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Job Satisfaction, Job Performance and Effort: A Re-Examination

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Abstract

The objective of this paper is to clarify ambiguities in the literature regarding the relationships among three key constructs of work relationships: effort, job performance and job satisfaction. First, the positive relationship between job performance and job satisfaction is important in organizational psychology. However, empirical research finds that the link between these constructs is weak at best. Second, a negative effect of effort on job satisfaction is a basic assumption of agency theory, but there is limited empirical evidence to support this assumption. Moreover, studies in organizational psychology and marketing have found a positive effect of effort on job satisfaction. Using a model that incorporates the main constructs from organizational psychology *and* agency theory, 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 the result of inconsistency in both the measurement and definition of constructs across studies that do not fully account for all of the relationships between constructs. For example, we highlight the need to clearly distinguish between factors that are employees' inputs in a work relationship (i.e., effort) as opposed to outputs (i.e., job performance). The paper also demonstrates the importance of accounting for omitted variables to eliminate biases that can arise in empirical research on work relationships.

Key Words: job satisfaction, effort, job performance, profit sharing, retailing, omitted variables bias.

There is a large stream of research in organizational psychology and marketing which considers the role of job satisfaction in managing effective work relationships. This research has examined 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 of job satisfaction to 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 which include effort find a positive effect of effort on job satisfaction (Brown and Peterson 1994). This second finding would seem contradictory to the logic of the equally large literature on agency relationships in economics. This literature is based on the assumption that effort is costly to an agent and therefore reduces her utility (or job satisfaction).

The objective of this paper 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 of the paper is that a complete understanding of job satisfaction and work relationships must be predicated on a theory of how effort affects job satisfaction, as well as the manner by which 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 classic principal-agent model (Holmstrom 1979): When controlling for compensation and other factors, 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. Having a clear understanding of these relationships is important to design employment contracts that optimize firm performance while providing satisfactory incentives and compensation for the agent.

When the three constructs job satisfaction, job performance and effort are considered jointly, we find a *significant* positive effect of job performance on job satisfaction – a result that one would logically expect, but which has only found weak support in the organizational psychology literature (Iaffaldano and Muchinsky 1985). Second, when the moderating effect

of job performance is accounted for, we show that effort has a strong *negative* effect on job satisfaction. Both omitted variables and construct definition problems explain why previous research has found a positive effect of effort on job satisfaction. Our model and analysis recover a result that is consistent with the agency theoretic view of effort, but at the same time 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 in a model of work relationships is compensation. Agency theory makes a distinction between fixed compensation (such as salary) and variable compensation that depends upon output (such as bonuses based upon 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 fixed salary, our dataset allows 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 it is neither fixed nor is it in a large organization 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.

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

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

We next provide a summary of the relevant literature, starting with a discussion of the job performance-job satisfaction relationship in organizational psychology and marketing. This is followed by a discussion of the effect of effort as assumed in agency theory. Based on the review of the literature, we then set forth several hypotheses. Next we describe our empirical model and discuss the data and estimation approach. After presenting the estimation results, we conclude by discussing the implications of our findings and highlighting several important issues for future research.

Literature Review

The Relationship between Job Performance and Job Satisfaction

The idea that satisfied employees are more productive held through the 1970s. However, support for the view that job satisfaction has a significant effect on job performance was difficult to obtain. As a result, the reverse (that an employee's job performance affects her job satisfaction) became the focus of research in the area (Lawler and Porter 1967). The idea that an employee's performance subsequently affects her job satisfaction follows from a number of psychological theories. Intrinsic motivation theory posits that the motivation to work is innate and work itself is fulfilling (Deci and Ryan 1985). Self-perception theory (Bem 1972) and cognitive dissonance theory (Festinger 1957) also posit that attitudes are inferred from behavior or adjusted to be consistent with behavior.

Interestingly, few studies have found support for job performance having a significant effect on job satisfaction (Iaffaldano and Muchinsky 1985). Similarly, organizational studies of the sales force invariably find that the relationship of job performance to job satisfaction is weak (Bagozzi 1980; Brown and Peterson 1993). As noted by Brown and Peterson (1993), 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 like employee turnover.

On the other hand, there seems to be consensus that many antecedents of job satisfaction and job performance are common (for example, effort, compensation, quality of supervision or clarity of job responsibilities). Consequently, it is essential to account for both

the 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 is shown in Figure 1.

INSERT FIGURE 1 ABOUT HERE

It is intuitive that effort and compensation are critical determinants for the viability of any employment situation. Put simply, an employee will not be willing to exert effort unless 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 at work as an antecedent of job satisfaction (Brown and Peterson 1994). One exception is Clark and Oswald (1996) who use job satisfaction as a proxy for utility. They find that effort does have a negative (albeit weak) effect 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, 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 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 results that are produced (the possibility of high effort and poor results or low effort and strong results are 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 as 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, then ignoring effort can bias the estimated effect of job performance on job satisfaction (since effort should increase job performance). Failing to control for effort induces a negative spurious correlation, which may reduce or hide a 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 towards insignificance.

In sum, there is strong support for the idea that the existing literature on the job performance-job satisfaction relationship is hampered by an omitted variables bias and imprecise definitions of job performance. The objective of this paper will be 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 effect on job satisfaction (or utility). 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 a rich literature in economics on the relations between principals and agents (Holmstrom 1979; Hart and Holmstrom 1987). 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 it has a positive effect on job satisfaction (Brown and Peterson 1994).

