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ABSTRACT

This study was conducted to determine whether differences in teachers' perceptions of their jobs primarily reflect differences in the teachers themselves, or whether the variance in attitudes also reflects significant differences in the characteristics of schools as workplaces. Data on seven dimensions of job satisfaction (teacher attitudes toward the school principal, curriculum, materials and procedures, colleagues, community attitudes toward education, teaching per se, and compensation) were collected from a questionnaire administered to 650 public school teachers in seven schools of a Midwest urban school district. Data analysis proceeded in two steps: (1) investigation of whether teachers in different schools have significantly different levels of job satisfaction. For all seven schools this significance did exist, indicating that the prediction of a teacher's job satisfaction necessitated knowing at which school the teacher worked; (2) Investigation of attributes affecting each dimension of job satisfaction. A priority specifications of characteristics believed to be determinants of each dimension of job satisfaction were made and compared to teacher questionnaire responses, and the resulting general themes presented. Teacher demographic characteristics and school characteristics explained only some variance in job satisfaction, suggesting a need for more detailed information on these characteristics and on the attitudes teachers bring to their jobs. Implications of the report indicate a need to recognize a multifaceted concept of job satisfaction, with school policies designed to take into account possible differential effects on various aspects of satisfaction. Tables presenting questionnaire results are appended. (MB)

THE SCHOOL AS A WORKPLACE:

WHAT MATTERS TO TEACHERS?

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THE SCHOOL AS A WORKPLACE: WHAT MATTERS TO TEACHERS?

I. INTRODUCTION

Some teachers describe public school teaching as a rewarding experience, an opportunity to help children in creative ways in a supportive atmosphere. Others describe public school teaching as a lonely, frustrating experience, a series of disheartening conflicts and disappointments. Do the differences in teachers' perceptions of their jobs primarily reflect differences in the teachers themselves? Or does the variance in teacher attitudes also reflect significant differences in the characteristics of schools as workplaces? In this paper we describe the results of our research on these questions.

Learning more about the factors which influence teacher job satisfaction is important for several reasons. First, it is well established that school districts which teachers find unattractive must pay higher salaries to attract teachers (Antos and Rosen, 1975). Altering aspects of the work environment of schools may be a cost effective way to attract talented teachers. Second, teacher turnover rates are high in schools which teachers do not find attractive. Teacher resignations and transfers, particularly during the school year, may result in lower student achievement. Also, high turnover rates result in greater expenditures on interviewing, hiring, and assigning new job applicants. Third, there is limited research evidence that teacher job satisfaction is positively related to teaching effectiveness.[1/] A final consideration is that children and teachers spend a great deal of time in schools. Schools should be places

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[1/] See, for example, Gross, et al. 1966; Rosenshine, and Furst, 1971. After reviewing the literature on teacher effects on achievement, Rosenshine and Furst report teacher enthusiasm in positively related to student achievement. Job satisfaction may well be related to enthusiasm.

where children and teachers enjoy their many hours together.

This paper is organized as follows: Section II presents the model which underlies the empirical work. Section III describes the data. Section IV describes the research strategy. Section V presents the results. Section VI provides a summary. Section VII describes our plans for future work.

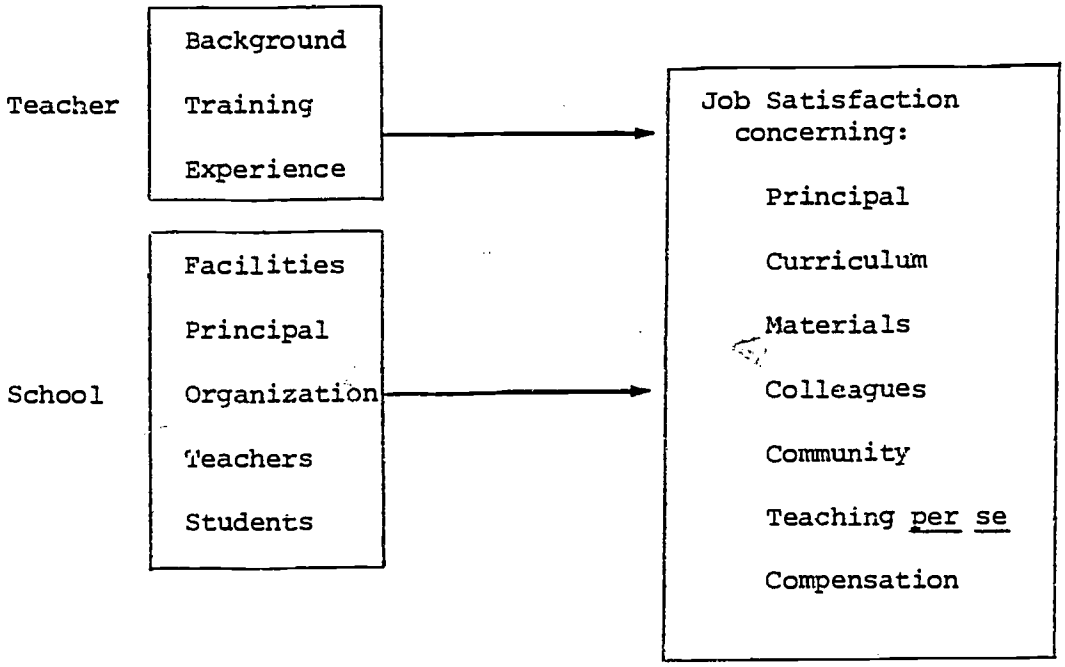
II. THE MODEL

We hypothesize that the attitudes of a teacher toward his or her job are influenced by two sets of exogenous factors: attributes of the teacher and attributes of the school as a workplace. The general nature of the relationships that we posit in our model are illustrated in Figure 1.

Although our focus is on the impact of job attributes, it is important for two reasons to control for the influence of teacher attributes. First, teachers with particular characteristics may be grouped in schools with particular attributes. This can occur as a result of school district policy or as a result of teacher preferences. If the effects of such natural selection mechanisms are not explicitly included in the model, their impact on job satisfaction could be attributed to school characteristics. The second reason for including teacher attributes in the model is that there may be interaction effects between teacher characteristics and school characteristics. In other words, particular school attributes may matter for certain teachers, but not for others.

