Unions, Right-to-Work Laws, and Job Satisfaction in the Teaching Profession

Mark Gius*

Abstract

The purpose of the present study is to determine if union status has any effects on job satisfaction for a sample of public school teachers. The present study differs from prior research in that it assumes union membership is endogenous and uses as an instrumental variable state-level right-to-work laws. Although it was found that union membership has an insignificant effect on overall job satisfaction, teachers in unions were found to be more enthusiastic about teaching and were less likely to leave for better pay. It was also found that teachers who earned higher incomes, who were women, and who worked in schools that had fewer students, or teachers who were minorities were more satisfied with their jobs. It was also found that teachers who worked in schools that had merit or performance-pay were less enthusiastic about teaching and were more likely to transfer to another school. Finally, results provided further support of the exit-voice hypothesis in that long-term union members were found to be more dissatisfied with their jobs.

Introduction

Prior research on the relationship between job satisfaction and union membership has yielded mixed results. Some studies have found that union workers are much less satisfied with their jobs than are non-union workers (Borjas, 1979; Berger et al., 1983; Steele and Ovalle, 1984; Clark, 1997; Meng, 1990; Lillydahl and Singell, 1993; Heywood et al., 2002). Other studies have found no significant relationship between union membership and job satisfaction (Gomez-Mejia and Balkin, 1984; Gordon and Denisi, 1995; Bryson et al., 2004; and Donohue and Heywood, 2004). Finally, one study even found that union workers were more satisfied than non-union workers (Pfeffer and Davis-Blake, 1990).

Several theories have been proposed to explain the impact of unions on job satisfaction. One theory, proposed by Freeman and Medhoff (1984) suggests that union workers aren't really that dissatisfied. Rather, union workers claim to be dissatisfied so that they can argue for more pay and better benefits (Borjas, 1979). This theory is known as the exit-voice hypothesis (Heywood et al., 2002; Hammer and Avgar, 2005). Another theory states that unions usually arise in occupations and industries that are dangerous and unpleasant (Duncan and Stafford, 1980; Premack and Hunter, 1988; Heywood et al., 2002; Hammer and Avgar, 2005). A third theory contends that union leaders unrealistically raise workers' expectations about job characteristics and potential compensation. Workers then become dissatisfied because their jobs aren't getting any better (Kochan and Helfman, 1981; Gordon and Denisi, 1995; Hammer and Avgar, 2005).

*Professor of Economics, Quinnipiac University, Hamden, CT 06518, 203-582-8576, Mark.gius@quinnipiac.edu

Another theory states that workers may become dissatisfied because unions have a tendency to compartmentalize workers; some workers may feel unsatisfied because their abilities are not being fully utilized or rewarded (Super and Hall, 1978; Hackman and Oldham, 1980; Hammer and Avgar, 2005). It may also be the case that union workers have different preferences than non-union workers. Union leaders may stress certain aspects of a job, such as pay and benefits, while ignoring other aspects of a job. Thus, union workers may be unhappy not because they are not paid well, but because they are unfulfilled (Hammer and Avgar, 2005).

Other recent explanations include an industrial relations theory (the naturally adversarial role of unions leads to dissatisfaction in the workplace), an expanded utility theory (workers include many factors or aspects of a job in their utility functions), and a personal characteristic theory (people with certain attributes are naturally drawn to union jobs) (Heywood et al., 2002; Hammer and Avgar, 2005).

Although many of the above theories suggest that union workers may be less satisfied with their jobs than non-union workers, it is also possible that a positive relationship exists between union membership and worker satisfaction. According to Pfeffer and Davis-Blake (1990), union workers may report greater job satisfaction than non-union workers because unions reduce wage inequality and give workers a semblance of control over the functioning of their workplace.

Several of the above theories suggest that union status may be endogenous in an estimation of the determinants of job satisfaction. Unions may create dissatisfied workers, and these dissatisfied workers may then be more likely to join a union than others. This may result in the allocation of workers between non-union and union jobs being nonrandom. Hence, union membership should be viewed as being endogenous in a worker satisfaction regression (Bryson et al., 2004).