An objective of the paper is to resolve this inconsistency. In fact, our interest is to empirically confirm that the relationship between job satisfaction and effort is negative since it is the basis for much of the research on contracts and job design. To accomplish this

objective, we need 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 by 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 (for example, performance-based contracts) and behaviour-based control (like monitoring) to prevent employees from exerting minimal effort (Anderson and Oliver 1987).[1] But the controls used by employers also affect the job satisfaction of employees. As a result, it is essential to account for the effect of the controls when estimating the valence and strength of the relationship between effort and job satisfaction. For example, in situations with a high degree of incentive pay, high effort (while costly) may lead to strong job performance and hence, 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 second path (via compensation) by which effort affects job satisfaction would find that the 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).

We next summarize the above 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 concerns the relationship between job performance and job satisfaction. As discussed earlier, there are a number of psychological explanations for why an employee derives job satisfaction from higher job performance. By treating job performance as distinct

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

from effort and accounting for the direct effect of effort to job satisfaction, we expect the following relationship (all hypotheses are ceteris paribus):

H_1: An employee's job satisfaction increases with her job performance.

We argue that the oft-reported 'null' effect of job performance on job satisfaction is explained by a combination of variable definition and modeling problems. We show in the context of our organizational setting how 'null' effects can be found by adopting approaches used in previous job satisfaction studies.

H_2: Omitting effort as a separate predictor 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. They are also consistent with the standard hidden action agency model (Mas-Collel, Whinston and Green 1995). Hypotheses 3 and 4 provide a basis for the employment relationship and the idea that firms with more hard-working or more able employees tend to perform better. In this case, our hypotheses relate to the firm's business unit that is directly affected by the employee's job performance.

H_3: Job performance increases with an employee's effort and ability.

H_4: Business unit performance increases with an employee's job performance.

The basic assumption in agency theory is that effort is costly to the agents. With a definition of effort as an input and by considering indirect paths through which effort affects job satisfaction, effort should be costly for an employee:

H_5: An employee's job satisfaction decreases with her effort.

Finally, Hypothesis 6 below states a direct implication of the agency model for fixed compensation that does not change with output.

H_6: Fixed compensation has a significant positive effect on an employee's job satisfaction but no significant effect on her effort.

Model

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

INSERT FIGURE 2 ABOUT HERE

The model translates into a system of four equations that represent, first, the relationship between store (i.e., business unit) performance, SP_i, the employee's job performance, JP_i, and her effort, ME_i (equations 1-3), and second, the relationship between job satisfaction, JS_i, and relevant aspects of her work situation, including effort and job performance (equation 4):

(1) $$SP_i = {}_1 + {}_{JP1}JP_i + {}_{1i},$$

(2) $$JP_i = {}_2 + {}_{ME2}ME_i + {}_{MA2}MA_i + {}_{2i},$$

(3) $$ME_i = {}_3 + {}_{C3}C_i + {}_{PS3}PS_i + {}_{j3}X_{ji} + {}_{k3}Y_{ki} + {}_{3i},$$

(4) $$JS_i = {}_4 + {}_{ME4}ME_i + {}_{JP4}JP_i + {}_{C4}C_i + {}_{PS4}PS_i + {}_{j4}X_{ji} + {}_{k4}Y_{ki} + {}_{4i}.$$

In this system of equations C_i is employee *i*'s perception of compensation and PS_i is a dummy variable indicating participation in the 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. The role perceptions refer to the employee's perception of her responsibilities in terms of clarity, degree of overload, and degree of conflict. The nine parameters are estimated to assess our

hypotheses. The four endogenous constructs and the key exogenous factors are defined and described below (measurement issues are discussed in the following section).

The *Store Performance Equation (1)* reflects a vertical relationship in which the employee (the store manager in this case) performs different tasks in order to generate outputs for the firm (the retail chain). 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. It is defined as a qualitative assessment of a store's performance *relative to targets and objectives set for that store* (as summarized by a supervisor). Job performance is treated as an intermediate outcome variable (between effort and store performance), but our framework also recognizes the fact that other factors affect store performance.[2]

The *Job Performance Equation (2)* reflects the idea that the employee's job performance, JP_i, is a function of her effort, ME_i. Consistent with Campbell and Pritchard (1976), effort is defined as the amount of energy and time put 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 too should have a significant effect on observed job performance.

The *Effort Equation* (3) reflects the assumption that effort, ME_i, is influenced by various job factors, some of which are controlled by the firm. 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 below). A dummy variable is used to indicate an employee's participation in the profit sharing plan (29% of the store managers the sample were included in the plan).

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

[2] When the performance of a business unit 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). Eliminating job performance and using only store performance, could therefore 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, one could possibly find a negative effect of effort on store performance.