A critical assumption of our model is that job satisfaction is not a unitary concept. In other words, we hypothesize that a teacher could be quite satisfied with one dimension of his/her job, such as relationships with colleagues, but at the same time, be dismayed by the inadequacies of curricular materials. In our model, the determinants of seven dimensions of job satisfaction are explored. These dimensions include teacher attitudes concerning the school principal, the curriculum, materials and procedures, colleagues, community attitudes toward education, teaching per se, and compensation. In this stage of our research, we explore the determinants of each dimension of job satisfaction separately without considering the nature of relationships among these dimensions.

FIGURE 1


Teacher
Background
Training
Experience
School
Facilities
Principal
Organization
Teachers
Students
Job Satisfaction concerning:
Principal
Curriculum
Materials
Colleagues
Community
Teaching per se
Compensation

III. THE DATA

The data base for this research consists of information on teachers and schools in one large urban school district in the Midwest. These data were collected as part of a larger research effort focusing on the determinants of children's school performance. As part of this research effort, detailed information was collected on the characteristics of each school in the school district. The school data include information on the demographic characteristics and abilities of student bodies, the physical environment of the school, the organization of the school, the characteristics of the teaching staff, and of the principal. A list of the school variables is presented in Table 1.

Data on teachers were collected through the administration of a lengthy questionnaire to more than 650 public school teachers in the district in May, 1975. The teacher sample was designed to include all elementary school teachers and all secondary English and Mathematics teachers. Seventy percent of the 900 teachers included in the original sample completed the questionnaire.

The questionnaire responses include information of the demographic characteristics, verbal ability, training and experience of each teacher. A list of these variables is presented in Table 2.

The questionnaire also elicited information on teachers' perceptions of their jobs. Thirty-one questions with high factor loadings on the Purdue Teacher Opinionaire (Bentley and Rempel, 1970), an instrument designed to measure dimensions of teacher job satisfaction, were included in the questionnaire. A factor analysis of the responses to these questions was carried out and seven dimensions of job satisfaction were identified. An index for each of these dimensions was constructed using principal com-

ponents analysis.[1/] Summary statistics describing the distributions of each of the indices of job satisfaction are presented in Table 3. Table 4 provides a list of the thirty-one questions, the weights given to each in constructing the indices, and statistics measuring the reliability of the indices.

[1/] An appendix describing the procedures used to develop the indices is available from the authors on request.

IV. RESEARCH STRATEGY

Does the School Influence Job Satisfaction?

Since our research is focused on determining the importance to teachers of particular school attributes, the results are limited by the extent to which teacher satisfaction levels vary across schools. The first step in our analysis is to investigate whether teachers in different schools have significantly different levels of job satisfaction. To explore this question, we use multiple regression analysis to compare the explanatory power of Models 1 and 2. Model 1 postulates that the ith teacher's level of satisfaction with the kth dimension of his/her job (J_i^k) depends only on the attributes of the teacher. Model 2 postulates that the ith teacher's satisfaction level also depends on the school in which the teacher works. F tests were used to determine whether Model 2 explained significantly more of the variance in the dimensions of teacher job satisfaction than Model 1 did. The F test can be interpreted as addressing the question: If we want to predict a teacher's level of satisfaction with his/her job, and we know the teacher's training, experience, and background, is it also important to know at which school the teacher works?

Model 1: $$J_i^k = \alpha + \sum_m t_i \, T_{im}$$

Model 2: $$J_i^k = \alpha + \sum_m t_i \, T_{im} + \sum_n s_n \, S_{in}$$

T_{im} = the mth characteristic of the ith teacher

S_{in} = 1, if the ith teacher worked in the nth school

= 0, if the ith teacher did not work in the nth school

J_i^k = the ith teacher's satisfaction level in the kth dimension of job satisfaction

The results of the F tests are presented in Table 5. For all seven dimensions of job satisfaction significant differences among schools exist, after controlling for teacher attributes. In other words, to predict a teacher's job satisfaction in any of the seven measured dimensions, it is important to know at which school the teacher worked.

Before turning to an investigation of the reasons why school environments differ it is interesting to observe the pattern of R^2's in Table 5. The variations among schools in job satisfaction (R^2 from Model 2 minus R^2 from Model 1) differ considerably across the dimensions of job satisfaction. The greatest inter-school variation occurs in the index measuring how teachers feel about their principals. Other dimensions of job satisfaction which exhibit large inter-school variation are attitudes toward curriculum, colleagues, and the adequacy of materials and procedures. The two dimensions which exhibit the smallest inter-school variation are attitudes toward teaching per se and toward compensation.

These results seem intuitively correct in that we would expect schools to vary in the qualities of their principals, teachers, curricula, and availability of materials. However, we would not expect large inter-school variation in attitudes toward compensation (after controlling for teacher experience and degree level) since all teachers in the sample work in the same school district and are paid on the same salary scale. In fact, one might question why attitudes about compensation differ among schools at all. The answer appears to be that teachers, in responding to the questions concerning compensation, evaluate the adequacy of their salaries as compensation for the work that they do. The quantity and quality of work that teachers must do may differ across schools.

Several of the questions which form the index on satisfaction with teaching per se pertain to attitudes toward students. We expected that

teachers working in schools serving children with different backgrounds would have different levels of intrinsic satisfaction with teaching. However, the lack of substantial inter-school variation may be the result of natural selection mechanisms. Those teachers who are unhappy with their teaching assignments may resign or request reassignment.

Which Attributes of Schools Are Important to Job Satisfaction?

In the second step of the analysis we replace the dummy variables representing schools in Model 2 with variables describing the attributes of schools. Our goal is to learn which attributes influence each dimension of job satisfaction. The following paragraphs describe the variables used in this analysis to characterize schools as workplaces.

The variables which describe students are average achievement test scores in each school, average daily attendance as a percentage of average membership, the percentage of students who are from indigent families, and the percentage of students in each school who are Black.

Variables which describe the organization of the school include the grade levels served by the school, whether the teacher has an aide, and whether the teacher has a self-contained class (teaches all basic subjects to a single group of children) or teaches in a departmentalized or specialized program (teaches a limited number of subjects to several groups of children).

The two variables providing information about facilities are the number of students served by the school and whether the school is a Title I school. (Title I schools have additional support facilities.)

The only two variables describing the principal are the number of years that the principal has served at that school and the principal's sex.

The only variable describing the teaching staff is the per-

centage of the staff that is Black.

