect of effort on job satisfaction toward insignificance.[14] For example, when the effect of job performance is eliminated from the job satisfaction equation (Equation 4), we obtain a negative but insignificant effect of effort on job satisfaction ($\hat{\beta} = -.031$, $p = .24$).[15]

Corporate Profit-Sharing Plan

In general, the literature distinguishes between two types of income that employees can earn: fixed compensation, which is paid to the employee independent of output, and variable pay, which is paid to the employee contingent on output. In our data, there is a third type of compensation: payments that are based on overall corporate performance. Because corporate performance is not known in advance, the expected payment to the employee under this plan is uncertain. In contrast to variable pay, which is directly contingent on an employee's output, the ability of an employee in a large organization, such as a retail chain, to affect the level of the expected payoff from a corporate-level plan is

[14]This is analogous to the way that the omission of effort's effect on job satisfaction biases the effect of job performance toward insignificance.

[15]Clark (1997) does not include job performance and also finds a relatively weak negative effect of effort.

also low. The findings show that this type of compensation has some incentive pay–type effects: It has positive effects on both effort and job satisfaction. This holds even though increased effort by a store manager is unlikely to affect the ultimate payout from the plan significantly. This is useful because many firms would like to provide incentives to their employees (with performance-based pay) but cannot because the impact of an individual employee on output cannot be isolated. Most employees in marketing positions have a relatively small direct effect on the outcome of their brand, business unit, or customer service department. In these conditions, profit-sharing plans based on the performance of the overall organization provide an opportunity to obtain an effect similar to that of performance-based pay for the sales force. Thus, although data limitations prevent us from conducting a detailed analysis of why corporate profit-sharing plans act the way they do, our results indicate that these plans can be of significant value in organizations.

Summary and Further Research

This article attempts to clarify ambiguities in the literature about the relationships among effort, job performance, and job satisfaction. Using a model with variables that are important for both agency theory and organizational psychology, we find a negative, direct effect of effort and a positive, direct effect of job performance on job satisfaction. We show that conflicting findings in the literature are a result of inconsistency in both the measurement and the definition of constructs across studies that do not fully account for all the relationships among constructs. This suggests that some results in the sales force literature regarding job satisfaction, such as the strong effect of role perception variables, should be reexamined. This article also demonstrates important omitted variables biases that can arise in the empirical analysis of work relationships.

The most obvious extension is to generalize the findings to agency relationships in which the incentives in the compensation packages are stronger (i.e., there are variable components in the compensation that are directly related to the agent's output). Restricting the analysis to a single retailer provides a benefit by reducing the potential number of confounding factors. We also identified an interesting finding about corporatewide profit-sharing plans. However, we cannot determine its relative effectiveness with the available data. An interesting issue for further investigation is to determine whether and how different types of employees respond to pay that is based on overall corporate performance.

Similar to any empirical study of complex organizational issues, this study is subject to several cautions. For some of our measures, we use cross-sectional data, and this limits our ability to control fully for certain unobserved effects. In addition, it limits our ability to test the direction of causality. To the extent possible, we make use of covariates and test for reverse relationships. We have also exercised care to reduce potential problems pertaining to measurement errors, sampling bias, and incomplete model specification. That being said, the study has two methodological aspects that differentiate it from other studies. First, we use individual-level data to test an individual-level model, as Lal, Outland, and Staelin (1994) suggest. Second, we use multiple sources of information to measure the various constructs, thus reducing the problem of common method bias and common source bias. This enables us to shed new light on the determinants of job satisfaction and provide insights that are important both for researchers in this domain and for organizations.

APPENDIX
Scale Items to Measure Model Constructs

Compensation
I am paid fairly for the work I do.[a]
My pay is better than that for similar jobs in other firms.[a]
Salary and wage increases are given to those who do a good job.[a]
Do you feel your pay is as high in comparison with what others get for similar work in other companies?[b]

Job Attractiveness
After a day's work, I really feel like I have accomplished something.[a]
I am in a "dead-end" job. (R)[a]
I am often bored with my job. (R)[a]
Do you find your work challenging, exciting, and giving you a sense of accomplishment?[b]

Role Conflict
Having to decide things that affect the lives of individuals that you know.[c]
Feeling that you may not be liked and accepted by the people you work with.[c]
Feeling that you do things on the job that are against your better judgment.[c]

Role Overload
Feeling that you have heavy a workload, one that you can't possibly finish during an ordinary workday.[c]
Thinking that the amount of work you have to do interferes with how well it gets done.[c]
Feeling that your job tends to interfere with your family life.[c]

APPENDIX
Continued

Job Autonomy
I have a lot to say about how to do my job.[a]
How satisfied are you with the amount of control you have in your work?[f]

Supervisory Feedback
Management is quick to criticize poor performance. (R)[a]
No one ever says "you've done a good job." (R)[a]
Do you feel you do not know what your supervisor thinks of you, how he evaluates your performance? (R)[b]
Do you feel free to offer suggestions concerning policies and procedures affecting your operation?[b]

Social Climate
Working for Winn's is like being a part of a family.[a]
The people here are proud to work for Winn's.[a]

Role Ambiguity
Being unclear on just what the scope and responsibilities of your job are.[c]
Feeling that you are not fully qualified to handle your job.[c]
The fact that you can't get enough information to carry out your job.[c]
Not knowing just what the people you work with expect of you.[c]

Effort
Takes responsibility in his work.[d]
Readily assumes responsibility.[d]
Makes an effort to improve his managerial skills.[d]
Works long hours when necessary.[d]
Level of motivation.[e]

Ability
Can cope with pressure or strain on the job.[d]
Decision-making ability.[e]
Knowledge of trade area.[e]
Tolerance for pressure.[e]

Job Performance
Fails to meet to target goals set for the store. (R)[d]
Achieving the target sales volume.[e]
Achieving the target gross profit.[e]

Job Satisfaction
How satisfied are you with your general work situation?[f]
Would you advise a friend looking for a new job to take one similar to yours?[b]
I just hate to get up in the morning to go to work.[a]

Source: Based on instruments that Lusch and Serpkenci (1990) use.
[a]Measured on a five-point Likert scale, ranging from "strongly agree" to "strongly disagree."
[b]Measured on a six-point Likert scale, ranging from "definitely yes" to "definitely no."
[c]Measured on a five-point Likert scale, ranging from "never bothered" to "bothered nearly all the time."
[d]Measured on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree."
[e]Measured on a seven-point Likert scale, ranging from "very satisfied" to "very dissatisfied."
[f]Measured on a six-point Likert scale, ranging from "extremely satisfied" to "extremely dissatisfied."
Notes: R = reverse coded.

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