One way to mitigate at least some of this endogeneity is to examine only one occupation, thus isolating factors that are potentially responsible for some of the reported differences in satisfaction between union and non-union workers (Gordon and Denisi, 1995; Hammer and Avgar, 2005). By examining only one profession, job-related characteristics that may affect the overall desirability of a job and the proclivity of workers to form a union are eliminated. In the present study, only the teaching profession is used to examine the effect of unions on worker satisfaction. Although prior research has noted that looking at only one profession may lead to results that cannot be extrapolated to a wider population, it is reasonable to assume that many of the more generic attributes of workers, such as age and sex, have similar effects on satisfaction regardless of industry or occupation (Bryson et al., 2004).

To more completely control for the endogeneity of union membership, an instrumental variable approach should be employed. Although several prior studies have used this approach to estimate the determinants of job satisfaction, the present study differs from this prior research in the type of instrument used: state-level right-to-work laws (Borjas, 1979; Pfeffer and Davis-Blake, 1990; Lillydahl and Singell, 1993; and Bryson et al., 2004). Right-to-work laws prohibit unions from compelling workers to join unions in order to secure employment, hence greatly reducing the ability of unions to organize and retain members. It is reasonable to assume that this variable should have a significant impact on the likelihood

that an individual employee will be a member of union. Thus, the purpose of the present study is to use an instrumental variable approach to estimate the effects of union membership on job satisfaction for a sample of public school teachers.

Empirical Technique

As noted previously, some theories on worker satisfaction suggest that unsatisfied workers are more likely to join a union, while others suggest that unions may sow dissatisfaction among workers; hence, it is reasonable to assume that union status is endogenous in the estimation of the determinants of worker satisfaction. In order to control for this endogeneity, an instrumental variable approach is used.

An important issue is the selection of an appropriate instrument for union membership. It is necessary that this instrument is exogenous in the estimation of union membership and is uncorrelated with the error term in the second stage. In prior studies that assumed the endogeneity of union membership, various different types of instruments were employed. Bryson et al. (2004) used a set of dummy variables denoting manager-employee relations; Pfeffer and Davis-Blake (1990) used a variety of industry-specific variables. Both of these studies used data sets that encompassed a wide variety of industries and occupations. Hence, they employed instruments that would capture differences in work environments that may possibly explain the rise of unions in a particular industry. For example, if a particular industry is relatively dangerous to work in, then it is expected that a union would be more likely to arise in that industry rather than in an industry that is relatively safe. Since only one industry is examined in the present study, the use of such instruments is not warranted

As noted earlier, the instrument used in the present study in the union regression is a dummy variable denoting state-level right-to-work laws. These laws forbid unions from forcing workers to become members of a union in order to be employed by an organization. In addition, these laws allow workers to leave the union at any time but still benefit from any collective bargaining agreements. Currently, 22 states, most of which are located in the Southeast or Midwest, have right-to-work laws. It is reasonable to expect that states that have right-to-work laws would have much lower union participation rates than states that do not have such laws. Hence, a person who is a teacher in a right-to-work state is much less likely to be a union member, holding all other factors constant. In addition, given that a right-to-work law is not a direct indicator of workplace conditions or overall work environment, it is reasonable to assume that right-to-work laws would have no statistically-significant effects on worker satisfaction.

Given the above, the following equation is estimated in the present study:

$$
\begin{aligned}
Y = {} & \alpha_0 + \alpha_1 \, PUNION + \alpha_2 \, MALE + \alpha_3 \, HISPANIC + \alpha_4 \, BLACK \\
& + \alpha_5 \, ASIAN + \alpha_6 \, SIZE + \alpha_7 \, STR + \alpha_8 \, TMIN + \alpha_9 \, SMIN + \alpha_{10} \, EXP \qquad (1) \\
& + \alpha_{11} \, EXP^2 + \alpha_{12} \, CHARTER + \alpha_{13} \, NORTH + \alpha_{14} \, MIDW + \alpha_{15} \, SOUTH \\
& + \alpha_{16} \, CITY + \alpha_{17} \, ADVDEG + \alpha_{18} \, ELEM + \alpha_{19} \, BONUS + \alpha_{20} \, LINC \\
& + \alpha_{21} \, HOURS + \alpha_{22} \, AGE
\end{aligned}
$$