Multicollinearity Among the School Variables

A number of the school variables in our data set are highly collinear. In many cases the collinearity reflects a characteristic of our society or the design of the social policy. For example, the high correlation among the percentage of Black students in a school, and the percentage of indigent students reflects the cycle of inner city poverty. Black children have a high probability of coming from poor families. The percentage of students in a school from poor families is also highly correlated with the school having a Title I program. This is the result of the federal formula allocating compensatory education funds. We also found the percentage of Black teachers in a school to be highly correlated with the percentage of Black students. This association reflects district teacher assignment policy and/or teacher preferences.

The extent and diversity of collinearity among the variables in our data reflect the complexity of the educational process. In our research we are trying to take a snapshot of one part of this system at one point in time. The statistical difficulties that we encounter reflect the difficulty of using cross-sectional data to capture the important dimensions of a complex dynamic system. The implications of this dilemma for our research are that we must be extremely careful to explore the sensitivity of our results and cautious in interpreting their meaning.

We devoted considerable effort to exploring the sensitivity of individual coefficients to the specification of each equation. In discussing our results in this paper, we have concentrated on those significant coefficients that seem relatively robust. We have used footnotes to discuss the problems associated with significant, but particularly sensitive coefficients.

Specification of the Models

We specified a priori the types of school characteristics which we believed to be determinants of each dimension of job satisfaction. For example, we hypothesized that satisfaction with teaching per se depends on the characteristics of the facilities, student body, the principal, and the organization of the school; but not on the characteristics of the teaching staff.

As a result of the collinearity in our data, choosing specific variables for these general specifications was very difficult. In some cases two variables were so highly correlated that it was clearly impossible to include both in the same equation. In this case we chose that variable which seemed most important a priori. For example, in the equation explaining teacher attitudes toward colleagues, we included the percentage of the teachers in the school that were Black, but not the percentage of students who were Black. In cases in which multicollinearity was not so severe, we used step-wise multiple regression, entering the variable we believed to be most important first and examining the sensitivity of the coefficients to the addition of other variables.

Given the number of variables in our data set describing schools and teachers, there are a very large number of possible interactions effects. Our general strategy in studying such effects was to concentrate on interactions involving school variables that were significant.

We estimated separate equations for elementary school teachers and junior-senior high school teachers. One reason for this is that many variables were only appropriate for one group. For example, junior and senior high schools have no Title I programs and no self-contained classes. However,

we also felt that the attributes of schools which are important to elementary school teachers might be different from those which are important to secondary school teachers.

V. THE RESULTS

The models which we estimated to measure the impact of school attributes on each of the seven dimensions of job satisfaction are listed in Tables 6 through 12. The coefficients for all variables that were included in a particular equation are listed. Asterisks indicate coefficients that are significantly different from zero. Our discussion of the results considers each dimension of job satisfaction separately.

Satisfaction with the Principal

Our results for the elementary school sample indicate that teachers in departmentalized programs are less satisfied with their principals than are teachers who have self-contained classes. One possible explanation of this result is that teachers feel principals are responsible for the organization of the school. As we report later in this paper, teachers in departmentalized programs are less satisfied with several dimensions of their jobs. A complementary explanation is that teachers in departmentalized programs, who work with more than one hundred students each day, may have more problems with discipline than teachers of self-contained classes who work with the same thirty students all day. Such teachers may attribute their problems to the principal, as leader of the school.

We find that teachers in elementary schools become less satisfied with their principals as the size of the school increases. However, beyond an enrollment of approximately 950 students, the trend is reversed. The explanation for the negative relationship between school size and teacher satisfaction with the principal may be that as the number of students increases, the principal has less time to respond to the needs of individual teachers. The reversal may be the result of the fact that the largest elementary schools

have assistant principals. The assistants usually are assigned the time consuming task of handling discipline problems, thus freeing the principal to respond to teacher needs. A similar non-linear relationship between school size and teacher satisfaction with the principal holds for the secondary schools. In these schools, the minimum level of satisfaction occurs in schools with approximately 1700 students.

We find that those elementary school teachers who work in schools that have low student test scores, low student attendance rates, and a high proportion of indigent students are most satisfied with their principals. At first, this result seems paradoxical since such a student body is thought to make the greatest demands on administrators. However, the explanation may be that the most able principals are assigned to schools of this type. Such an explanation is particularly plausible in this school system since the district policy in recent years has been to reassign elementary school principals frequently.

This reassignment policy may also be the reason we did not find the experience of the principal at a particular school to be related to teacher satisfaction. We expected to find that the longer a principal had been at a school, the more highly regarded he or she would be by the teaching staff. However, if the most able principals are transferred more frequently, principal experience at a school will be a negative indicator of ability. Since we cannot control explicitly for principal ability, we cannot reliably use cross-sectional data to estimate the relationship between a principal's experience and competence.

Our results indicate that secondary school teachers working in schools with high achieving students are most happy with their principals. One explanation is that the burdens on a principal may be less severe in such

schools allowing the principal to better respond to teacher needs. However, this finding conflicts with our results for elementary school teachers. We have less confidence in our secondary school results than in our elementary school results. The reason is related to the composition of the secondary school sample. Although the sample of secondary school teachers is quite large (272), all of these teachers work at one of only thirteen secondary schools. In contrast, there are thirty-two elementary schools in our sample.

We find that elementary school teachers who have teacher aides are less satisfied with their principals. We have no compelling explanation for this puzzling finding despite extensive investigation of the relationship of this variable with other variables that might confound our results. Our only suggestion is that it may be the teachers with the most difficult assignments who are given aides and that even with the aides they feel an unmet need for additional support.

Our last finding is that the sex of the principal is not important to female teachers in the elementary schools, but is to male teachers. Male teachers are less satisfied with male principals than with female principals. Daniel Lortie in his book Schoolteacher argues that most men treat teaching as a stepping stone to a higher position and most women do not. Male teachers may be especially critical of male principals because they view them as rivals, but do not view female principals as such.

Satisfaction with Curriculum

Our results indicate that teachers of self-contained classes are

more satisfied with the curriculum of their schools.[1/] Perhaps they are more satisfied because they are able to make more decisions about the content of their classes. A departmentalized program requires more coordination among the teaching staff and may limit the independence of individual teachers. Lortie (1975) found that teachers acknowledge the legitimacy of a prescribed curriculum, but value some personal freedom in implementing it.

In both elementary and secondary schools, the higher the average achievement of students in the school, the less satisfied are teachers with the curriculum. In addition, in the secondary schools, higher attendance rates are associated with less teacher satisfaction with the curriculum. These findings suggest that teachers believe that the curriculum does not meet the needs of better students.

