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## ABSTRACT

This analysis examines the effects of school and organizational characteristics on teacher turnover and, in turn, school staffing problems. The analyses are based on data from the Schools and Staffing Survey and its supplement, the Teacher Followup Survey, a large, comprehensive, nationally representative survey of teachers and schools conducted by the National Center for Education Statistics. Teacher characteristics, such as specialty field, age, and retirement, account for a significant amount of turnover. There are also significant effects of school and organizational characteristics on turnover that have largely been overlooked by previous theory and research. The data show that while high-poverty public schools have moderately higher rates, neither larger schools, nor public schools in large school districts, nor urban schools have high rates of teacher turnover. In contrast, small private schools stand out for their high rates of turnover. The analysis also shows that math and science teachers are not more likely to depart than other teachers, once other factors are controlled. Moreover, the amount of turnover accounted for by retirement is relatively minor when compared to that resulting from two related causes teacher job dissatisfaction and teachers pursuing better jobs or other careers. Organizational characteristics such as inadequate support from the administration, low salaries, student discipline problems, and limited faculty input into school decision-making all contribute to higher rates of turnover, controlling for the characteristics of teachers and schools. The results suggest that school staffing problems are not solely a result of shortfalls driven by increasing retirement levels, but also a result of low retention due to organizational conditions. (Contains 99 references, 16 endnotes, 4 tables, and 2 figures.) (Author/MLF)

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# TEACHER TURNOVER, TEACHER SHORTAGES, AND THE ORGANIZATION OF SCHOOLS

A CTP Working Paper

by  
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## ABSTRACT

Contemporary educational theory holds that teacher turnover, due in large part to increases in teacher retirements, is a pivotal cause of teacher shortages, school staffing problems, and, subsequently, inadequate school performance. Empirical research on this subject typically explains teacher turnover as a function of the characteristics of individual teachers and focuses on determining which kinds of teachers are more likely to leave their jobs. In contrast, this analysis examines the effects of school and organizational characteristics on teacher turnover and, in turn, school staffing problems. The analyses are based on data from the Schools and Staffing Survey and its supplement, the Teacher Followup Survey, a large, comprehensive, nationally representative survey of teachers and schools conducted by the National Center for Education Statistics. The analysis indicates that teacher characteristics, such as specialty field, age, and retirement account for a significant amount of turnover. But, net of teacher effects, there are also significant effects of school and organizational characteristics on turnover which have largely been overlooked by previous theory and research. The data show that while high-poverty public schools have moderately higher rates, neither larger schools, nor public schools in large school districts, nor urban schools have high rates of teacher turnover. In contrast, small private schools stand out for their high rates of turnover. The analysis also shows that math and science teachers are not more likely to depart than other teachers, once other factors are controlled. Moreover, the amount of turnover accounted for by retirement is relatively minor when compared to that resulting from two related causes—teacher job dissatisfaction and teachers pursuing better jobs or other careers. Organizational characteristics such as inadequate support from the administration, low salaries, student discipline problems, and limited faculty input into school decision-making all contribute to higher rates of turnover, controlling for the characteristics of teachers and schools. The results suggest that school staffing problems are not solely a result of shortfalls driven by increasing retirement levels, but also a result of low retention due to organizational conditions.

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## INTRODUCTION

Few educational problems have received more attention in recent times than the failure to ensure that elementary and secondary classrooms are all staffed with qualified teachers. In the early, 1980s a series of highly publicized reports began to focus national attention on the coming possibility of severe teacher shortages in elementary and secondary schools (e.g., Darling-Hammond, 1984; National Commission on Excellence in Education, 1983; for reviews of this debate, see Boe & Gilford, 1992; Haggstrom et al., 1988; National Academy of Sciences, 1987). These studies predicted a dramatic increase in the demand for new teachers primarily resulting from two converging demographic trends—increasing student enrollments and increasing teacher attrition due to a “graying” teaching force. These reports held that subsequent shortfalls of teachers would, in turn, force many school systems to resort to lowering standards to fill teaching openings, inevitably resulting in high levels of under-qualified teachers and lower school performance. The inability of schools to adequately staff classrooms with qualified teachers (hereafter referred to as school staffing problems) has since been cast as a major social problem, received widespread coverage in the national media, been the target of a growing number of reform and policy initiatives, and been the subject of a substantial body of empirical research (for a review of this issue, see National Commission on Teaching, 1997).

The dominant policy response to school staffing problems has been to attempt to augment the teacher supply. Over the past decade, a wide range of initiatives has been implemented to recruit new candidates into teaching. Among these are programs such as “troops-to-teachers” and others designed to entice professionals, especially those with math and science backgrounds, into mid-career changes to teaching; alternative certification programs, whereby college graduates can postpone formal education training, obtain an emergency teaching license, and begin teaching immediately; and Peace Corps-like programs, such as “Teach for America,” designed to lure the “best and brightest” into understaffed schools (Clinton, 1999; Feistritzer, 1997; Kopp, 1992).

Concern over shortages has also provided the impetus for empirical research on teacher supply and demand. In particular, over the past two decades a substantial body of empirical analysis has focused on teacher turnover (e.g., Grissmer & Kirby, 1987, 1992, 1997; Heyns, 1988; Murnane, 1981, 1987; Murnane, Singer, & Willett, 1988). This article also examines teacher turnover, but from a different perspective than most previous empirical research on this topic. Although problems of teacher staffing and attrition have become among the most important issues facing schools and the subject of much research and policymaking, there has been very little research or commentary from a sociological perspective. In particular, few studies have examined the effects of the social organization of the schools in which turnover and staffing problems are embedded. Most of the existing empirical research has focused on assessing whether particular kinds of teachers are more or less likely to depart teaching and has generally sought to explain teacher turnover as a function of the characteristics of individual teachers. Moreover, most research has focused on narrow subsets of the total turnover and mobility of

teachers. This analysis attempts to extend existing theory and research by adopting a previously under-emphasized perspective—the examination of teacher turnover as an organizational phenomenon. This analysis' theoretical perspective, drawn from the sociology of work and organizations, is that teacher turnover and, in turn, school staffing problems cannot be fully understood without "putting the organization back" into the analysis. From this perspective, understanding turnover requires examining the characteristics of the organizations which employ teachers and examining turnover at the level of the organization. My objective is two-fold: to first document the role of teacher turnover in the staffing problems of schools and then to closely examine the role of school organizational characteristics and conditions in teacher turnover.

In brief, the results of the analysis show that teacher turnover is a significant phenomenon and a dominant factor behind the demand for new teachers and the difficulties schools encounter adequately staffing classrooms with qualified teachers. Consistent with prior empirical research, my analysis indicates that teacher characteristics, such as specialty field and age, account for a significant amount of turnover. But, net of teacher effects, there are also significant effects of school and organizational characteristics and conditions on turnover which have largely been overlooked by previous research. The data show that while high-poverty public schools have moderately higher rates, neither larger schools, nor public schools in large school districts, nor urban schools have high rates of teacher turnover. In contrast, small private schools stand out for their relatively high rates of turnover. The analysis also shows that math and science teachers are not more likely to depart than other teachers, once other factors are controlled. Moreover, while it is true that teacher retirements are increasing, the overall amount of turnover accounted for by retirement is relatively minor when compared to that resulting from other causes such as teacher job dissatisfaction and teachers pursuing better jobs or other careers. The data show that, in particular, inadequate support from the school administration, low salaries, student discipline problems, and limited faculty input into school decision-making all contribute to higher rates of turnover, after controlling for the characteristics of both teachers and schools.