In an instrumental variable approach, the endogenous variable, union membership is estimated. The set of regressors used in this regression consists of a dummy variable denoting state-level right-to-work laws and a subset of the regressors used in the second stage regression where the dependent variable is worker satisfaction. Using Bryson et al. (2004) as a guide, several job characteristic variables included in the second stage were excluded from the union regression primarily because they may be items that were subject to contractual union negotiations.

In equation (1), PUNION is the predicted value of UNION obtained from the first stage, and Y denotes various measures of teacher satisfaction. These satisfaction variables are all binary, and the SASS questions from which they are taken are as follows:

(1) SATIS: "I am generally satisfied with being a teacher at this school."

(2) WORTH: "The stress and disappointments involved in teaching at this school aren't really worth it." (For purposes of this study, the responses to this statement were inverted.)

(3) ENTHU: "I don't seem to have as much enthusiasm now as I did when I began teaching." (For purposes of this study, the responses to this statement were inverted.)

(4) LEAVE: "If I could get a higher paying job, I'd leave teaching as soon as possible." (For purposes of this study, the responses to this statement were inverted.)

(5) TRANS: "I think about transferring to another school." (For purposes of this study, the responses to this statement were inverted.)

A value of one for any of the above variables indicates that the teacher is satisfied in some particular way with his or her current position. As noted above, the responses to four of the questions were inverted such that agreement with the statement indicates satisfaction. The explanatory variables are defined as follows:

(1) MALE equals one if teacher is male

(2) HISPANIC equals one if teacher is Hispanic

(3) BLACK equals one if teacher is African-American

(4) ASIAN equals one if teacher is Asian-American

(5) SIZE is total student enrollment in the teacher's school

(6) STR is the student-teacher ratio in the teacher's school

(7) TMIN is the percentage of teachers who are of a racial/ethnic minority

(8) SMIN is the percentage of students who are of a racial/ethnic minority

(9) EXP is the number of years of teaching experience

(10) EXP^2 is experience squared

(11) CHARTER equals one if teacher's school is a charter school

(12) NORTH equals one if school is in the Northeast

(13) MIDW equals one if school is in the Midwest

(14) SOUTH equals one if school is in the South

(15) CITY equals one if school is in an urban area
(16) ADVDEG equals one if the teacher holds at least a Master's degree
(17) ELEM equals one if teacher works in an elementary school
(18) BONUS equals one if teacher's school has a merit pay system
(19) LINC is the log of the teacher's total salary, including any bonuses or supplemental pay; outside employment income is not included in this value
(20) AGE is the teacher's age
(21) HOURS is the total number of hours worked; hours spent at outside employment are not included in this value
(22) RTW equals one if the state where the teacher is employed has a right-to-work statute.

All of the explanatory variables included in the second-stage regression were used in prior research on this topic (Chapman and Lowther, 1982; Meng, 1990; Lillydahl and Singell, 1993; Gordon and Denisi, 1995; Clark, 1997; Heywood et al., 2002; Donohue and Heywood, 2004; and Bryson et al., 2004). Logistic regressions were used to estimate both stages of the model.

Data and Results

All data used in the present study was obtained from the Schools and Staffing Survey (SASS) which is compiled by the US Department of Education. This survey, which is conducted every three years, collects data on teachers, administrators, schools, and districts from a randomly-selected sample. The present study uses data from the 2007 SASS. Only full-time, public school teachers were included in the sample. Any teachers with missing data were excluded. The final sample used in the present study contains about 32,050 observations. Given the large size of the final sample, the exclusion of teacher observations should not significantly bias the data. Sample sizes were rounded to the nearest ten due to the use of restricted data.