Secondary school teachers are less satisfied with the curriculum, the longer the principal has been at the school. Perhaps principals new to a school introduce, or at least are receptive to, changes in curriculum that appeal to teachers.

Satisfaction with Materials and Procedures

The organization of elementary schools is important to teacher satisfaction with materials, supplies, equipment, and the procedures to

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[1/] We are unable to separate the unique effects of teaching in a departmentalized program and teaching in the fourth through sixth grades where most departmentalized programs occur. When a dummy variable for teaching a fourth through sixth grade class is included in the equation, the sign of the coefficient on the departmentalization variable remains the same, but the coefficient is no longer significant. The coefficient on the dummy for grade level is not significant.

obtain them. Teachers of self-contained classes are more satisfied with available materials and procedures. Departmentalized programs require greater coordination among the teaching staff; perhaps this need complicates the use of materials. Another explanation is that specialized teachers in departmentalized programs may prefer materials of greater depth.

Teachers in Title I schools are more satisfied with the adequacy of materials and procedures to obtain them than teachers in non-Title I schools. This result is certainly reasonable, since Title I monies may be used for the purchase of materials and equipment.

In the secondary schools, the higher the average achievement level in the school, the less satisfied are teachers with available materials and procedures to obtain them. This result is consistent with our finding that teachers are less satisfied with the curriculum in schools with higher average achievement levels. It may be that adequate materials for the better students are not available.

Teachers in junior high schools are less satisfied with the materials and equipment available to them than are senior high school teachers. As institutions serving more students, senior high schools may be able to offer a greater variety of materials.

Satisfaction with Colleagues

We find a U-shaped relationship between school size and satisfaction with colleagues for elementary school teachers. Teachers in schools with approximately 650 students are the least satisfied with their colleagues. Teachers in schools with either fewer or more students are more satisfied. The explanation for this curvilinear relationship may be the fact that

schools with fewer than 1000 students have no assistant principals. In very small schools teachers have a greater opportunity to work together.[1/] As student enrollments rise, the strain of handling a large number of children without substantial administrative assistance may create tensions among teachers. For schools with more than 1000 students, the presence of an assistant principal with responsibility for discipline may relieve burdens from teachers and provide more opportunity for enjoyable professional interaction.

Our results indicate that elementary school teachers are happier with their colleagues the longer the principal has been at their school. The reason for this may be that a principal who has been at the school long enough to know all of the teachers well may be better able to promote harmony among the staff. If this were a correct explanation, however, we would expect to observe a similar relationship for secondary school teachers. In fact, we find that the principal's experience is negatively related to these teachers' satisfaction with their colleagues.

We also find that teachers in secondary schools with student bodies which have low achievement levels and low attendance rates are particularly satisfied with their colleagues. The explanation for this may be a selection phenomenon. Only particularly dedicated teachers may remain in such schools. It may be particularly rewarding to work with such teachers.

Our last finding is that Black secondary school teachers are less satisfied with their colleagues the higher the percentage of Black teachers

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[1/] Other research evidence suggests that teachers and principals enjoy working in small schools (Murnane,1975).

in the school. We are particularly suspicious of this result because of the inadequacy of our description of the teaching staff. The only variable that we were able to collect to describe the staff was racial composition. This variable may serve as a proxy for a myriad of characteristics that we were not able to measure.[1/]

Satisfaction with Community Attitudes toward Education

Elementary school teachers are more satisfied with community attitudes toward education the greater the proportion of children from indigent families in the school. One explanation for this finding may be that poor families value education as an important route for social mobility. A complementary explanation is that parents with low income may treat teachers with greater deference than do more affluent parents. Rossi et al. (1974) interviewed teachers and principals working in the ghettos of fifteen cities. The overwhelming majority (85%) of those interviewed said the parents of their students treated them with respect.

We observe a similar statistical result for secondary school teachers in that low student achievement levels and low attendance rates are associated with greater satisfaction with community attitudes.

[1/] It is interesting to note, however, that the racial composition of the teaching staff does not affect how satisfied White teachers feel about their colleagues. Given the way that we have expressed the interaction term, the significant coefficient (-0.37) expresses the impact for Black teachers of a one percent increase in the percentage of the teaching staff that is Black. For White teachers the impact is expressed by the sum of two coefficients (-0.37 + 0.29). This sum is not significantly different from zero.

The only other attribute of schools that is related to this dimension of job satisfaction is the size of the secondary schools. Up to a maximum of approximately 2200 students, school size is positively related to teacher satisfaction with community attitudes. This may be an anomaly arising from our small sample of secondary schools. One large high school enjoys great community support as a result of a long tradition of being the elite school for educating children and developing exceptional athletes.

Satisfaction with Teaching Per Se

For both the elementary and secondary teachers, the characteristics of the workplace as we have measured them are not very important in explaining intrinsic satisfaction with teaching. Why should this be? Surely at least a part of the answer is that a strong selection mechanism is operating. An average of thirty percent of the new teachers entering this school system each year do not return for a second year. Most of the teachers in our sample have been working in the system for many years. The average experience level is thirteen years. Teachers who do remain in urban school systems seem to find rewarding the same conditions which prompt other teachers to leave. (An important subsequent question concerns the effectiveness of teachers who do stay in urban school systems. A brief description of our research on this question is presented later in this paper.)

A few school variables are important to satisfaction with teaching per se. We find that teachers in junior high schools are more satisfied than are teachers in senior high schools. In the secondary sample, the higher the proportion of children from indigent families, the less teachers are satisfied with teaching per se. For elementary school teachers, the

lower the student attendance rate, the greater the satisfaction with teaching. The explanation for this last finding may again be a selection phenomenon. Only those teachers who find great intrinsic satisfaction in helping children overcome learning handicaps may remain in such schools.

Satisfaction with Compensation

The characteristics of the school as a workplace are also not very helpful in explaining teachers' attitudes concerning the adequacy of their compensation. As we discussed earlier in the paper, this result is not surprising since salary level is not influenced by school assignment. It is interesting to note, however, that teachers in Title I schools are more satisfied with their compensation. One reason for this may be that the Title I programs provide support facilities that teachers want. By making their jobs more rewarding, the Title I funds may make teachers more satisfied with the relationship between work demands and compensation. A complementary explanation is that teachers in Title I schools may have been paid to attend training sessions. In this case the Title I program would increase compensation directly.