These findings have important implications for both theory and policy concerning school staffing problems. As mentioned, existing theory holds that teacher shortages, largely due to inexorable, macro, demographic trends, are the primary factor behind staffing problems. In turn, the dominant policy response has been to attempt to increase the supply of new teachers through various recruitment strategies. In contrast, this analysis suggests that school staffing problems are neither synonymous with, nor solely due to, teacher shortages in the conventional sense of a lack or deficit of qualified candidates. Rather, the data suggest that the continual demand to hire new teachers and the ensuing school staffing problems are also a result of a "revolving door"—where large numbers of teachers depart their jobs for reasons other than retirement. It also suggests that teacher recruitment programs will alone not solve the staffing problems of schools if they do not also address the organizational sources of low retention.

This analysis also has implications for the sociological literature on school organization. Research in this tradition has long held that the presence of a sense of social solidarity and social integration among families, teachers and students is important for the success of schools (e.g., Durkheim 1925/1961; Grant, 1988; Waller, 1932). In general, large public schools, especially those serving urban, high-poverty communities, are often cited as those least likely to be characterized by a tight-knit sense of cohesion, while small private schools are often cited as those most likely to be so characterized (e.g., Bryk et al., 1990; Coleman & Hoffer, 1987). This analysis reveals that the latter have far higher rates of teacher turnover than the former. The article closes by offering an hypothesis to account for these counterintuitive findings.

Below, I first review in more detail the existing empirical research on teacher turnover and what I believe are its limitations.

## RESEARCH ON TEACHER TURNOVER

Over the past two decades there has been substantial empirical research focused on determining which kinds of teachers are more prone to leave teaching and why (e.g., Bobbitt et al., 1994; Chapman & Green, 1986; Chapman & Hutcheson, 1982; Grissmer & Kirby, 1987, 1992, 1997; Hafner & Owings, 1991; Haggstrom et al., 1988; Heyns, 1988; Marso & Pigge, 1991; Miech & Elder, 1996; Murnane, 1981, 1987; Murnane et al., 1991; Murnane, Singer, & Willett, 1988; Rumberger, 1987; Schlechty & Vance, 1981, 1983; Weiss & Boyd, 1990). This research shows teacher turnover is strongly correlated with the individual characteristics of teachers. Among the most important findings has been that teacher attrition is strongly affected by academic field. Although the data have been inconsistent at times, special education, mathematics, and science are typically found to be the fields of highest attrition (Boe, Bobbitt, & Cook, 1997; Grissmer & Kirby, 1992; Murnane et al., 1991; Rumberger, 1987).

Another important finding has been that teachers' decisions whether to stay or leave the teaching profession are highly influenced by their age. The relationship between teachers' age (or experience, in some analyses) and their departure has been found to follow a U-shaped curve. Younger teachers have very high rates of departure; these rates decline through the mid-career period and then rise again in the retirement years (e.g., Bobbitt et al., 1994; Boe et al., 1998; Grissmer & Kirby, 1987, 1992, 1997; Hafner & Owings, 1991; Murnane, Singer, & Willett, 1988). Moreover, because the distribution of age in the teaching force is skewed upward—older teachers significantly outnumber younger teachers—many analysts have concluded that retirement due to a rapidly "graying" teaching workforce is the most significant factor behind teacher attrition, teacher shortages, and school staffing problems (e.g., Grissmer & Kirby, 1997).

Such research has provided a great deal of insight into the sources of teacher turnover; however, there are two important limitations to existing empirical studies. First, most of this empirical research has focused on assessing whether particular kinds of teachers are more or less likely to depart teaching

and have generally sought to explain teacher turnover as a function of the characteristics of individual teachers. As often noted (e.g., Barro, 1992; Boe & Gilford, 1992; Miech & Elder, 1996), researchers have far less frequently focused on explaining teacher turnover as a function of the characteristics of schools. A number of analysts have compared or controlled for turnover differences across different types of schools (e.g., Bacharach & Bamberger, 1990; Bobbitt et al., 1994; Boe et al., 1998; Heyns, 1988; Miech & Elder, 1996; Murnane, 1981; Sclan, 1993; Theobald, 1990). However, few have examined in detail which aspects of schools are related to teacher turnover, especially with large-scale or representative data.<sup>1</sup> Although it is widely believed, for example, that urban, high-poverty public schools have very high levels of teacher turnover (e.g., Darling-Hammond & Green, 1994; Kozol, 1991; Oakes, 1990; Rosenholtz, 1985), there have been few attempts to rigorously test this assumption with nationally representative data or to examine which aspects of these schools contribute to teacher turnover.

Additionally, most of the empirical research to date has tended to emphasize only one component of the overall amount of teacher turnover from schools—teacher attrition—those who leave the occupation of teaching altogether. Researchers have often de-emphasized the other major component of turnover—teacher migration—those who transfer or move to different teaching jobs in other schools. A number of analysts have examined levels and variations in teacher migration (e.g., Boe, et al., 1998; Grissmer & Kirby, 1987, 1992; Murnane, 1981; Rollefson & Broughman, 1995). However, most assume it is a less significant form of turnover because it does not increase or decrease the overall supply of teachers, as do retirements and career changes, and thus, does not contribute to overall systemic shortages.

These are important limitations. As a result of an emphasis on individual-level factors, much less is known of whether teacher turnover is disproportionately concentrated in particular types of schools and, also, which aspects of schools effect turnover. Moreover, little is known of how the organization and management of schools both impacts and is impacted by turnover. In addition, about half of the overall turnover of teachers is migration from one school to another (Ingersoll 1995a, pp. 4-9). Hence, the research emphasis on attrition has meant that much less is known of the magnitude and causes of the totality of employment instability, turnover, and inter-organizational mobility in schools and their consequences for school staffing problems.

Numerous analysts have noted that a major reason for these research limitations has been a lack of data, especially at a nationally representative level, on the extent of, types of, and reasons for teacher turnover (e.g., Boe & Gilford, 1992; Darling-Hammond & Hudson, 1989; Haggstrom et al., 1988). For example, some of the best known research on teacher attrition has used single-city or single-state data (e.g., Grissmer & Kirby, 1992; Murnane, 1981; Murnane et al., 1991; Schlechty & Vance, 1981, 1983). Besides obvious limits to generalization, another key limitation of such data is that it is difficult to distinguish between teacher attrition and teacher migration to teaching jobs in other cities or states because the latter “leave” the sampling frame.

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It was partly in order to address these data shortcomings that the U.S. Department of Education's National Center for Education Statistics (NCES) conducted the Schools and Staffing Survey (SASS) and its supplement, the Teacher Followup Survey (TFS), beginning in the late 1980s. Unlike most previous data sources, this dataset is large, comprehensive, nationally representative, includes both teacher migration and teacher attrition, contains the reasons teachers themselves give for their departures, and includes a wide range of information on the characteristics and conditions of schools.

## TEACHER TURNOVER AND THE ORGANIZATION OF SCHOOLS

The objective of this study is to use the SASS/TFS data to examine teacher turnover as an organizational phenomenon. Its theoretical perspective, drawn from the sociology of work and organizations, is that teacher turnover and, in turn, school staffing problems cannot be fully understood without "putting the organization back" into the analysis (cf. Baron & Bielby, 1980; Hirsch & Lounsbury, 1997; Stolzenberg, 1978).

An extensive body of empirical research on employee turnover has examined the effects of a wide variety of factors on employee stability, turnover, and mobility with, at times, inconsistent findings (e.g., Bluedorn, 1982; Halaby & Weakliem, 1989; Hom & Griffeth, 1995; Kalleberg & Mastekaasa, 1998; March & Simon, 1958; Mobley, 1982; Mueller & Price, 1990; Price 1977, 1989; Steers & Momday, 1981).<sup>2</sup> However, consistently running either implicitly or explicitly throughout virtually all of this literature is the principle that employee turnover is theoretically significant because of its link to the characteristics, conditions, and effectiveness of organizations. On the one hand, researchers have found that a low level of employee turnover is normal and efficacious in a well-managed organization. Too little turnover of employees is tied to stagnancy in organizations; effective organizations usually both promote and benefit from a limited degree of turnover by eliminating low quality performers and bringing in "new blood" to facilitate innovation. On the other hand, high levels of employee turnover are found to be both cause and effect of problematic conditions and low performance in organizations.