Our model includes four job factors X_{ji} (j = 1…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). *Job autonomy* is the degree to which the firm provides independence and discretion to the employee in fulfilling her role. *Job attractiveness* is defined as the degree to which a job is exciting, challenging and provides a sense of accomplishment. *Supervisory feedback* (i.e., the extent to which the employee receives information about her performance) is important because it often has psychological value for an employee. It is also a key element of the firm's control system. Finally, the variable *social climate* is defined as the degree to which there is a general sense of good working relationships among the employees within the business unit. We utilize the employee's perception of these factors because perceptions are the primary drivers of the effort taken and satisfaction received (see for example, Judge, Bono and Locke 2000).[3]

We include three role perception variables Y_{ki} (k = 1…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 include them in the model due to their acknowledged importance in explaining job performance and job satisfaction. *Role ambiguity* is defined 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). *Role conflict* is defined in terms of the congruency of various responsibilities of the job, i.e., the degree to which goals, objectives and responsibilities of a position conflict with each other (Rizzo et al. 1970). Role conflict can arise from inconsistent demands from different role partners (e.g., supervisors, co-workers, customers) on the employee, incongruencies with personal values, conflicts between different roles or conflicts between time, resources and demands (*role overload*). Since the workload of the employees in our dataset is high and a distinctive job attribute, we include *role overload* as a separate factor.

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

To complete the model specification, we include intercepts $_{\ell}$ and error terms $_{\ell i}$ for each of the $\ell = 1\ldots4$ equations to account for unobserved factors and random measurement error. A set of variables capturing store and store manager characteristics is also added for control and identification purposes. Details are provided in the discussion of our estimation approach. We next describe the dataset and discuss measurement and estimation issues.

Data and Estimation

Dataset

We use data collected by Lusch and Serpkenci (1990) for their study of the effect of personal difference variables on the job satisfaction of retail store managers. This dataset 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 as well as extensive operating and accounting information for each store. The stores are uniform in terms of merchandise and layout and most stores have 7,000 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 datasets collected from *three different sources*. The retailer provided operating and financial data of each store for the most recent three years. District managers (supervisors) completed a survey to provide an assessment of performance, effort and ability of store managers. Store managers completed a quality of work life survey, which provides the data for the store manager's assessment of job factors, role perceptions and job satisfaction. This survey also captured a number of personal and attitudinal characteristics of the store manager.

For the statistical analysis there are 188 usable observations out of 226 stores (18 surveys were not returned and a further 20 were eliminated due to missing data). In addition, we eliminate 11 observations from store managers who were at the current job for less than 1 year, which leaves us with 177 observations for estimation.

Measurement of Constructs

Job Satisfaction. Locke (1969) 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* derived from experiencing a work situation. Because our approach embeds a principal-agent structure within a job satisfaction model, we utilize 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 (Friedman 1978; Clark and Oswald 1996; Clark 1997).[4]

There are two general approaches to measure overall job satisfaction. The first determines job satisfaction by measuring satisfaction with different job "facets" (e.g., Job Descriptive Index or JDI by Smith, Kendall and Hulin 1969) and the second measures overall or "global" job satisfaction directly (e.g., Job Diagnostic Survey or JDS by Hackman and Oldham 1975). Research shows that the "global" approach is in many cases 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. Measures for effort, ability and job performance (for each store manager) are obtained from two different scales completed by the district supervisor. The Appendix provides a summary of the different scale items used to measure the different constructs in our model. As shown in Table 1, all measures have good reliability properties. Cronbach- values range from 0.81 for ability to 0.89 for effort.[5]

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 defined as store sales minus store operational expenses for the current year. To control for store size, we divide the profit measure by available store selling space for the same year.[6]

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[4] These studies define a worker's utility function as u = u(y, e, i, j), where y is income, e 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.

[5] 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, scale items were selected based on the results of the factor analysis. Moreover, higher correlation hurts efficiency, but estimates are still consistent.

[6] 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

Compensation, Job Factors and Role Perceptions. The scales used by Lusch and Serpkenci (1990) to measure a store manager's perception of compensation and job factors are derived from the JDI (Smith et al. 1969). They contain sufficient items to reliably measure a store manager's perceptions of the five factors, i.e., compensation, job attractiveness, job autonomy, supervisory feedback, and social climate. Answers were provided by individual store managers. Each of the five factors is measured by its respective scores on two to four items based on a 5-point Likert scale ranging from "strongly agree" to "strongly disagree" or a 6-point Likert scale ranging from "definitely yes" to "definitely no." The scale items are shown in the Appendix. Table 1 shows that Cronbach- values range from 0.71 for job autonomy and social climate to 0.85 for compensation. As noted earlier, inclusion in the corporate profit sharing plan is indicated by a dummy variable. The three different role factors were measured by Lusch and Serpkenci (1990) with a multi-item scale (see Appendix). The Cronbach- for these three factors ranges between 0.69 for role conflict and 0.80 for role overload.

INSERT TABLE 1 ABOUT HERE

To ensure that the factors actually measure unique aspects of a store manager's job situation, we conducted a factor analysis. An exploratory factor analysis yielded eight factors with eigenvalues higher than one. We then conducted a confirmatory factor analysis to test the eight-factor solution compared to other possible solutions. Table 2 provides a summary of various goodness-of-fit indicators for different factor solutions. While the ^{2}-test statistic indicates that the restrictions underlying the eight-factor solution are significant (which is expected given the sample size), its goodness-of-fit increases significantly compared to solutions with fewer factors. In addition, these indicators have reasonably high values.

INSERT TABLE 2 ABOUT HERE

job performance relative to store objectives, we can account for heterogeneity in profit potential across stores. We also include a number of store characteristics in the estimation to further mitigate this problem.