The only other significant result is that teachers working in elementary schools with a high percentage of indigent, low-achieving students are particularly dissatisfied with their compensation. In interpreting this result it is critical to remember that we did not find that teachers in schools with these characteristics were less satisfied with teaching per se, or with any other dimension of their jobs. At least for our sample, there is no evidence that elementary school teachers dislike teaching children from poor families who are low achievers. However, our

findings suggest that teachers working with such children feel that they are not adequately compensated for their work.

VI. SUMMARY

When we examine the impact of particular attributes of schools on aspects of job satisfaction, several general themes emerge. First, teachers of self-contained classes are more satisfied with the principal, curriculum, and materials and procedures than are teachers in departmentalized programs. Second, the higher the average achievement level and attendance rate in the school, the less satisfied are teachers with the curriculum and materials and procedures. This result suggests that this district with its high percentage of children from poor families may have difficulty in meeting the needs of its best students. The fact that teachers in Title I schools (which have supplementary funds for materials and equipment) are more satisfied with the available instructional materials supports this hypothesis.

Perhaps the most interesting theme emerging from this research is the lack of evidence that teachers are less satisfied with their jobs in schools which have a large percentage of low-achieving students and students from poor families. In fact, there is some evidence that such teachers are especially satisfied with certain aspects of their jobs. Our evidence does suggest, however, that teachers in these schools are particularly dissatisfied with the compensation that they receive for their work.

In considering the implications of our findings, it is important to note that some school characteristics have a positive effect on one aspect of job satisfaction and a negative effect on another. For example, the higher the average student achievement in a school, the more satisfied teachers are with their compensation and the less satisfied they are with the curriculum. Teachers in junior high schools are more satisfied with teaching <u>per se</u> than their colleagues in senior high schools, but are less satisfied with the available teaching materials. These results make

clear the need for a multi-faceted concept of job satisfaction. They also suggest that school policies designed to increase job satisfaction must take into account possible differential effects on various aspects of satisfaction.

The teacher demographic characteristics and school characteristics that we have included in our models do explain some of the variance in teacher job satisfaction, but most of the variance remains unexplained. We expect that we would do somewhat better with more detailed information on these characteristics. However, we feel that in order to understand the determinants of teacher job satisfaction more completely, we would need to know more about the attitudes that teachers bring to their jobs.

The limited amount of variance we are able to explain with school and teacher characteristics suggests that school policies can improve teacher job satisfaction to some extent but that their effects will be limited. The ability of school officials to affect job satisfaction also depends on the particular dimension considered. Differences among schools have the greatest impact in determining teacher satisfaction with the principal, the curriculum, and colleagues and materials and procedures. They have the least impact on satisfaction with compensation and teaching per se.

VII. FUTURE WORK

We would like to conclude by discussing our plans for future work.

Alternative Techniques

We plan to investigate using alternative techniques to estimate the models discussed in this paper. One approach is to use Zellner's method for estimating "seemingly unrelated regressions." (Johnson, 1972) This technique takes into account the possibility that the error terms of the seven models for particular dimensions of job satisfaction are correlated.

A second approach that we plan to try is using Professor Herman Wold's NIPALS models to estimate the determinants of job satisfaction. Using Professor Wold's techniques, the weights that are assigned to individual questions in constructing each index of job satisfaction are influenced by the causal relationships in the model. This differs from the technique used in this paper in which the weights were determined by a principal components analysis of the job satisfaction questions. Since the NIPALS model combines related explanatory variables, this approach may also be less sensitive to multicollinearity.

Does Job Satisfaction Affect Teacher Performance?

In our future work we plan to explore the question of whether particular dimensions of job satisfaction influence teacher effectiveness. This question comprises one focus of our larger research goal of investigating the determinants of teacher effectiveness. In this research, teacher effectiveness is indicated by the academic progress of students as measured by standardized test scores. The preliminary results of our research on these issues should be available by December, 1977.

TABLES

TABLE 1

SCHOOL CHARACTERISTIC VARIABLES[1]

Means and Standard Deviations

	Elementary School Teachers		Secondary School Teachers	
	Mean	Standard Deviation	Mean	Standard Deviation
Facilities				
Total Student Enrollment (in 100's)	7.74	2.70	16.84	7.26
Dummy: School has a Title I Program	0.63			
Principal				
Principal's Experience	4.19	3.82	3.84	1.91
Dummy: Principal is Male = 1	0.68		1.00	
Organization				
Dummy: Teacher has an Aide = 1	0.20			
Dummy: School is a Junior High School			0.53	0.50
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-Contained Class = 0)	0.31			
Teachers				
Percent Black Teachers in the School	71.73	25.36	58.01	26.21
Students				
Average Daily Attendance/Membership of School	93.77	1.36	92.57	3.02
Percent Indigent Students in School	40.36	15.40	29.65	12.39
Percent Black Students in School	76.39	32.62	73.49	31.14

Page 2 Table 1 Continued

	Elementary School Teachers Mean	Elementary School Teachers Standard Deviation	Secondary School Teachers Mean	Secondary School Teachers Standard Deviation
Average test Score of All Students in School who took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	4.25	0.36		
Average Test Score of All Students in School Who Took the 8th Grade Iowa Reading Comprehension Test in September, 1974			6.67	0.62
Average Test Score of All Students in School Who Took the 9th Grade Stanford Reading Test in September, 1974			6.62	0.68
Number of Observations	372		272	

[1]These statistics are weighted by the number of teachers in the sample in each school.

TABLE 2

TEACHER DEMOGRAPHIC VARIABLES

Means and Standard Deviations

	Elementary School Teachers		Secondary School Teachers	
	Mean	Standard Deviation	Mean	Standard Deviation
Teacher's Experience	14.44	7.29	11.17	9.04
Dummy: Teacher is Male = 1	0.12		0.35	
Dummy: Teacher is White = 1	0.23		0.42	
Verbal Ability Test Score	82.73	11.48	83.83	10.58
Prestige Rating of Undergraduate College	2.45	0.81	2.58	0.95
Dummy: First Year at this Job = 1	0.08		0.12	
Dummy: Teacher Has Masters Degree or Doctorate = 1	0.78		0.59	
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	0.13		0.13	
Number of Observations	372		272	