All of the second-stage dependent variables are recorded in SASS as having one of four possible outcomes. They are "strongly agree", "somewhat agree", "somewhat disagree", and "strongly disagree." In order to simplify the estimation of the dependent variables, these multinomial variables were turned into binary variables. A value of one was used if the response was one of the "agree" options; if one of the "disagree" options was chosen, a value of zero was noted. For all satisfaction variables, a two-stage logistic regression is used.

Descriptive statistics for all variables used are presented on Table 1. First stage regression results are presented on Table 2. Second stage results are presented on Table 3.

For the sample used in the present study, 92 percent of teachers said they were satisfied with their jobs. However, 20 percent felt that teaching wasn't important, and 39 percent said that they were not very enthusiastic about teaching. Further, 28 percent said that they would leave for better pay, and 29

Table 1
Descriptive Statistics

Variable	Mean	Standard Deviation	Variable	Mean	Standard Deviation
SATIS	0.927	0.259	HISPANIC	0.041	0.198
WORTH	0.804	0.397	BLACK	0.056	0.23
ENTHU	0.612	0.487	ASIAN	0.016	0.125
LEAVE	0.716	0.45	SIZE	861	666
TRANS	0.708	0.454	TMIN	0.127	0.212
MALE	0.312	0.463	SMIN	0.367	0.343
NORTH	0.143	0.35	EXP	13.9	10.38
MIDW	0.262	0.44	CHARTER	0.022	0.149
SOUTH	0.344	0.475	ADVDEG	0.485	0.499
CITY	0.197	0.397	ELEM	0.321	0.466
AGE	42.45	11.62	BONUS	0.15	0.357
HOURS	53.35	8.68	INCOME	$47,966	13762
RTW	0.475	0.499			

percent said that they would transfer to another school given the opportunity. Hence, it appears as if teachers were giving conflicting answers regarding their overall satisfaction with their jobs.

Regarding the first-stage results, RTW is significant and negative, as expected. A teacher is 8.9 percent less likely to be a union member if they work in a state that has a right-to-work law. In the sample used in the present study, 47.5 percent of teachers work in states that have such laws. It is important to note, however, that even though many states with right-to-work laws are located in the South, the correlation between RTW and the South dummy variable was minimal. Other significant explanatory variables in the first-stage regression include region of country, gender, experience, and race.

For the second-stage results, it appears as if union membership has mixed effects on job satisfaction. The union variable is insignificant in three of the five regressions. The union variable was only significant in the ENTHU and LEAVE regressions. Hence, union members are enthusiastic about teaching, and they are less likely to leave for better pay. In looking at the effects of unions on job satisfaction, it appears as if the non-teaching specific results of the present study corroborate the findings of Gomez-Mejia and Balkin (1984), Gordon and Denisi (1995), Donohue and Heywood (2004), and Bryson et al. (2004).

In comparing these results to the results of prior research on teacher satisfaction, most studies have also found that the effects of unions are mixed. Some studies have shown that teachers suffer from overall dissatisfaction with their jobs (Cooke, 1982; Eberts and Stone, 1984), while others have found that unionized teachers are not any more dissatisfied with their jobs than are non-unionized teachers (Kowalczyk, 1982). Hence, these results are mixed and corroborate the findings of the present study. Finally, when the endogeneity of UNION is not corrected for, the union variable is insignificant in four of the five regressions; these results are available upon request.

Table 2
First-Stage Logit Regression Results
Dependent Variable – UNION

Variable	Coefficient	Standard Deviation	Test Statistic
Constant	0.488	0.0928	5.260***
RTW	-1.048	0.0319	-32.819***
MALE	-0.249	0.0301	-8.304***
HISPANIC	-0.185	0.0671.209	-2.748***
BLACK	0.391	0.0618	6.321***
ASIAN	0.296	0.119	2.481**
SIZE	0.00013	0.0000257	5.058***
STR	0.022	0.00387	5.702***
TMIN	0.114	0.082	1.393
SMIN	-0.066	0.0507	-1.304
EXP	0.0129	0.002	6.392***
NORTH	1.0207	0.0636	16.043***
MIDW	0.618	0.0414	14.931***
SOUTH	-0.256	0.0365	-7.003***
CITY	0.0531	0.0336	1.578
ADVDEG	0.261	0.028	9.312***
ELEM	0.024	0.032	0.741
AGE	0.00492	0.00176	2.807***