This analysis' theoretical perspective is based on two propositions drawn from this empirical research: fully understanding turnover requires (a) examining the character of the organizations within which employees work, and (b) examining turnover at the level of the organization.

Important to my analysis is the proposition in this literature that the working conditions and characteristics of organizations have a large impact on the propensity of workers to depart from the organization. Also important to my analysis is the proposition that, from an organizational-level perspective, employee migration is as significant as employee attrition. Whether those departing are moving to a similar job in another organization or leaving the occupation altogether, their departures similarly impact and are impacted by management, organizational conditions, and organizational performance.

Related and extensive research on organization design has sought to isolate those working conditions, structural features, and managerial practices that characterize well-functioning and effective workplaces. Especially for organizations which have ambiguous technologies and production processes involving extensive interaction among participants, analysts in this tradition have long advocated the positive impact of less bureaucratic, more participative, less centralized, more "organic" forms of organization (e.g., Burns & Stalker, 1961; Kanter, 1977; Likert, 1967; Porter, Lawler & Hackman, 1975; Turner & Lawrence, 1964; Walton, 1980). Several organizational conditions have consistently been identified as important in this literature: the degree of cooperation or conflict in the organization; the reward structure and extent of opportunities for employee growth and promotion; the level of administrative support, especially for new employees; and the degree of employee input into and influence over organization policies. This research suggests that these organizational conditions are linked to improved employee motivation, commitment and retention, especially in organizations that are dependent upon cohesion among clients, employees and management.

Schools have traditionally been identified as a key example of organizations characterized by an uncertain technology and by dependence on cohesion among members (Bidwell, 1965; Ingersoll, 1993; Lortie, 1975). As a result, education analysts have argued that many of the same conditions linked to effective organizational performance in the general literature on organizations also have a positive impact in schools (e.g., Bryk, Lee & Smith, 1990; Metz, 1986; Newman, Rutter & Smith, 1989; Pallas, 1988; Rosenholtz, 1989; Rowan, Raudenbush & Kang, 1991). The reward structure and extent of opportunities for teacher development and promotion, the degree of teamwork or conflict among staff and students, the level of support provided to teachers by administrations, and the degree of teacher input into and influence over classroom and school policies all have been central to this literature. These kinds of organizational conditions are important, educational analysts have argued, largely because they promote commitment, communication, and a sense of belonging—that is, community—among the key constituents in schools. The presence of a sense of social solidarity and social integration among families, teachers, and students has long been held by sociologists to be one of the most important indicators and aspects of successful schools (e.g., Durkheim, 1925/1961; Waller, 1932; Grant, 1988; Coleman & Hoffer, 1987).

In general, large public schools, especially those serving urban, high-poverty communities, are often cited as less likely to exhibit effective organizational characteristics and a sense of community (e.g., Bryk et al., 1990). In contrast, many have argued that small schools are more likely to be effectively managed workplaces and to have a communal climate, providing support for a "small is beautiful" viewpoint perennially popular among educational reformers (for reviews of the literature on school size, see Bryk et al., 1990; Guthrie, 1979; Walberg & Walberg, 1994). Moreover, some researchers have tied the effectiveness of private schools, especially the religiously oriented, to their organizational character and to a coherent and unified mission and sense of community (e.g., Bryk, Lee, & Holland, 1993; Coleman & Hoffer, 1987).

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Although some empirical research has focused on the effects of school organizational conditions on teachers, especially their attitudes, collegiality, and job satisfaction (e.g., Reyes, 1990; Rosenholtz, 1989; Ingersoll, 1996, 1997), most assessments of school organization focus on student outcomes, especially academic achievement. This article investigates whether the organizational characteristics and conditions of schools have an impact on teacher turnover levels, and, in turn, the staffing problems of schools. While there are many aspects of the social organization of schools and the organizational characteristics of schools that may affect teacher turnover, this report focuses on the set of organizational conditions, discussed above, that are consistently found to be crucial for organizational effectiveness in both the organizational and educational literatures.

## RESEARCH QUESTIONS

More specifically, this analysis addresses several sets of questions:

1. What is the overall magnitude of both teacher attrition and migration?  
How do rates of teacher turnover compare with those of other occupations?  
What portion of the demand for new teachers is accounted for by turnover?  
What role does turnover have in the difficulties schools encounter adequately staffing classrooms with qualified teachers?
2. Is teacher turnover disproportionately concentrated in particular types of schools?  
What are the actual levels and types of teacher turnover at different types of schools?  
Are there school differences in turnover levels, after controlling for the characteristics of teachers?
3. Do the organizational conditions of schools impact teacher turnover, after controlling for the characteristics of schools and teachers?  
Do the effects of organizational conditions on turnover differ among different kinds of schools?

## DATA AND METHODS

### Data

As indicated, the data for this study come from NCES' nationally representative SASS and its TFS supplement. This is the largest and most comprehensive data source available on the staffing, occupational, and organizational aspects of schools and was specifically designed to remedy the lack of nationally representative data on these issues (Haggstrom et al., 1988; Ingersoll, 1995b). To date, three cycles of SASS/TFS have been released—1987-89, 1990-92, 1993-95.

The U.S. Census Bureau collects the SASS data for NCES from a random sample of schools stratified by state, public/private sector and school level. The survey includes several sets of linked questionnaires: for each school sampled, for the central district office of public schools, and for a random sample of teachers in each school. In addition, all those in the teacher sample who departed their teaching jobs in the year following the SASS surveys were again contacted to obtain information on their

departures for the TFS. This analysis primarily uses data from the 1991-92 TFS, linked with data from the 1990-91 SASS questionnaires. Unlike most previous teacher turnover data sources, the TFS includes all turnover, both teacher migration and teacher attrition (hereafter referred to as total departures, movers and leavers, respectively). The TFS sample is comprised of 6,733 teachers (3,343 stayers, 1,428 movers, and 1,962 leavers). This analysis uses data weighted to compensate for the over- and under-sampling of the complex stratified survey design. Each observation is weighted by the inverse of its probability of selection in order to obtain unbiased estimates of the national population of schools and teachers in the year of the survey.<sup>3</sup>

## Methods

The analysis is divided into three stages. In the first stage I establish the overall magnitude of teacher turnover and its role in teacher demand and school staffing problems. In the second stage of my analysis I conduct an exploratory regression analysis of the effects of teacher characteristics, school characteristics, and organizational conditions on turnover. In the third stage I follow up with a detailed examination of the reasons teachers give for their departures. Below, I describe these three stages of my analysis.

I first introduce descriptive data to establish recent trends in the overall magnitude of teacher migration, attrition and retirement, their impact on the demand for new teachers, and their role in the difficulties schools encounter adequately staffing classrooms with qualified teachers. I also establish the extent of variation in turnover across different types of schools and compare these levels to employee turnover in other occupations.

The second stage presents an exploratory multiple regression analysis of the predictors of teacher turnover. The dependent variable—teacher turnover—is a dichotomous variable based on whether each teacher remained with or departed from his or her teaching job. I cumulatively examine three groups of predictors of turnover: teacher characteristics, school characteristics and organizational characteristics. Figure 1 provides definitions for these variables.

Following previous research on teacher attrition, I include control variables for several characteristics of teachers: race, gender, age, and subject/field of teaching. Because of its U-shaped relationship, I transform age into a three-category set of dummy variables—younger (less than 30), middle-aged (31-50) and older (greater than 50).