TABLE 3

JOB SATISFACTION VARIABLES

Mean and Standard Deviations

	Elementary School Teachers		Secondary School Teachers	
	Mean	Standard Deviation	Mean	Standard Deviation
Satisfaction with Principal	76.45	24.05	84.61	27.13
Satisfaction with Colleagues	51.71	15.35	56.94	16.63
Satisfaction with Community Attitudes on Education	85.24	19.51	91.96	19.43
Satisfaction with Curriculum	54.58	13.36	56.91	15.81
Satisfaction with Compensation	57.11	12.74	59.88	12.96
Satisfaction with Materials, Equipment, and Procedures	74.82	15.41	77.55	17.19
Satisfaction with Teaching *Per Se*.	55.64	16.23	58.56	17.19
Number of Observations	372		272	

TABLE 4

COMPOSITION OF INDICES ON JOB SATISFACTION

Question	Weight on Index	Internal Consistency Reliability[1]
Satisfaction with the Principal		0.90
My principal makes my work easier and more pleasant.	0.869	
Our principal promotes a sense of belonging among the teachers in our school.	0.890	
My principal acts as though he is interested in me and my problems.	0.906	
Teachers feel free to go to the principal about problems of personal and group welfare.	0.844	
Satisfaction with Colleagues		0.78
There is a great deal of griping, arguing, taking sides, and feuding among our teachers. (question is reversed on index).	0.806	
The teachers in our school work well together.	0.878	
The teachers with whom I work have high professional ethics.	0.809	
Satisfaction with Curriculum		0.77
The curriculum of our school is in need of major revisions. (question is reversed on index)	0.820	
The curriculum of our school makes reasonable provision for individual differences among students.	0.815	
Our school has a well-balanced curriculum.	0.846	

Page 2 Table 4 Continued

Question	Weight on Index	Internal Consistency Reliability 1/
Satisfaction with Compensation		0.56
Salary policies are administered with fairness and justice.	0.775	
My teaching job enables me to provide a satisfactory standard of living for my family.	0.695	
Salaries in this school system compare favorably with salaries in other systems with which I am familiar.	0.739	
Satisfaction with Materials and Procedures		0.66
My school provides me with adequate classroom supplies and equipment.	0.668	
The procedures for obtaining material and services are well defined and efficient.	0.649	
My school provides the teachers with adequate audio-visual aids and projection equipment.	0.709	
Our school provides adequate clerical services for the teachers.	0.629	
Library facilities and resources are adequate for the grade or subject I teach.	0.603	
Satisfaction with Community Attitudes toward Education		0.82
Most of the people in this community understand and appreciate good education.	0.842	
In my judgment, this community is a good place to raise a family.	0.736	
This community respects its teachers and treats them like professional persons.	0.845	
The people in this community, generally, have a sincere and wholehearted interest in the school system.	0.798	

Page 3 Table 4 Continued

Question	Weight on Index	Internal Consistency Reliability[1]
Satisfaction with Teaching *Per Se*		0.69
If I could plan my career again, I would choose teaching.	0.760	
My students appreciate the help I give them with their school work.	0.630	
To me there is no more challenging work than teaching.	0.714	
I really enjoy working with my students.	0.771	

[1] This statistic is Cronbach's alpha.

TABLE 5

TESTS ON MODELS 1 AND 2

	Model 1 R^2 Demographics Only	Model 2 R^2 Demographics School Dummies	F
Satisfaction with Principal	0.041	0.303	5.437**
Satisfaction with Community Attitudes on Education	0.010	0.210	3.660**
Satisfaction with Curriculum	0.016	0.254	4.600**
Satisfaction with Colleagues	0.043	0.286	4.924**
Satisfaction with Compensation	0.071	0.170	1.719*
Satisfaction with Materials, Equipment, and Procedures	0.053	0.279	4.535**
Satisfaction with Teaching Per Se	0.028	0.123	1.563*
Number of Observations	644	644	

*Significant at 5% level

**Significant at 1% level

TABLE 6

DETERMINANTS OF TEACHER SATISFACTION WITH PRINCIPAL

(standard errors in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)	-6.96** (2.50)	-3.81* (1.78)
Total Student Enrollment (in 100's) Squared	0.37* (0.15)	0.11* (0.04)
Natural Logarithm of Total Student Enrollment		
Dummy: School has a Title I Program = 1		
School Variables-Principal		
Principal's Experience		
Principal's Experience, Squared		
Natural Logarithm of Principal's Experience	-0.28 (0.57)	-1.56 (1.58)
Dummy: Principal is Male = 1	-4.64 (3.25)	
School Variables-Organization		
Dummy: Teacher has an Aide = 1	-9.91** (3.40)	
Dummy: School is a Junior High School = 1		-5.24 (5.73)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)	-8.39** (2.79)	

Page 2 Table 6 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School		
School Variables-Students		
Average Daily Attendance/ Membership in School	-2.42* (1.20)	
Percent Indigent Students in School	0.17* (0.10)	0.39 (0.27)
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	-0.88* (0.35)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		7.05* (3.34)
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male	-21.39** (8.12)	
Teacher is White X Percent Black Teachers		
Teacher Demographic Variables		
Teacher's Experience	1.38* (0.57)	1.42* (0.60)
Teacher's Experience, Squared	-0.04* (0.02)	-0.06** (0.02)
Dummy: Teacher is Male = 1	7.91 (6.87)	-3.48 (3.58)
Dummy: Teacher is White = 1	7.00* (3.62)	10.60* (4.17)
Verbal Ability Test Score	-0.06 (0.11)	-0.21 (0.17)
Prestige Rating of Undergraduate College	-0.49 (4.52)	0.09 (6.16)

Page 3 Table 6 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared	0.26 (0.60)	-0.12 (0.79)
Dummy: First Year at this Job = 1	-5.52 (4.72)	0.41 (5.10)
Dummy: Teacher has a Masters Degree or Doctorate = 1	-0.75 (2.99)	2.42 (3.51)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	5.17 (3.70)	-7.39 (4.78)
Constant	365.26	113.12
R^2	0.15	0.15
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

TABLE 7

DETERMINANTS OF TEACHER SATISFACTION WITH CURRICULUM

(Standard errors in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)	-0.11 (1.46)	0.65 (1.05)
Total Student Enrollment (in 100's) Squared	-0.03 (0.09)	-0.01 (0.02)
Natural Logarithm of Total Student Enrollment		
Dummy: School has a Title I Program = 1	0.54 (1.80)	
School Variables-Principal		
Principal's Experience		
Principal's Experience, Squared		
Natural Logarithm of Principal's Experience		-1.72* (0.87)
Dummy: Principal is Male = 1		
School Variables-Organization		
Dummy: Teacher has an Aide = 1	-1.56 (1.88)	
Dummy: School is a Junior High School = 1		4.59 (3.66)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)	-2.84* (1.62)	