In sum, we use standard measures for the constructs of interest and they satisfy typical reliability standards. Since our data contains a number of 5, 6 and 7-point Likert scales, we standardize all item responses before creating indicators for estimation.

Estimation Approach

The model 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 a number of store and store manager characteristics added for control and identification purposes. To simplify the exposition, we do not discuss them in detail.[7] However, the error terms across the four equations are most likely correlated, i.e., the error covariance matrix is not diagonal (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).[8]

One estimation problem concerns the possibility that access to the profit sharing plan is determined through self-selection on part of the store managers or by the chain. A comparison of demographic and personality variables between store managers with and without the plan suggests that enrolment in the plan was random. A second problem concerns 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 (1) which we control by using instrumental variable estimation.

[7] The following variables were included in our system of equations. Store Performance equation (1): age of the store, number of store employees, tenure of the store manager and a dummy for a urban store location; Job Performance equation (2): a series of dummy variables to indicate the supervisor; Effort equation (3): a dummy for urban store location, tenure and age of store manager and four personal difference variables from Lusch and Serpkenci (1990); Job Satisfaction 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 not *directly* affect store performance ensures that the rank condition is satisfied as well.

[8] Three-stage least squares estimation (3SLS) 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 3SLS estimation lead to identical conclusions (the magnitudes of some estimated parameters are different).

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 4-equation model, which yield tests of H_1 and H_3 to H_6. We then analyze two alternative models to replicate a number of controversial results in job satisfaction studies. These alternative models allow us to assess hypothesis H_2.

Effort, Job Performance and Compensation

The estimation results for equations (1) to (4) are reported in Table 3. The results regarding the direct and indirect effects of a store manager's effort and job performance are provided in rows 2 to 4 of Table 3. Rows 5 and 6 provide the results for the compensation variables followed by the results regarding the effects of job characteristics in rows 7 to 10 and the effect of role perceptions in the bottom 3 rows of Table 3.

First, the effect of job performance on the manager's job satisfaction is positive and highly significant, providing strong support for H_1 ($\hat{\beta}_{JP4} = 0.286$, $p < 0.001$).[9] 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 removing the effect of job performance from equation (4), we find no significant effect of job satisfaction on job performance ($\hat{\beta} = 0.098$, $p = 0.20$).

Second, as proposed in H_3, job performance increases with both effort ($\hat{\beta}_{ME2} = 0.158$, $p < 0.05$) and ability ($\hat{\beta}_{MA2} = 0.387$, $p < 0.001$). Consistent with H_4, store performance increases with job performance ($\hat{\beta}_{JP1} = 6.67$, $p < 0.001$). We also conducted a series of tests to assess the robustness of our findings to alternate 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

[9] Where our hypotheses make clear directional predictions, we report in the text the statistical significance based on 1-tail t-tests. The significance of effects of other parameters is reported using 2-tail t-tests. Estimation details for additional analyses presented in this section are available from the authors.

measures (e.g., net profit or sales per square foot). Because of unobserved contemporaneous effects, we use 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 in fact, found this to be the case. To see whether a manager's job satisfaction depends on the performance of her store (Ostroff 1992), we added store performance to equation (4). We found that that effect of store performance on job satisfaction is insignificant ($\hat{\beta} = 0.002$, p = 0.21).

Third and most importantly, we find strong support for H_5, i.e., effort is a "cost" to the store manager ($\hat{\beta}_{ME4}$= -0.269, p < 0.001). Finally, the estimate for the effect of compensation on job satisfaction has the expected positive sign and is statistically significant ($\hat{\beta}_{C4} = 0.168$, p < 0.01) whereas the effect on effort is, as expected, not significant ($\hat{\beta}_{C3} = -0.001$, p = 0.99). These two results support hypothesis 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 but marginally significant. This indicates that the *perception* of compensation is a more important determinant of job satisfaction than the monetary level of compensation. Our decision to base the estimation on perceptions of compensation is therefore broadly justified.

As mentioned earlier, our dataset provides us with the ability to examine the effects of a compensation component that is used quite frequently in firms, but has not been subject to significant empirical research: corporate-level profit sharing plans. Like other compensation elements, access to this plan, which some store managers had, should increase job satisfaction (all else equal). As shown in Table 3, we find this positive effect of the profit sharing plan on job satisfaction ($\hat{\beta}_{PS4} = 0.246$, p < 0.001). The effect of this plan on effort is less obvious. According to agency theory, there ought to be no effect because the effort of an individual store manager has little impact on corporate profitability and thus on the expected payout from this plan. On the other hand, arguments in the organizational psychology literature on contingent rewards suggest a positive effect. This literature sees value in contingent rewards that depend less directly on an individual's own performance because they are seen as less

controlling (Deci 1971; Ryan, Mims and Koestner 1983). Our estimation results are consistent with the latter view: Access to the profit sharing plan leads to higher effort ($\hat{\beta}_{PS3} = 0.183$, $p < 0.05$).

INSERT TABLE 3 ABOUT HERE

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). Since a store manager's effort increases job performance (H_3), it does have a positive *indirect* effect on job satisfaction. However, this indirect positive effect of effort (0.158 x 0.286 = 0.045) is of smaller magnitude than its negative direct effect (-0.269). This implies that a store manager must receive compensation for her effort in other forms as well.