Research on school organization has revealed important differences in the organizational structure and behavior of different types of schools (e.g., Bidwell & Quiroz, 1991; Bryk et al., 1990; Chubb & Moe, 1990; Coleman & Hoffer, 1987; Pallas, 1988; Rowan et al., 1991). In order to control for these factors, I include, as independent variables, school characteristics typically found to be important in this literature: school level, size, urban-ness, and sector. In addition to finding important differences between public and private schools, research on school organization has also shown distinct within-

## Figure 1: Definitions of Measures used in the Analysis

**Teacher Turnover:** a dichotomous variable where 0 = stayer/currently teaching in same school and 1 = not teaching in same school as last year.

### Teacher Characteristics

- **Young:** a dichotomous variable where 1 = teacher less than 30 years of age and 0 = other teachers.
- **Old:** a dichotomous variable where 1 = teacher older than 50 years of age and 0 = other teachers.
- **Math/Science:** a dichotomous variable where 1 = teachers listed by their principals as primarily teaching secondary math or science and 0 = all other teachers.
- **Special Education:** a dichotomous variable where 1 = teachers listed by their principals as primarily teaching elementary or secondary special education and 0 = other teachers.
- **Male:** a dichotomous variable where 1 = male teacher and 0 = female teacher.
- **Minority:** a dichotomous variable where 1 = nonwhite teacher and 0 = other teachers.

### School Characteristics

- **Private:** a dichotomous variable where 0 = public and 1 = private.
- **Size:** student enrollment of school.
- **Urban:** a dichotomous variable where 0 = rural/small town or urban fringe/large town and 1 = central city.
- **Suburban:** a dichotomous variable where 0 = rural/small town or central city and 1 = urban fringe/large town.
- **Secondary Level:** a dichotomous variable where 0 = elementary or combined (grades K-12) and 1 = secondary.
- **Elementary Level:** a dichotomous variable where 0 = secondary or combined and 1 = elementary.

#### Public schools

- **District Size:** student enrollment of school district.
- **Poverty Enrollment:** percentage of students receiving the federal free or reduced-price lunch program for students from families below poverty level. Not available for private schools.

#### Private schools

- **Catholic:** a dichotomous variable for school orientation where 0 = other religious or nonsectarian and 1 = Catholic.
- **Other Religious:** a dichotomous variable for school orientation where 0 = Catholic or nonsectarian and 1 = Other Religious.

### Organizational Conditions

- **Advanced Salary:** normal yearly salary for teacher with a MA and 20 years of experience, as reported by school administrators. This measure excludes private school teachers whose effort is contributed as a free service.
- **Administrative Support:** on a scale of 1 = strongly disagree to 4 = strongly agree, the school mean of the amount of agreement of all teachers with the statement "this school is effective in assisting new teachers" in each of the following matters: student discipline, instructional methods, curriculum, and adjusting to the school environment.
- **Student Discipline Problems:** on a scale of 1 = not a problem to 4 = serious, the school mean of teachers' reports for 8 kinds of student discipline problems: disruptive behavior; absenteeism; physical conflicts among students; robbery; vandalism; weapon possession; physical abuse of teachers; verbal abuse of teachers.
- **Faculty Influence:** on a scale of 1 = none to 6 = a great deal, the school mean of faculty control and influence over 10 areas: selecting textbooks and other instructional materials; selecting content, topics and skills to be taught; selecting teaching techniques; determining the amount of homework to be assigned; disciplining students; curriculum; ability grouping; school discipline policy; content of in-service programs.

Factor analysis (with varimax rotation method) was used to develop the indices of student discipline problems and faculty influence. Item loadings of .4 were considered necessary for inclusion in a factor. No items loaded on more than one factor. Each factor had high internal consistency ( $\alpha > .7$ ).

The measures of student discipline problems, faculty influence and administrative support are all school means of the reports of the total SASS teacher sample for each school and not limited to the reports of those in the smaller TFS sample.

### Reasons for Turnover (Table 4)

Teachers could list up to 3 choices from a list of 12 reasons for their departures. I grouped the 12 reasons into 5 categories, as follows:

- **School Staffing Action:** reduction-in-force/lay-off/school closing/reassignment.
- **Dissatisfaction:** dissatisfied with teaching as a career; dissatisfied with the school; for better salary or benefits.
- **Personal:** family or personal move; pregnancy/child rearing; health; other family or personal reason.
- **To Pursue other Job:** to pursue another career; to take courses to improve career opportunities in or outside the field of education; for better teaching job.
- **Retirement.**

sector differences in school organization. In order to explore within-sector differences and whether the factors that predict turnover vary between sectors, my analysis first examines turnover for all schools and follows with separate analyses of turnover at both public and private schools. For public schools, I include additional variables for the district size and the level of poverty of the student population. For private schools, I include additional variables for the orientation or affiliation of the school.<sup>4</sup>

Finally, I focus on the effects of four organizational conditions introduced earlier: organizational conflict (levels of student discipline problems), employee input into decision-making (the degree of faculty classroom control and influence over policies), the degree of administrative support provided for employees (assistance for new teachers), and the employee reward structure (teacher salary).<sup>5</sup> Unlike most empirical analyses that use either individual teacher's salaries or the school's mean teacher salary, I use the school salary scheduled for advanced teachers (those with a MA degree and at least twenty years experience) because it better assesses differences in the organizational compensation structure.<sup>6</sup>

In this stage of the analysis, I use logistic regression to explore whether the likelihood of individual teachers moving from or leaving their teaching jobs is related to the above school-level measures of school and organizational characteristics, while controlling for individual-level characteristics of teachers.

Over the past two decades, there has been a growing debate concerning the most appropriate multiple regression method for modeling data, such as those used here, that are collected at more than one level (e.g., Bidwell & Kasarda, 1980; Pfeffer, 1982; Rowan et al., 1991). Recently, a number of statistical packages have been developed specifically for modeling multilevel data. However, currently available versions of these packages, for one reason or another, do not allow non-linear analysis of binomial dependent variables that require inclusion of design weights at multiple levels (e.g., individual and organizational levels).<sup>7</sup> Because the TFS sample is based on those who departed their teaching jobs and under-samples those who did not depart, use of design weights is necessary. Hence, in my analysis of turnover I use regular SAS logistic multiple regression. Practically speaking for this analysis, the primary consequence of using regular logistic regression is that it may produce less-than-precise standard errors for the school-level coefficients.

To provide confidence in my findings I have conducted two additional analyses. First, I treat the multiple regression stage of my analysis as exploratory and follow it up with a more in-depth examination, described below, of the causes of both teacher migration and attrition using a set of different data items from TFS. As this latter section shows, my initial findings concerning the importance of school and organizational characteristics are confirmed.

Second, I undertook a series of additional background multivariate analyses. SASS/TFS is a cross-sectional survey which has been conducted three times to date. Since most of the items used in this analysis were included in all three cycles, I was able to estimate the same models with three

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independent data sources. Moreover, the first two cycles of SASS provide a separate school-level turnover rate based on school principals' reports of the percentage of their teaching staff that separated from their schools. I also estimated similar models using both ordinary least squares and logistic multiple regression with this school-level measure of turnover as the dependent variable (see Ingersoll, 1995a for a published research report). In all of these analyses—for different data cycles and with different types of dependent variables—I found the results to be very similar. Notably, my major findings on school and organizational effects, described in the following results section, were confirmed.