Page 2 Table 7 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School		
School Variables-Students		
Average Daily Attendance/ Membership in School	-0.14 (0.61)	-1.48** (0.41)
Percent Indigent Students in School		
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	-0.51* (0.20)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		-6.79** (1.24)
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male.		
Teacher is White X Percent Black Teachers		
Teacher Demographic Variables		
Teacher's Experience	0.43 (0.33)	0.63* (0.34)
Teacher's Experience, Squared	-0.01 (0.009)	-0.02* (0.09)
Dummy: Teacher is Male = 1	-0.78 (2.24)	-0.09 (2.04)
Dummy: Teacher is White = 1	-0.97 (2.00)	7.23** (2.40)
Verbal Ability Test Score	-0.03 (0.07)	-0.15 (0.10)
Prestige Rating of Undergraduate College	-1.78 (2.63)	-2.01 (3.52)

Page 3 Table 7 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared	0.10 (0.35)	0.20 (0.45)
Dummy: First Year at this Job = 1	2.63 (2.71)	-0.40 (2.90)
Dummy: Teacher has a Masters Degree or Doctorate = 1	0.80 (1.74)	3.30 (2.00)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	2.72 (2.15)	0.10 (2.73)
Constant	94.89	195.98
R^2	.06	.18
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

TABLE 8

DETERMINANTS OF TEACHER SATISFACTION WITH MATERIALS, EQUIPMENT AND PROCEDURES

(standard error in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)	1.88 (1.61)	-0.31 (1.01)
Total Student Enrollment (in 100's) Squared	-0.13 (0.10)	-0.01 (0.30)
Natural Logarithm of Total Student Enrollment		
Dummy: School has a Title I Program = 1	3.26* (1.97)	
School Variables-Principal		
Principal's Experience		
Principal's Experience, Squared		
Natural Logarithm of Principal's Experience	-0.08 (0.34)	0.09 (0.89)
Dummy: Principal is Male = 1	-0.48 (1.83)	
School Variables-Organization		
Dummy: Teacher has an Aide = 1		
Dummy: School is a Junior High School = 1		-13.05** (3.26)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)	-5.87** (1.75)	

Page 2 Table 8 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School		
School Variables-Students		
Average Daily Attendance/ Membership in School		
Percent Indigent Students in School		
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	-0.10 (0.22)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		-3.37** (1.21)
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male.		
Teacher is White X Percent Black Teachers		
Teacher Demographic Variables		
Teacher's Experience	0.15 (0.37)	0.45 (0.36)
Teacher's Experience, Squared	-0.01 (0.01)	-0.02* (0.01)
Dummy: Teacher is Male = 1	-4.36* (2.49)	-6.34** (2.15)
Dummy: Teacher is White = 1	-3.85* (2.24)	6.47* (2.51)
Verbal Ability Test Score	0.14 (0.07)*	-0.16 (0.10)
Prestige Rating of Undergraduate College	2.74 (2.95)	-2.88 (3.71)

Page 3 Table 8 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared	-0.51 (0.39)	0.29 (0.48)
Dummy: First Year at this Job = 1	1.48 (3.03)	-3.18 (3.06)
Dummy: Teacher has a Masters Degree or Doctorate = 1	-0.37 (1.94)	1.32 (2.11)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	7.28** (2.41)	1.32 (2.88)
Constant	59.85	113.46
R^2	.11	.22
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

TABLE 9

DETERMINANTS OF TEACHER SATISFACTION WITH COLLEAGUES

(Standard errors in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)	-2.91* (1.67)	0.29 (1.18)
Total Student Enrollment (in 100's) Squared	0.23* (0.10)	0.02 (0.03)
Natural Logarithm of Total Student Enrollment		
Dummy: School has a Title I Program = 1		
School Variables-Principal		
Principal's Experience	0.45* (0.22)	-2.50** (0.78)
Principal's Experience, Squared		
Natural Logarithm of Principal's Experience		
Dummy: Principal is Male = 1		
School Variables-Organization		
Dummy: Teacher has an Aide = 1		
Dummy: School is a Junior High School = 1		1.96 (5.74)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)	0.26 (1.78)	

Page 2 Table 9 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School	0.03 (0.07)	-0.37** (0.13)
School Variables-Students		
Average Daily Attendance/ Membership in School	0.83 (0.72)	-1.55** (0.56)
Percent Indigent Students in School	0.09 (0.08)	0.19 (0.15)
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	0.31 (0.25)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		-3.99 (3.62)
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male.		
Teacher is White X Percent Black Teachers	-0.01 (0.09)	0.29** (0.09)
Teacher Demographic Variables		
Teacher's Experience	-0.07 (0.39)	0.24 (0.35)
Teacher's Experience, Squared	-0.0005 (0.01)	-0.01 (0.01)
Dummy: Teacher is Male = 1	2.11 (2.51)	-2.69 (2.07)
Dummy: Teacher is White = 1	5.81 (5.72)	-10.49* (5.52)
Verbal Ability Test Score	-0.26** (0.07)	-0.06 (0.10)
Prestige Rating of Undergraduate College	5.63* (2.95)	3.12 (3.54)

Page 3 Table 9 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared	-0.71* (0.39)	-0.52 (0.46)
Dummy: First Year at this Job = 1	-0.51 (3.02)	-1.17 (2.94)
Dummy: Teacher has a Masters Degree or Doctorate = 1	1.10 (1.94)	1.89 (2.02)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	4.06* (2.42)	-4.09 (2.76)
Constant	-29.46	214.26
R^2	0.11	0.25
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

TABLE 10

DETERMINANTS OF TEACHER SATISFACTION WITH COMMUNITY ATTITUDES ON EDUCATION

(Standard errors in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)	0.82 (2.05)	2.66* (1.43)
Total Student Enrollment (in 100's) Squared	-0.04 (0.12)	-0.06* (0.03)
Natural Logarithm of Total Student Enrollment		
Dummy: School has a Title I Program = 1		
School Variables-Principal		
Principal's Experience		
Principal's Experience, Squared	0.38 (0.46)	
Natural Logarithm of Principal's Experience		-1.59 (1.19)
Dummy: Principal is Male = 1	0.53 (2.39)	
School Variables-Organization		
Dummy: Teacher has an Aide = 1		
Dummy: School is a Junior High School = 1		6.40 (4.89)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)		