Other Job Factors and Role Perceptions

The estimates for the four job factors and the three role perceptions included in the job satisfaction 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 ($\hat{\gamma}_{14} = 0.096$, $p < 0.1$), job attractiveness ($\hat{\gamma}_{24} = 0.476$, $p < 0.001$) and good social climate ($\hat{\gamma}_{44} = 0.176$, $p < 0.01$). In addition to the quality of supervisory feedback ($\hat{\gamma}_{34} = -0.128$, $p < 0.05$), the three role perception factors also decrease job satisfaction, although their effects are at best marginally significant (ambiguity: $\hat{\delta}_{14} = -0.026$, $p = 0.67$; conflict: $\hat{\delta}_{24} = -0.047$, $p = 0.13$; overload: $\hat{\delta}_{34} = -0.083$, $p < 0.1$).

For the store manager effort equation (3), we find (expected) positive effects of job autonomy ($\hat{\gamma}_{13} = 0.249$, $p < 0.01$) and the quality of supervisory feedback ($\hat{\gamma}_{33} = 0.140$, $p < 0.1$). Job attractiveness, on the other hand, has no effect on effort ($\hat{\gamma}_{23} = 0.020$, $p = 0.83$). Interestingly, we find that a better social climate is associated with lower effort ($\hat{\gamma}_{43} = -0.204$, $p < 0.05$). This finding indicates that in hierarchical organizations like a retail store excessive socialization might interfere with the retailer's objectives of extracting high effort from the store employees. While 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 provides a counter to the argument that retailers who 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 ($\hat{\delta}_{34} = -0.119$, $p < 0.1$).[10] In general, we find the effect of the role perception variables to be 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 in these studies, i.e., the disutility from effort could have been partially attributed to stress factors.

As mentioned earlier, we included a number of variables 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 the hypotheses in Lusch and Serpkenci (1990).

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 suggested in H_2). In order 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 advocated by Walker et al. (1977) and used in Lusch and Serpkenci (1990). Second, we estimate this same model now with the "narrow" measure of job performance as used in our original model. We expect the first alternate model to replicate the insignificant effect of job performance on job satisfaction reported by Lusch and Serpkenci (1990): 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

[10] 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 (= -0.100, $p < 0.1$) and an insignificant effect on effort (= -0.096, $p = 0.28$). Also, 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 future research.

effect of job performance on job satisfaction but still substantially smaller than the one obtained from the fully specified 4-equation model.

INSERT TABLE 4 ABOUT HERE

The estimation results shown in the second and third columns of Table 4 support the above conjectures. (To facilitate the comparison, we repeat 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 ($\hat{\beta} = 0.023$, $p = 0.76$). This result is equivalent to the insignificant effect reported in Lusch and Serpkenci (1990). Second, using the narrow measure of job performance as in our original model leads to a positive but much smaller effect ($\hat{\beta} = 0.136$, $p < 0.05$).[11] These results strongly support hypothesis H_2 and indicate that failing to properly control for the effect of effort on job satisfaction leads to biased results.[12]

We should note that the effects of different job factors on job performance and job satisfaction are different in the alternative models. In particular, when effort is excluded 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 performance. 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 different with construct definitions and a failure to properly account for effort. Effort and compensation are the most important factors in a vertical working relationship yet few job satisfaction studies account for both as separate constructs. Furthermore, in

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

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

marketing the majority of studies examine the job satisfaction of salespeople, i.e., a context where 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 also interested in understanding the effects of corporate-wide profit sharing plans, a ubiquitous yet poorly understood element of the compensation package in many organizations.

The Relationship of Job Performance to Job Satisfaction

The empirical analysis of this paper uses data collected for a typical job satisfaction study. But the model we propose is a model that incorporates the basic constructs in an agency relationship as well as the key antecedents of job satisfaction. In contrast to previous models, this framework accounts for both the direct and 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 stands in contrast to a reported negative (but insignificant) effect of job performance in Lusch and Serpkenci (1990) using the same dataset. We show that not accounting for effort will bias the estimated effect of job performance on job satisfaction and this can lead to conclusions that are incorrect. Moreover, by changing the model and construct measures to be consistent with earlier studies, we replicate small or insignificant effects of job performance on job satisfaction and a positive effect of effort on job satisfaction. This supports the argument that problems with construct definition can explain inconsistent findings in the job satisfaction literature. This finding is interesting because it challenges the widely accepted view regarding the relationship between job performance and job satisfaction in the organizational psychology literature. 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). As a result, the two constructs are believed to be independent.

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 the job satisfaction of employees. As a

result, benefits such as reduced turnover and less absenteeism (the result of higher job satisfaction) may be useful for justifying the cost of a policy even when this policy is primarily directed to improving job performance.

Effort, Job Performance and Job Satisfaction

Because job satisfaction is a good proxy for utility (Friedman 1978; Clark and Oswald 1996), a negative relationship between manager effort and job satisfaction is fundamental to 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 her satisfaction allows us to empirically confirm a negative relationship. This finding combined with the positive effect of job performance on store performance is consistent with the economic view that there exists an inherent conflict of interest in vertical relationships.