As indicated, in the third stage of my analysis, I follow up the previous two stages with a more in-depth examination of the reasons teachers migrate and depart from schools. I focus, in particular, on two widely divergent types of schools—small private and high-poverty, urban public schools. I analyze data drawn from items in the TFS questionnaire that asked respondents to indicate the reasons (up to three) for their departures from a list in the survey questionnaire. I also analyze data from an additional set of items which asked respondents to indicate the sources (up to three) of their dissatisfaction, if they had indicated job dissatisfaction as a reason for their turnover. (Figure 1 provides definitions for these variables).

## RESULTS

### Levels of Turnover and School Staffing Problems

Teaching is a relatively large occupation—it represents 4% of the entire civilian workforce. There are, for example, over twice as many K-12 teachers as registered nurses and five times as many teachers as either lawyers or professors (Statistical Abstract, 1998). Moreover, the rate of turnover appears to be higher than in many other occupations. One of the best known sources of national data on rates of employee turnover, the Bureau of National Affairs, has shown that nationwide levels of employee turnover have been quite stable over the past decade, averaging 11% per year (Bureau of National Affairs, 1998).<sup>8</sup> The data on nationwide employee turnover provide an overall benchmark; however, a more similar point of comparison is nursing, which like teaching is a predominantly female occupation that has experienced perennial workplace staffing problems (William M. Mercer, 1999). The mean turnover rate of registered hospital nurses in the mid 1990s was 12 percent. Comparison of the TFS data with either the nurse's or the employee turnover rate suggests that teaching has a relatively high turnover rate: 15 percent in 1988-89, 13.2 percent in 1991-92, and 14.3 percent in 1994-95 (see Table 1). As a result, teacher turnover is, numerically, a sizable phenomenon: in 1994-95, over 417,000 teachers from a force of about 3 million departed their teaching jobs.

Elsewhere I have reported in detail the SASS data on the levels and variations of school staffing problems—the difficulties schools have filling positions with qualified hires (Ingersoll, 1996b, 1999). I will only briefly summarize these data and focus on the topic of particular interest here—the connection between teacher turnover and school staffing problems.

Consistent with the shortage predictions discussed earlier, data from SASS and other NCES data sources show that demand for teachers has increased since the mid 1980s. Since 1984, both student enrollments and the size of the teaching workforce (K-12) have increased, although the rate of these increases began to decline slightly in the late 1990s (Gerald, 1998; Snyder et al., 1997, pp. 12-13). Moreover, some schools experienced staffing problems during this period, when the rates of increase were at their peak. Notably, however, the latter was the case in only a minority of schools; about one third of schools reported some degree of difficulty filling one or more of their teaching job openings with qualified candidates. For instance, in the 1993-94 school year, 35 percent of secondary schools had job openings for English teachers and about one quarter of these, 9 percent of all schools, indicated they had at least some difficulty filling these openings.<sup>9</sup> However, for several reasons, the data suggest that these staffing difficulties were not primarily due to shortages in the conventional sense of an overall deficit in the pool of qualified candidates driven by enrollment and retirement increases.

First, substantial numbers of schools have staffing problems in fields such as English and social studies that have long been known to have overall surpluses (ASCUS, 1996). Second, the SASS data suggest that the hiring of new teachers is not primarily due to student enrollment increases. In recent years, the number of new hires has been almost equivalent to the number of recent departures. For instance, about 190,000 teachers newly entered the occupation for the 1990-91 school year. However, in the following 12 months, about 174,000 teachers—equivalent to 91 percent of those just hired—left the occupation (see Table 1).<sup>10</sup> Finally, although teacher retirements have increased in recent years, they account for only a small portion of total turnover (e.g., 12% in 1994-95). These patterns are consistent across all three cycles of the data. The image that these data suggest is one of a “revolving door”—an occupation in which there are relatively large flows in, through, and out of schools in recent years, only partly accounted for by student enrollment increases or teacher retirements.<sup>11</sup> Hence, it appears that the demand for new teachers and the subsequent difficulties some schools face filling their openings are directly connected to high levels of pre-retirement turnover.

**Table 1: Teacher Flows in and out of Schools**

	1987-88 School Year	1990-91 School Year	1993-94 School Year
<b>Total Hires</b> - since prior year	361,649	387,807	377,135
New Entrants	(178,344)	(191,179)	(192,550)
Movers	(183,305)	(196,628)	(184,585)
<b>Total Teaching Force</b> - during year	2,630,335	2,915,774	2,939,659
<b>Total Departures</b> - during subsequent year	390,731	382,879	417,588
Movers	(218,086)	(208,885)	(204,680)
Leavers	(172,645)	(173,994)	(212,908)
Retirees	(35,179)	(47,178)	(50,242)

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About half of the total teacher turnover is, however, migration (e.g., in 1994-95, 7 percent migration and 7.3 percent attrition). Unlike attrition, teacher migration is a form of turnover that does not decrease the overall supply of teachers because departures are simultaneously new hires. As a result, it would seem reasonable to conclude that teacher migration does not contribute to the problem of staffing schools. From a macro and systemic level of analysis, this is probably correct. However, from an organization-level perspective, the data suggest teacher migration does contribute to the problem of staffing schools.

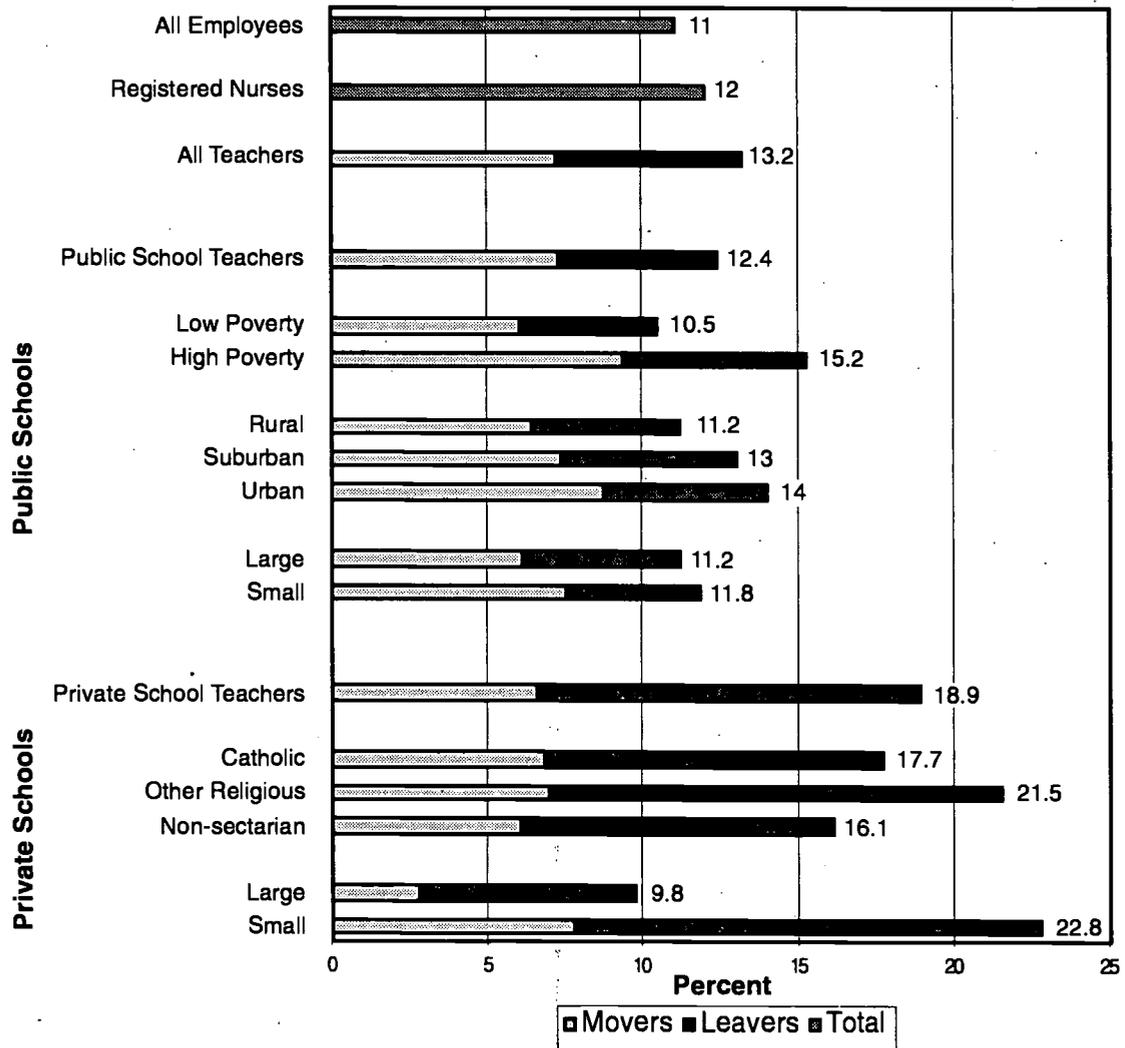
From the viewpoint of those managing at the school-level, teacher migration and attrition have the same effect—in either case it results in a decrease in staff which usually must be replaced. A sufficient teacher supply pool would, of course, ease replacement; however, the data suggest that a lack of supply is not the dominant factor behind staffing problems. The data show that schools ostensibly drawing from the same teacher supply pool can have significantly different staffing scenarios. For instance, analysis of variance of the SASS data reveals that the variation in hiring difficulties among schools is far greater within, than between, states.<sup>12</sup>