Page 2 Table 10 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School		
School Variables-Students		
Average Daily Attendance/ Membership in School	0.36 (.0.97)	-1.55** (.053)
Percent Indigent Students in School	0.43** (0.08)	-0.10 (0.20)
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	-0.34 (0.29)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		-6.94** (2.51)
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male.		
Teacher is White X Percent Black Teachers		
Teacher Demographic Variables		
Teacher's Experience	-0.18 (0.47)	0.48 (0.44)
Teacher's Experience, Squared	0.003 (0.01)	-0.02 (0.01)
Dummy: Teacher is Male = 1	-3.85 (3.08)	-3.49 (2.62)
Dummy: Teacher is White = 1	5.70* (2.96)	9.01** (3.09)
Verbal Ability Test Score	0.06 (0.09)	-0.15 (0.13)
Prestige Rating of Undergraduate College	1.46 (3.73)	1.28 (4.52)

Page 3 Table 10 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared		
Dummy: First Year at this Job = 1	-4.61 (3.84)	2.96 (3.74)
Dummy: Teacher has a Masters Degree or Doctorate = 1	-3.61 (2.46)	3.38 (2.57)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	1.30 (3.05)	-1.50 (3.51)
Constant	39.61	216.47
R^2	0.12	0.10
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

TABLE 11

DETERMINANTS OF TEACHER SATISFACTION WITH TEACHING PER SE

(Standard errors in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)	-0.0002 (0.02)	
Total Student Enrollment (in 100's) Squared	-0.04 (0.11)	
Natural Logarithm of Total Student Enrollment		
Dummy: School has a Title I Program = 1	2.18 (2.72)	
School Variables-Principal		
Principal's Experience	-0.32 (0.98)	
Principal's Experience, Squared	0.002 (0.08)	
Natural Logarithm of Principal's Experience		
Dummy: Principal is Male= 1		
School Variables-Organization		
Dummy: Teacher has an Aide = 1	-1.39 (2.34)	
Dummy: School is a Junior High School = 1		5.17* (2.43)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)	1.16 (2.01)	

Page 2 Table 11 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School		
School Variables-Students		
Average Daily Attendance/ Membership in School	-1.54* (0.82)	-0.50 (0.35)
Percent Indigent Students in School	-0.01 (0.09)	-0.20* (0.10)
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	-0.37 (0.25)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male.		
Teacher is White X Percent Black Teachers		
Teacher Demographic Variables		
Teacher's Experience	0.30 (0.41)	0.45 (0.38)
Teacher's Experience, Squared	-0.01 (0.01)	-0.01 (0.01)
Dummy: Teacher is Male = 1	1.31 (2.75)	0.50 (2.32)
Dummy: Teacher is White = 1	1.81 (2.59)	0.02 (2.59)
Verbal Ability Test Score	-0.05 (0.08)	-0.08 (0.11)
Prestige Rating of Undergraduate College	6.71* (3.24)	8.99* (3.98)

Page 3 Table 11 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared	-0.74* (0.43)	-1.21* (0.51)
Dummy: First Year at this Job = 1	0.37 (3.37)	7.67* (3.29)
Dummy: Teacher has a Masters Degree or Doctorate = 1	-2.21 (2.13)	0.75 (2.27)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	0.71 (2.64)	2.91 (3.10)
Constant	211.72	95.65
R^2	0.05	0.08
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

TABLE 12

DETERMINANTS OF TEACHER SATISFACTION WITH COMPENSATION

(Standard errors in parentheses)

	Elementary School Teachers	Secondary School Teachers
School Variables-Facilities		
Total Student Enrollment (in 100's)		
Total Student Enrollment (in 100's) Squared		
Natural Logarithm of Total Student Enrollment	-1.04 (2.03)	2.01 (3.19)
Dummy: School has a Title I Program = 1	4.58* (2.05)	
School Variables-Principal		
Principal's Experience		
Principal's Experience, Squared		
Natural Logarithm of Principal's Experience		
Dummy: Principal is Male = 1		
School Variables-Organization		
Dummy: Teacher has an Aide = 1	0.73 (1.77)	
Dummy: School is a Junior High School = 1		1.25 (2.87)
Dummy: Teacher Teaches Departmentalized Program = 1 (Has Self-contained Class = 0)	0.42 (1.52)	

Page 2 Table 12 Continued

	Elementary School Teachers	Secondary School Teachers
School Variables-Teachers		
Percent Black Teachers in the School		
School Variables-Students		
Average Daily Attendance/ Membership in School	-0.56 (0.53)	-0.07 (0.33)
Percent Indigent Students in School	-0.13* (0.06)	0.04 (0.12)
Average Test Score of All Students in School Who Took the 4th Grade Iowa Reading Comprehension Test in April, 1974.	0.47* (0.19)	
Average Standardized Test Scores of All Students in School Who Took the Iowa and Stanford Reading Test in September, 1975.		0.42 (1.56)
School Variables - Interactions		
Dummy: Principal is Male X Teacher is Male		
Teacher is White X Percent Black Teachers		
Teacher Demographic Variables		
Teacher's Experience	-0.16 (0.31)	0.53* (0.28)
Teacher's Experience, Squared	-0.001 (0.01)	-0.02** (0.01)
Dummy: Teacher is Male = 1	0.54 (2.10)	3.43 (1.70)*
Dummy: Teacher is White = 1	-5.97** (1.95)	-2.77 (1.97)
Verbal Ability Test Score	0.003 (0.06)	-0.15* (0.08)
Prestige Rating of Undergraduate College	-0.56 (2.48)	-3.92 (2.93)

Page 3 Table 12 Continued

	Elementary School Teachers	Secondary School Teachers
College Prestige Rating, Squared	-0.07 (0.33)	0.45 (0.38)
Dummy: First Year at this Job = 1	-0.71 (2.51)	-2.74 (2.41)
Dummy: Teacher has a Masters Degree or Doctorate = 1	-0.50 (1.63)	1.55 (1.67)
Dummy: Teacher Spent Most of Life in Rural Area or Small Town = 1	0.25 (2.02)	-2.08 (2.27)
Constant	100.03	79.79
R^2	0.08	0.14
Number of observations	372	272

*Significant at 10% level, 2 tailed test.

**Significant at 1% level, 2 tailed test.

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