A positive effect of job performance on job satisfaction also has economic implications. In particular, it might seem to be not consistent with the standard agency model. The standard model is based on the assumption that job performance only increases utility indirectly (through other job aspects such as compensation or promotion). In the same way that the omission of effort biases the effect of job performance towards insignificance, the omission of job performance biases the effect of effort towards insignificance. For example, when the effect of job performance is eliminated from the job satisfaction equation (4), we obtain a negative but insignificant effect of effort ($\hat{\beta} = -0.031$, p = 0.24).[13] A positive relationship of job performance to job satisfaction may explain why empirical work on agency relationships finds little evidence of employees shirking when given the opportunity (Coughlan 1993). If an employee gets significant satisfaction from performing well on the job, then her overall motivation to shirk is lower.

Corporate Profit Sharing Plan

Generally the literature has distinguished between two types of income that employees can earn: fixed compensation (that is paid to the employee independent of output) and variable pay (that is paid to the employee contingent on her output). In our data, there is a third type of

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

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 the employee in a large organization like a retail chain to affect the level of the expected payoff from a corporate-level plan is 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 obtains even though increased effort by a store manager is unlikely to significantly affect her ultimate payout from the plan. This is useful since 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. In these conditions, profit sharing plans based on the performance of the overall organization provide an opportunity to obtain a similar effect. Thus while 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 Future Research

This paper attempts to clarify ambiguities in the literature regarding the relationships among effort, job performance and job satisfaction. Using a model involving variables important for both organizational psychology *and* agency theory, 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 the result of inconsistency in both the measurement and definition of constructs across studies that do not fully account for all of the relationships between constructs. The paper also demonstrates some 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 where the incentives in the compensation packages are stronger (e.g., with salespeople or with managers of franchises). Of course, restricting the analysis to a single retailer provides a benefit by reducing the potential number of confounding factors. We identified an interesting finding concerning corporate-wide profit sharing plans. However, we cannot determine its

relative effectiveness with the available data. An interesting issue for future investigation is to see whether and how different types of employees respond to contingent pay that is based on overall corporate performance.

Similar to any empirical study of complex organizational issues, this study is subject to a number of cautions. For some of our measures, we use cross-sectional data and this limits our ability to fully control 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 suggested by Lal, Outland and Staelin (1994). Second, we use multiple sources of information to measure the various constructs, thereby reducing the problem of common-method or common-source bias. This allows us to shed new light on the determinants of job satisfaction and provide insights that are important for researchers in this domain as well as for organizations.

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[1]	.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 Perform.	.14	.02	-.07	.08	.11	-.03	-.16	-.05	-.17	.66	.66			
13. Job Satisfactior	.47	.10	.58	.43	.27	.62	-.34	-.16	-.34	.10	.08	.09		
14. Store Perform.[2]	.06	-.07	-.04	-.13	.01	-.08	-.04	-.10	-.19	.35	.19	.33	-.01	
Mean	1.88	0.29	3.74	4.13	2.99	3.54	1.87	2.11	2.75	4.45	4.39	4.30	4.53	56.8
Stand. Dev.	0.77	0.46	0.75	0.85	0.73	0.87	0.77	0.88	0.79	0.89	0.78	1.21	1.19	21.8
Nr. Scale Items	4	1	4	2	4	2	4	3	3	3	5	3	3	-
Cronbach-	.85	-	.75	.71[3]	.73	.72[3]	.79	.69	.80	.81	.89	.88	.67	-

1) Indicator variable.
2) Store operating profit relative to selling space.
3) Simple correlation.

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

Number of Factors [1]	Steiger-Lind RMSEA	^{2} (df)	Jöreskog GFI	Bentler Comparative Fit Index	Parsi-monious Fit Index	Bollen's Rho	Bollen's Delta
3	0.116	998.7 (321)	0.696	0.695	0.559	0.575	0.698
4 (Overload)	0.101	918.7 (319)	0.736	0.730	0.584	0.607	0.733
5 (Social Climate)	0.090	810.9 (315)	0.765	0.777	0.614	0.648	0.780
6 (Autonomy)	0.077	714.5 (310)	0.793	0.818	0.638	0.685	0.820
7 (Supervisor)	0.062	628.3 (304)	0.825	0.869	0.654	0.728	0.866
8 (Conflict)	0.049	481.6 (297)	0.875	0.912	0.685	0.764	0.904
9 (Promotion)	0.048	474.1 (289)	0.883	0.907	0.690	0.768	0.899

[1)] The 3 factors are as follows: Compensation (Compensation, Promotion, Social Climate), Work (Attractiveness, Role Conflict, Role Overload), 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 indicated in parentheses.