Log-likelihood Function = -16836.08
Significant at 10 percent level = *
Significant at 5 percent level = **
Significant at 1 percent level = ***

Another factor that had a significant effect on satisfaction was the sex of the worker; on average, men were less satisfied with their jobs; they were more likely to leave for better pay; and they were more likely to transfer to another school. Male teachers were, however, more enthusiastic about teaching than their female counterparts. These results corroborate earlier research in this area (Chapman and Lowther, 1982; Meng, 1990; Lillydahl and Singell, 1993; Gordon and Denisi, 1995; Clark, 1997; Donohue and Heywood, 2004; and Bryson et al., 2004).

Besides gender, other factors that were statistically significant in most, if not all, of the satisfaction regressions were income, experience, whether or not the teacher was an elementary school teacher, size of school, percentage of teachers and students in the school that were minorities, and hours worked. Generally, higher salaried teachers were more satisfied; more experienced teachers were less satisfied; elementary school teachers were happier than other types of teachers; the bigger the school, the more satisfied the teacher was; the more minorities in the school, the less happy the teacher was; and the more hours they worked, the less satisfied they were. In addition, a teacher who worked in a charter school was statistically not less satisfied than a teacher who did not work in a charter school, except for one category of satisfaction; a charter school teacher was more likely to transfer to another school. Most of the non-teaching specific results corroborate the findings of other studies on job satisfaction (Borjas,

1979; Meng, 1990; Pfeffer and Savis-Blake, 1990; Lillydahl and Singell, 1993; Clark, 1997; Donohue and Heywood, 2002; and Heywood et al., 2002).

Table 3
Second-Stage Logit Regression Results

Variable	SATIS	WORTH	ENTHU	LEAVE	TRANS
Constant	2.484 (4.193)***	-0.0798 (-0.168)	-0.77 (-1.747)*	-3.75 (-6.233)****	-1.25 (-2.749)****
UNION	-0.279 (-1.081)	0.266 (1.589)	0.336 (2.431)**	0.65 (4.385)***	-0.222 (-1.518)
MALE	-0.0902 (-1.822)*	-0.022 (-0.673)	0.163(5.945)***	-0.183 (-6.323)***	-0.101 (-3.465)***
HISPANIC	0.174 (1.612)	0.00285 (0.040)	0.247 (3.917)***	-0.238 (-3.779)***	0.285 (4.345)***
BLACK	0.139 (1.467)	0.090 (1.372)	0.0917 (1.594)	-0.19 (-3.216)***	0.344 (5.58)***
ASIAN	-0.991 (-0.656)	-0.351 (-3.429)***	0.123 (1.259)	-0.34 (-3.454)***	0.328 (3.193)***
SIZE	0.0001 (2.466)**	0.000074 (2.751)***	0.000031 (1.395)	0.000072 (2.968)***	0.00011 (4.623)***
STR	-0.0013 (-0.222)	-0.0054 (-1.384)	-0.00772 (-2.392)**	-0.000199 (-0.057)	0.0138 (3.791)***
TMIN	-0.563 (-4.847)***	-0.459 (-5.593)***	-0.337 (-4.599)***	-0.36 (-4.708)***	-0.511 (-6.775)***
SMIN	-0.683 (-9.248)***	-0.463 (-9.147)***	-0.133 (-3.081)***	-0.0645 (-1.377)	-0.451 (-10.006)
EXP	0.0086 (1.017)	-0.0203 (-3.628)***	-0.112 (-23.510)***	-0.0698 (-13.291)***	-0.0227 (-4.362)***
EXP^2	0.388 (0.179)	0.00037 (2.64)***	0.00221 (19.052)***	0.00153 (12.046)***	0.00119 (8.684)***
NORTH	-0.20 (-2.166)**	0.00484 (0.078)	0.174 (3.412)***	0.163 (2.904)***	0.195 (3.546)***
MIDW	0.00089 (0.013)	0.0835 (1.816)*	0.057 (1.516)	-0.0086 (-0.212)	0.068 (1.691)*
SOUTH	-0.127 (-1.764)*	0.016 (0.36)	-0.00032 (-0.008)	0.00532 (0.132)	0.0856 (2.096)**
CITY	-0.0368 (-0.657)	-0.0383 (-1.063)	0.003 (0.101)	-0.00841 (-0.264)	0.085 (2.616)***
ADVDEG	-0.10 (-2.053)**	-0.0286 (-0.891)	-0.025 (-0.941)	-0.0717 (-2.481)***	-0.142 (-4.943)***
ELEM	0.222 (4.098)***	0.148 (4.244)***	0.082 (2.86)***	0.176 (5.675)***	0.162 (5.27)***
AGE	-0.0021 (-0.745)	-0.00075 (-0.397)	0.0043 (2.693)***	0.00127 (0.748)	0.0158 (9.431)***
CHARTER	-0.19 (-1.528)	-0.145 (-1.62)	0.039 (0.481)	-0.0991 (-1.181)	-0.229 (-2.881)***
LINC	0.113 (2.104)**	0.209 (4.714)***	0.154 (3.663)***	0.46 (7.875)***	0.179 (4.131)***
HOURS	-0.0113 (-4.715)***	-0.010 (-6.22)***	0.00248 (1.828)*	-0.00406 (-2.815)***	-0.00787 (-5.473)***
BONUS	0.0418 (0.671)	0.0599 (1.484)	-0.0617 (-1.874)*	0.0206 (0.583)	-0.116 (-3.324)***
	Log-Likelihood = -8184.09	Log-Likelihood = -15657.59	Log-Likelihood = -20787.35	Log-Likelihood = -18784.60	Log-Likelihood = -18744.99