While most schools report having teaching job openings each year, less than half of these report difficulties filling their openings with qualified candidates. Schools with high turnover, by definition, will have more vacancies and will be faced with a continuous need to recruit and hire. But these schools are also more likely to report having difficulty filling their job openings, and are more likely to have classrooms staffed with under-qualified teachers. The data show that those schools reporting difficulties filling their openings were almost twice as likely to have above-average turnover rates, as were schools reporting no difficulties filling their positions. The same schools that have problems with teacher retention also have problems with teacher recruitment, that is, the data suggest that schools with high turnover usually have staffing problems.

Moreover, the data show that school-to-school differences in turnover are significant. For example, as illustrated in Figure 2, high-poverty (poverty enrollment of 50% or more) public schools have higher turnover rates than do more affluent (poverty enrollment below 15%) public schools. The graph also suggests that even more salient are the differences in rates of turnover according to the sector and size of the school. Private schools have higher turnover rates than public schools, and within the private sector, smaller schools have substantially higher rates of turnover than do larger schools.<sup>13</sup>

On one end of the scale lie larger (600 or more students) private schools with among the lowest average turnover rate—about 10 percent—close to what is found in other occupations. On the other end of the scale lie smaller (fewer than 300 students) private schools. It should be noted that larger private schools represent only a small portion of all private school teachers, while smaller private schools represent 81 percent of all private schools and 56 percent of all private school teachers in the United States.<sup>14</sup> In rates of turnover, smaller private schools have the highest average levels — about 23 percent. The turnover rate in these schools is significantly higher, for instance, than the rate in

**Figure 2: Percent employee turnover, percent nurse turnover, and percent teacher turnover, by selected school characteristics**



high-poverty public schools and more than double the national average for other kinds of employees. The following section turns to an examination of the sources of high teacher turnover.

## Predictors of Turnover

Table 2 presents three multiple regression models that examine which of the school differences in turnover rates described above remain salient after controlling for the characteristics of teachers and also whether school organizational conditions impact teacher turnover, after controlling for the characteristics of schools and teachers.

In the first model, the relationship between the teacher characteristics as a group (Model 1 of Table 2) and the likelihood of turnover is statistically significant. The age of teachers is the most salient predictor of the likelihood of their turnover. Both younger (less than 30) and older (greater than 50) teachers are more likely to depart than are middle-aged teachers. For instance, the relative odds of young teachers

departing are 184 percent higher than for middle-aged teachers. The analysis also shows that special education teachers are more likely to depart than other teachers. The coefficient for math and science teachers is also positive, but this predictor does not quite achieve statistical significance at the 95 percent level. Male teachers are less likely to depart than are female teachers; the coefficient for minority teachers is also negative, but it does not achieve statistical significance.

When school characteristics are added to the model as a group (model 2 of Table 2), the model likelihood statistic decreases by a statistically significant amount. School sector and school size, in particular, stand out as key variables. In private schools and in smaller schools, teachers depart at higher rates. For example, the odds of private school teachers departing are 18 percent higher than for public school teachers. An enrollment increase of 100 students is associated with a decrease in the odds of teachers departing by 3 percent. In addition, teachers in both suburban and urban schools are slightly more likely to turnover than are those in rural schools. Finally, teachers in both secondary schools and elementary schools have slightly lower rates of turnover than do those in K-12 combined schools.

**Table 2: Logistic Regression Analysis of the Likelihood of Teacher Turnover**

	Model 1		Model 2		Model 3	
	(b)	(se)	(b)	(se)	(b)	(se)
Intercept	-2.1	.003	-1.89*	.08	-.69*	.029
<b>Teacher Characteristics</b>						
Young	1.0*	.01	.98*	.005	1.01*	.005
Old	.88*	.005	.85*	.005	.92*	.006
Math/Science	.01	.006	.12*	.006	-.004	.007
Special Education	.22*	.006	.27*	.006	.28*	.006
Male	-.15*	.004	-.10*	.005	-.07*	.005
Minority	-.01	.005	-.08*	.006	-.12*	.006
<b>School Characteristics</b>						
Private			.17*	.006	.14*	.008
Size (x 100)			-.03*	.0005	-.04*	.005
Urban			.31*	.005	.35*	.005
Suburban			.20*	.005	.30*	.005
Secondary Level			-.30*	.007	-.33*	.008
Elementary Level			-.21*	.007	-.27*	.008
<b>Organizational Conditions</b>						
Advanced Salary (x 1,000)					-.01*	.003
Administrative Support					-.10*	.005
Student Conflict					.19*	.006
Faculty Influence					-.20*	.004
-2 Log Likelihood	2,199,031		2,089,362		1,875,826	
N		6733		6379		5643

\* p < .05

(Unstandardized coefficients displayed)

The question of particular interest here is: are the organizational conditions of schools associated with turnover after controlling for the characteristics of teachers and schools? Model 3 of Table 2 adds the four measures of school organizational conditions to address this question. All are associated with turnover, after controlling for the characteristics of teachers and schools. Teachers in schools with higher salaries are less likely to depart, as are teachers in schools which provide more support from administrators. In schools where teachers report higher levels of decision-making influence and autonomy, turnover rates are distinctly lower. A one unit increase in reported teacher influence in schools (on a 6 unit scale) is associated with a 18 percent decrease in the odds of a teacher departing. Finally, higher reported levels of student discipline problems are associated with higher levels of turnover. For example, a one unit increase in reported student discipline problems in schools (on a 4 unit scale) is associated with a 21 percent increase in the odds of a teacher departing. As with model 2, the introduction of these new variables reduces the model likelihood statistic by a statistically significant amount, but their introduction does not, for the most part, alter the effects of the teacher and school predictors. One notable exception is the coefficient for math/science teachers; once organizational conditions are introduced, this effect becomes very insignificant.

Table 3 presents separate models of turnover for public and private schools. It examines in more detail what accounts for differences in turnover within each school sector and to what extent the association of these variables with turnover differs across sectors.<sup>15</sup>

Among public schools, teachers in high-poverty schools have higher rates of turnover than do those in more affluent public schools, but this relationship is not strong.<sup>16</sup> Teachers in both suburban and urban public schools are slightly more likely to turnover than those in rural public schools. School size and school district size are both inversely related to turnover in public schools.