Table 3
Estimation Results[1]

Parameter	Equation			
	Store Performance (1)	Store Manager Job Performance (2)	Store Manager Effort (3)	Store Manager Job Satisfaction (4)
Intercept ($_{\ell}$)	27.0*** (4.93)	-0.495** (0.211)	0.078 (0.213)	-0.054 (0.051)
Effort ($_{ME\ell}$)		0.158** (0.074)		-0.269*** (0.061)
Ability ($_{MEA\ell}$)		0.387*** (0.073)		
Job Performance ($_{JP\ell}$)	6.67*** (1.33)			0.286*** (0.054)
Compensation ($_{C\ell}$)			-0.001 (0.087)	0.168*** (0.057)
Profit Sharing ($_{PS\ell}$)			0.183* (0.109)	0.246*** (0.080)
Job Autonomy ($_{1\ell}$)			0.249*** (0.079)	0.096* (0.053)
Job Attractiveness ($_{2\ell}$)			0.020 (0.092)	0.476*** (0.061)
Supervisory Feedback ($_{3\ell}$)			0.140* (0.080)	-0.128** (0.060)
Social Climate ($_{4\ell}$)			-0.204** (0.083)	0.176*** (0.056)
Role Ambiguity ($_{1\ell}$)			0.093 (0.091)	-0.026 (0.060)
Role Conflict ($_{2\ell}$)			-0.024 (0.054)	-0.047 (0.031)
Role Overload ($_{3\ell}$)			-0.119* (0.070)	-0.083* (0.045)

Number of observations: 177; total number of parameters estimated (incl. control variables): 67.

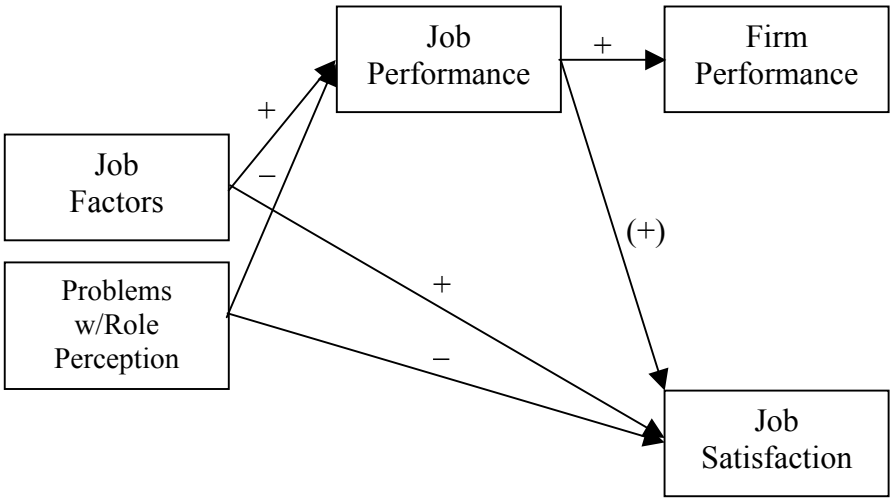
1) Standard errors are indicated in parentheses.
*** Significant at 0.01-level; ** significant at 0.05-level; * significant at 0.10-level (all two-tail t-tests).

Table 4
Estimation Results for Alternative Models[1]

Parameter	Relevant Results from Table 3		'Job Satisfaction' Models[2]			
			Aggregate Job Performance Measure		Narrow Job Performance Measure	
Job Satisfaction						
Constant	-0.054	(0.051)	-0.044	(0.066)	-0.072	(0.077)
Effort	-0.269***	(0.061)				
Job Performance	0.286***	(0.054)	0.023	(0.076)	0.136**	(0.062)
Compensation	0.168***	(0.057)	0.299***	(0.085)	0.239***	(0.086)
Profit Sharing	0.246***	(0.080)	0.163	(0.121)	0.166	(0.119)
Job Attractiveness	0.476***	(0.053)	0.304***	(0.092)	0.357***	(0.092)
Job Autonomy	0.096*	(0.053)	0.285***	(0.084)	0.380***	(0.079)
Super. Feedback	-0.128	(0.060)	-0.081	(0.091)	-0.099	(0.089)
Social Climate	0.176***	(0.056)	0.168**	(0.083)	0.190**	(0.083)
Role Ambiguity	-0.026	(0.060)	0.019	(0.097)	-0.026	(0.090)
Role Conflict	-0.047	(0.031)	0.026	(0.073)	-0.009	(0.054)
Role Overload	-0.083	(0.045)	0.057	(0.081)	-0.040	(0.080)
Effort/Job Performance[3]						
Constant	0.078	(0.213)	-0.190	(0.331)	-0.630*	(0.376)
Compensation	-0.001	(0.087)	0.090	(0.075)	0.186*	(0.086)
Profit Sharing	0.183*	(0.109)	0.289***	(0.111)	0.134	(0.126)
Job Attractiveness	-0.020	(0.092)	-0.088	(0.081)	-0.195**	(0.081)
Job Autonomy	0.249***	(0.079)	0.166**	(0.074)	-0.101	(0.081)
Super. Feedback	0.140*	(0.080)	0.129*	(0.078)	0.052	(0.088)
Social Climate	-0.204**	(0.083)	-0.213***	(0.072)	-0.107	(0.083)
Role Ambiguity	0.093	(0.091)	0.0711	(0.063)	-0.106	(0.090)
Role Conflict	-0.024	(0.054)	-0.028	(0.072)	0.045	(0.055)
Role Overload	-0.119*	(0.080)	-0.096	(0.071)	-0.156*	(0.080)
^{2} (df)			12.9*** (1)		21.4*** (1)	