Significant at 10 percent level = *; Significant at 5 percent level = **; Significant at 1 percent level = ***

One factor that affected teacher satisfaction and that was not used in other studies is the existence of a merit pay system. According to the regression results, teachers who were subject to a merit or bonus pay system were less likely to be enthusiastic about their jobs, and were more likely to transfer to another school within their district. These results suggest that a merit pay system results in teachers who are unenthusiastic and who want to get out. Because of the growing popularity of merit pay systems, these results have important implications for the retaining of quality instructors, the administration of merit pay systems, and the teaching profession overall.

Finally, given that only one occupation was examined, most of the theories on the effects of union membership on job satisfaction cannot be tested in the present study. One theory, however, that may be tested using the SASS data is the exit-voice hypothesis. According to Borjas (1979), the exit-voice theory predicts that union members with greater tenure will be more dissatisfied with their jobs than less experienced union members. This prediction should hold true even within the context of one industry and one occupation. In order to test this theory, equation (2) is re-estimated, adding an interaction variable between UNION and EXP. This equation is estimated using a single stage logit regression. If the exit-voice hypothesis is true, then the coefficient on the interaction variable should be negative. The results of this regression, which are presented on Table 4, confirm this theory, but only for the general satisfaction index (SATIS) dependent variable.

Although UNION and EXP were both significant and positive in this regression, the interaction term was significant and negative. Hence, even though union members, on average, may be more satisfied with their jobs, the more experienced union members are not. This result suggests that, over time, unions create dissatisfied workers. As noted earlier, the exit-voice hypothesis suggested that just such a result would occur; by creating dissatisfied workers, the union would then try to negotiate for better pay and better working conditions. This result corroborates the findings of Borjas (1979). The interaction term, however, was insignificant for all of the other satisfaction measures; these results are not reported in this study although they are available upon request.

Concluding Remarks

Teaching is a difficult profession. Much is demanded of teachers, and their compensation is typically subject to public criticism. Given the demands of this occupation, it would not be surprising to find low job satisfaction among teachers. However, in a sample of over 32,000 public school teachers,
92 percent said they were satisfied with their jobs. Further, even though some states have enacted laws and policies that would restrict or even strip away the collective bargaining rights of teachers, the results of the present study suggest that this may not even be that significant, at least with regards to teacher satisfaction. Based on several measures of teacher satisfaction, the present study found that there are few differences between union employees and non-union employees when it comes to job satisfaction in the teaching profession. Teachers who are union members were found to be more enthusiastic and were less likely to leave for better pay than non-union teachers.