The affiliation or orientation of private schools is associated with turnover; both Catholic and other religious private schools have more turnover than do non-sectarian private schools. Moreover, the effects of several of the predictors differ between sectors. In private schools, math and science teachers are less likely to turnover than other teachers, but the effect is insignificant in public schools. In private schools, male teachers and minority teachers are both more likely to depart; in public schools the opposite is true. Teachers in private secondary schools are slightly more likely to turnover than those in either elementary or combined schools; whereas in the public sector, teachers in both elementary and secondary schools are less likely to turnover than those in combined schools. In contrast to the public sector, teachers in private suburban schools are slightly less prone to turnover than are those in rural private schools. Notably for the focus of this analysis, the effects of all four organizational conditions are significant and in the expected direction in both sectors.

I also estimated the same overall model for movers and leavers separately (not shown here) to explore differences in the predictors of each. The data indicate that there are only a few differences. For

**Table 3: Logistic Regression Analysis of the Likelihood of Teacher Turnover**

	Public Schools		Private Schools	
	(b)	(se)	(b)	(se)
Intercept	-9	.032	1.93	.08
<b>Teacher Characteristics</b>				
Young	1.05*	.006	.66*	.014
Old	1.00*	.006	.11*	.02
Math/Science	-.04	.007	-.07*	.02
Special Educ.	.27*	.006	.69*	.04
Male	-.08*	.005	.05*	.01
Minority	-.20*	.006	.33*	.02
<b>School Characteristics</b>				
Size (x 100)	-.03*	.001	-.20*	.003
Urban	.29*	.006	.23*	.015
Suburban	.34*	.006	-.22*	.016
Secondary Level	-.38*	.01	.27*	.020
Elementary Level	-.35*	.01	-.24*	.017
Public District Size (x 10,000)	-.002*	.0002	—	—
Poverty Enrollment	.004*	.0001	—	—
Catholic Private	—	—	.13*	.02
Other Religious Private	—	—	.17*	.02
<b>Organizational Conditions</b>				
Advanced Salary (x 1,000)	-.01*	.0003	-.02*	.001
Administrative Support	-.12*	.006	-.08*	.013
Student Conflict	.10*	.007	.05*	.02
Faculty Influence	-.16*	.005	-.52*	.011
-2 Log Likelihood	1,636,637		213,604	
N	4219		1404	

\* p &lt; .05

(Unstandardized coefficients displayed)

instance, private school teachers are more likely to leave teaching altogether, but less likely to move to other schools, than are public school teachers. Notably, although both special education and math/science teachers are more likely to migrate than other kinds of teachers, both are less likely to leave their jobs than other teachers, once other factors are controlled. But overall, the models indicate that the kinds of teachers who are more likely to move from their teaching jobs are also more likely to leave their jobs. Likewise, school and organizational conditions associated with higher rates of teacher migration are similarly associated with higher rates of teacher attrition.

## Reasons for Turnover

The analysis thus far has established the magnitude of teacher turnover and its association with school and organizational characteristics, after controlling for the characteristics of teachers. The next stage of this analysis presents a more in-depth look at the reasons behind teacher turnover and their variation among different types of schools. However, rather than present data on a wide range of school comparisons, this section focuses on two particular types of schools—high-poverty, urban public schools and small private schools. These two types of schools are often considered to be widely divergent organizationally (e.g., Bryk et al., 1990), and the results of the preceding analysis show that their rates of turnover also diverge. This section more closely examines the reasons for both migration and attrition in these schools.

The top of Table 4 presents data on the rates of and reported reasons for both teacher migration and attrition for all schools, for high-poverty, urban public schools, and for small private schools. In addition, for all teachers who departed because of job dissatisfaction, the bottom portion of the table presents data on the reported reasons for their dissatisfaction.<sup>17</sup>

The overall turnover rate is 13.2 percent. The rate of teacher turnover in high-poverty, urban public schools is slightly above average (14.4%) and the rate in small private schools is significantly higher (22.8%). This rate gap between high-poverty, urban public and small private schools is almost entirely due to differing levels of attrition rather than migration. The migration rate for teachers in high-poverty, urban public schools, like that for all teachers, is only slightly different from that of teachers in small private schools (8.7% compared to 7.8%). However, teachers in small private schools leave the teaching occupation at a rate over double that of teachers in high-poverty, urban public schools (15% compared to 5.7%).

Among the least prominent reasons for turnover is retirement. The latter actually accounts for less than a third of attrition (27%) and only a small part (12%) of total turnover (by definition, migration excludes retirement). Retirement also does not account for the relatively high rates of attrition in small private schools. Indeed, high-poverty, urban public schools have far higher levels of retirement turnover than do small private schools (32% compared to 8%).

School staffing cutbacks due to lay-offs, school closings, and reorganizations account for a larger proportion of turnover (41% of migration and 12% of attrition) than does retirement. Moreover, this kind of turnover provides some explanation for the high rates of attrition in small private schools. More than twice as much attrition in private schools is reported as due to staffing actions as is reported in high-poverty, urban public schools. Some of this difference may be a result of private school administrators laying off low-performing staff—a capability held to be less available to public school administrators (Chubb & Moe, 1990). However, the data also show that, overall, staffing actions account for only a small portion of attrition in either type of school (5% and 13%). Staffing actions more often result in migration to other teaching jobs rather than leaving the teaching occupation altogether, and

these cross-school movements are more common in high-poverty, urban public schools than in small private schools (34% compared to 22%). The former's higher rates of school staffing migration are most likely a result of within-school district transfers, a type of flow rarely found in private school systems.

Personal reasons, such as departures for pregnancy, child rearing, health problems and family moves, are more often reported as reasons for more turnover than either retirement or staffing actions (33 percent of migration and 45 percent of attrition). Moreover, this kind of turnover also provides some explanation for the high rates of attrition in small private schools. Teachers in small private schools are slightly more likely to depart for personal reasons than are those in high-poverty, urban public schools (51% compared to 41%), but the data also show these motives are common to all schools.

**Table 4: Percent Teacher Turnover and Percent Teachers Reporting Various Reasons for their Turnover, by School Type**

	All Schools		High-poverty, Urban Public Schools		Small Private Schools	
	Movers	Leavers	Movers	Leavers	Movers	Leavers
<b>Rates of Turnover</b>	7.2	6	8.7	5.7	7.8	15
<b>Reasons for Turnover</b>						
Retirement	—	27	—	32	—	8
School Staffing Action	41	12	34	5	22	13
Personal	33	45	40	41	42	51
To Pursue other Job	25	24	28	28	27	31
Dissatisfaction	27	25	29	19	56	23
<b>Reasons for Dissatisfaction</b>						
Inadequate Administrative Support	38	30	25	18	25	34
Poor Salary	47	45	24	46	79	73
Student Discipline Problems	18	30	29	27	3	12
Lack of Faculty Influence & Autonomy	13	18	26	11	12	9
Lack of Student Motivation	10	38	27	50	3	14
Class Sizes too Large	6	13	8	7	5	13
Inadequate Time to Prepare	10	23	8	8	4	18
Unsafe Environment	11	2	10	26	1	0
Poor Opportunity for Professional Advancement	9	10	5	24	15	9
Lack of Community Support	12	5	11	0	2	1
Interference in Teaching	5	5	12	1	8	4
Lack of Professional Competence of Colleagues	8	4	23	10	5	4
Intrusions on Teaching Time	5	11	7	7	2	1

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Finally, two reasons directly related to the organizational and occupational conditions of teaching are, together, the most prominent source of turnover. Forty-two percent of all departures report as a reason either job dissatisfaction or the desire to pursue a better job, another career, or to improve career opportunities in or out of education. Consistent with the regression analysis, dissatisfaction underlying migration is most often listed as due to low salaries, lack of support from the school administration, student discipline problems, and lack of teacher influence over decision-making. Likewise, dissatisfaction underlying attrition is most often reported as due to low salaries, lack of student motivation, lack of support from the school administration, and student discipline problems.