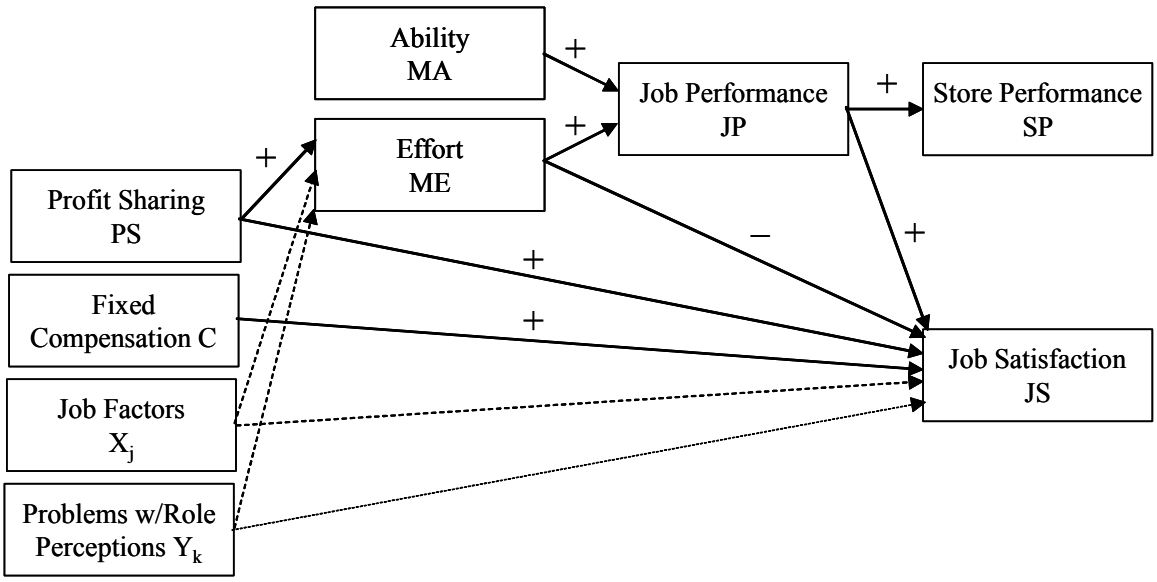
1) Standard errors are indicated in parentheses.
*** Significant at 0.01-level; ** significant at 0.05-level; * significant at 0.10-level (all two-tail t-tests).
2) Control variables were left as in the original model.
3) Since the two 'Job Satisfaction' models did not include effort, the various job characteristic and role perception variables were directly linked to job performance.

Figure 1
A Typical 'Job Satisfaction' Model



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

Figure 2
Proposed Model of Job Satisfaction and Business Unit Performance



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

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Appendix

Scale Items to Measure Model Constructs[†]

Compensation	**Role Conflict**
I am paid fairly for the work I do.[1] My pay is better than that for similar jobs in other firms.[1] Salary and wage increases are given to those who do a good job.[1] Do you feel your pay is as high in comparison with what others get for similar work in other companies?[2]	Having to decide things that affect the lives of individuals that you know.[3] Feeling that you may not be liked and accepted by the people you work with.[3] Feeling that you do things on the job that are against your better judgment.[3]
Job Attractiveness	**Role Overload**
After a day's work, I really feel like I have accomplished something.[1] I am in a "dead end" job.[1*] I am often bored with my job.[1*] Do you find your work challenging, exciting, and giving you a sense of accomplishment?[2]	Feeling that you have heavy a work load, one that you can't possibly finish during an ordinary workday.[3] Thinking that the amount of work you have to do interferes with how will it gets done.[3] Feeling that your job tends to interfere with your family life.[3]
Job Autonomy	**Effort**
I have a lot to say about how to do my job.[1] How satisfied are you with the amount of control you have in your work?[6]	Takes responsibility in his work.[4] Readily assumes responsibility.[4] Makes an effort to improve his managerial skills.[4] Works long hours when necessary.[4] Level of motivation.[5]
Supervisory Feedback	**Ability**
Management is quick to criticize poor performance.[1*] No one ever says "you've done a good job".[1*] Do you feel you do not know what your supervisor thinks of you, how he evaluates your performance?[2*] Do you feel free to offer suggestions concerning policies and procedures affecting your operation?[2]	Can cope with pressure or strain on the job.[4] Decision making ability.[5] Knowledge of trade area.[5] Tolerance for pressure.[5]
Social Climate	**Job Performance**
Working for Winn's is like being a part of a family.[1] The people here are proud to work for Winn's.[1]	Fails to meet to target goals set for the store.[4*] Achieving the target sales volume.[5] Achieving the target gross profit.[5]
Role Ambiguity	**Job Satisfaction**
Being unclear on just what the scope and responsibilities of your job are.[3] Feeling that you are not fully qualified to handle your job.[3] The fact that you can't get enough information to carry out your job.[3] Not knowing just what the people you work with expect of you.[3]	How satisfied are you with your general work situation?[6] Would you advise a friend looking for a new job to take one similar to yours?[2] I just hate to get up in the morning to go to work.[1]

[†] Based on instruments used by Lusch and Serpkenci (1990).

1) Measured on a 5-point Likert scale ranging from "strongly agree" to "strongly disagree".
2) Measured on a 6-point Likert scale ranging from "definitely yes" to "definitely no".
3) Measured on a 5-point Likert scale ranging from "never bothered" to "bothered nearly all the time".
4) Measured on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree".
5) Measured on a 7-point Likert scale ranging from "very satisfied" to "very dissatisfied".
6) Measured on a 6-point Likert scale ranging from "extremely satisfied" to "extremely dissatisfied".
*) Reverse coded.