Table 4
Logit Regression Results
Dependent Variable – SATIS
Union-Experience Interaction Variable Included

Variable	Coefficient	Test Statistic
Constant	2.271	3.835***
UNION	0.1712	2.182**
MALE	-0.077	-1.597
HISPANIC	0.1844	1.708*
BLACK	0.117	1.258
ASIAN	-0.1257	-0.841
SIZE	0.000093	2.297**
STR	-0.00242	-0.409
TMIN	-0.574	-4.961***
SMIN	-0.68	-9.214***
EXP	0.015	1.688*
EXP^2	0.0001	0.459
NORTH	-0.257	-3.29***
MIDW	-0.0288	-0.429
SOUTH	-0.0792	-1.305
CITY	-0.038	-0.679
ADVDEG	-0.121	-2.622***
ELEM	0.221	4.076***
AGE	-0.00226	-0.811
CHARTER	-0.154	-1.209
LINC	0.108	1.996**
HOURS	-0.01137	-4.704***
BONUS	0.0521	0.844
UNION*EXP	-0.0124	-2.469**

Log-Likelihood = -8181.46
Significant at 10 percent level = *
Significant at 5 percent level = **
Significant at 1 percent level = ***

Regarding other factors that were significant, it was found that income, experience, whether the teacher was an elementary school teacher, size of school, percentage of teachers and students in the school that were minorities, and hours worked all had statistically-significant effects on teacher satisfaction. Well-paid teachers who were inexperienced, worked fewer hours, and worked in large, elementary schools that were not diverse were, in general, more likely to be happy than others. In addition, it was found that male teachers were less happy at their jobs than female teachers. This is true even though men only make up about 31 percent of teachers. This finding corroborates earlier research in the area of gender and worker satisfaction (Chapman and Lowther, 1982; Clark, 1997).

Given that teaching is essentially a white-collar occupation in a service industry, it is possible to generalize some of the more generic (non-teaching specific) results of the present study to the general population of workers. Regarding these more generic variables, results of the present study suggest that that inexperienced, but well-paid, women who do not work long hours are more likely to be satisfied in their jobs than others. Most of these results are supported by prior research.

It was also found that merit pay systems resulted in teachers who were less enthusiastic and who were more eager to leave for better pay. No prior study has examined the relationship between a merit pay system for teachers and job satisfaction. These results are very timely given the recent interest in implementing merit pay for public school teachers.

Finally, support was found for the exit-voice hypothesis. This theory predicts that union members with greater tenure will be more dissatisfied with their jobs than less experienced union members. Using an interaction variable between UNION and EXP, it was found that, even though union members, on average, may be more satisfied with their jobs, the more experienced union members are not. This result suggests that, over time, unions create dissatisfied workers. This finding corroborates the results of Borjas (1979).

In conclusion, the present study uses a much larger and much more recent data set than any other study on unions and job satisfaction; it also uses a two-stage model where the instrument is a variable denoting the existence of a state-level right-to-work law. While corroborating the results of some prior research, the present study also brings to light new issues regarding teacher satisfaction. One possible extension of the present study would be to only examine teachers in right-to-work states. Given the very large sample size used in the present study, it would be possible to look at job satisfaction for both union and non-union teachers in a right-to-work setting.

Another possible extension of the present study would be to use panel data in order to capture fixed effects and control for unobserved heterogeneity that may exist among teachers. In addition, the use of longitudinal data would allow for the examination of the effects of union membership on worker satisfaction over time, as workers age and gain experience. Although experience was found to have a somewhat negative effect on teacher satisfaction in the present study, it is possible that the use of longitudinal data would shed further light on this relationship and would refine even further our understanding of the relationship between union membership and worker satisfaction.

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