Similar proportions of teachers in high-poverty, urban public schools and small private schools report departing in order to pursue a better job or other career opportunities, but surprisingly, far more turnover in small private schools is linked to job dissatisfaction than in high-poverty, urban public schools. Why is this so?

For teachers in high-poverty, urban public schools, the reasons given for the dissatisfaction underlying their turnover are not surprising. Of those who depart because of job dissatisfaction, a quarter or more report each of the following five reasons: student discipline problems, lack of student motivation, a lack of support from the administration, low salaries, and lack of influence over decision-making. However, several factors stand out as not serious enough to lead to much turnover in high-poverty, urban public schools: large class sizes, intrusions on classroom time, lack of planning time, lack of community support, and interference with teaching.

In contrast, although a larger portion of those departing small private schools indicated they do so because of job dissatisfaction, the major reasons for their dissatisfaction are fewer in number. Most prominent is salary. About three quarters of those departing small private schools because of job dissatisfaction report poor salaries as a reason. Low salaries are not the only reason given for the relatively high levels of dissatisfaction-related turnover in small private schools, however. About one third of the dissatisfied indicate that a lack of support from the school's administration led to their departure.

In sum, the data indicate that teachers depart their jobs for a variety of reasons. Retirement accounts for a relatively small number of departures, a moderate number of departures are due to school staffing actions, a larger proportion of teachers indicate they depart for personal reasons, and an even larger proportion report they depart either because they are dissatisfied with their jobs or in order to seek better jobs or other career opportunities.

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## DISCUSSION AND IMPLICATIONS

The objective of this study is two-fold: to first establish the role of teacher turnover in the staffing problems of schools and then to closely examine the role of school organizational characteristics and conditions in teacher turnover. As reviewed earlier, there are two bodies of theory and research that this study of teacher turnover addresses—theory and research on teacher shortages, turnover and school staffing problems, and theory and research on school organization and effectiveness. Below, I discuss the implications of my results for these literatures.

### **Teacher Turnover, Teacher Shortages, and the Organization of Schools**

Since the early, 1980s, educational theory has predicted that shortfalls of teachers resulting primarily from two converging demographic trends—increasing student enrollments and increasing teacher retirements—will lead to problems staffing schools with qualified teachers and, in turn, lower educational performance (e.g., National Commission on Excellence in Education, 1983). Concern over shortages has given the impetus for empirical analysis, much of it focused on teacher turnover (e.g., Grissmer & Kirby, 1987, 1992, 1997; Heyns, 1988; Murnane, 1981, 1987; Murnane, Singer, & Willett, 1988).

This analysis attempts to build on these bodies of theory or research by adding a previously under-emphasized perspective. My theoretical perspective, drawn from the sociology of work and organizations, is that teacher turnover and, in turn, school staffing problems cannot be fully understood without “putting the organization back” into the analysis. From this perspective, fully understanding turnover requires examining the social organization of the schools in which turnover and staffing problems are embedded and examining turnover at the level of the organization.

The data show that teacher turnover is a significant phenomenon and a dominant factor driving demand for new teachers and, in turn, creating school staffing problems. While it is true that student enrollments are increasing, the demand for new teachers is primarily due to teachers moving from or leaving their jobs at relatively high rates. Consistent with prior empirical research (e.g., Bobbitt et al., 1994; Hafner & Owings, 1991; Grissmer & Kirby, 1987, 1992, 1997; Murnane, Singer, & Willett, 1988), the analysis indicates that teacher characteristics such as specialty field and age account for a significant amount of turnover. Teacher retirements, in particular, stand out. But, net of teacher effects, there are also significant effects of school and organizational characteristics on turnover which have largely been overlooked by previous theory and research. The analysis shows that math and science teachers are not more likely to depart than other teachers, once other factors are controlled. Moreover, while it is true that teacher retirements are increasing, the overall amount of turnover accounted for by retirement is relatively minor when compared to that resulting from other causes, such as teacher job dissatisfaction and teachers seeking to pursue better jobs or other careers.

These findings suggest that school staffing problems are not solely due to teacher shortfalls resulting from either increases in student enrollment and increases in teacher retirement, as current theory holds.

In contrast, this analysis suggests that school staffing problems are also a result of a “revolving door”—where large numbers of teachers depart teaching for reasons other than retirement.

These findings have important implications for educational policy.<sup>18</sup> Supply and demand theory holds that where the quantity of teachers demanded is greater than the quantity of teachers supplied, there are two basic policy remedies: increase the quantity supplied or decrease the quantity demanded. As noted in the beginning of this article, teacher recruitment, an example of the former approach, has been and continues to be the dominant approach in addressing school staffing inadequacies (Clinton, 1999; Feistritzer, 1997; Kopp, 1992). However, this analysis suggests that recruitment programs alone will not solve the staffing problems of schools if they do not also address the problem of teacher retention. In short, this analysis suggests that recruiting more teachers will not solve staffing inadequacies if large numbers of such teachers then prematurely leave.

From the perspective of this analysis, schools are not simply victims of inexorable trends, and there is a significant role for the management of schools in both the genesis and solution of school staffing problems. Rather than increase the quantity of teacher supply, an alternative solution to school staffing problems, implied by this analysis, is to decrease the demand for new teachers by decreasing turnover. The data suggest that improvements in organizational characteristics, such as increased support from the school administration, increased salaries, reduction of student discipline problems, and enhanced faculty input into school decision-making, would all contribute to lower rates of turnover, thus diminish school staffing problems, and ultimately aid the performance of schools.

## **Teacher Turnover, School Organization, and School Effectiveness**

The results of this analysis also have implications for a second area of education research and policy—the issue of school organization and effectiveness.

Sociological research on schools has long held that the presence of a sense of social solidarity and social integration among families, teachers, and students is important for the success of schools (e.g., Coleman & Hoffer, 1987; Durkheim, 1925/1961; Grant, 1988; Kirst, 1989; Waller, 1932). In general, large public schools, especially those serving urban, high-poverty communities, are often cited as less likely to have a coherent mission and sense of community, and small private schools are often cited as more likely to have a coherent mission and sense of community (e.g., Bryk et al., 1990). If one accepts the principle, drawn from the sociology of work and organizations, that high levels of teacher turnover can be an indication of underlying problems in how well schools function as cohesive organizations, the results of my analysis raise serious questions for this literature on which kinds of schools are most likely to have a positive community.

The data show that neither larger schools, nor public schools in large school districts, nor urban schools, nor high-poverty public schools have especially high rates of teacher turnover. In contrast, small private schools stand out for their relatively high rates of turnover. They lose, on average, almost

one quarter of their faculty each year, most of whom are full-time employees. In such cases, ostensibly, an entire staff could change within a school in only a short number of years. Moreover, previous research has shown that private school teachers are far more likely to switch to public school jobs than public school teachers are to switch to private school jobs. Indeed, almost half of those who migrate from private school teaching jobs to other teaching jobs move to public schools (Ingersoll, 1995a). In addition, high levels of teacher turnover in small private schools are puzzling not only because these are the very schools that presumably are most likely to have a sense of tight-knit community, but because teachers in these schools consistently report higher levels of job satisfaction and more positive school climates than do teachers in other kinds of schools (e.g., Ingersoll, 1997a; Reyes, 1991).

What accounts for these findings?

This analysis indicates that one reason for high rates of turnover in small private schools is teacher compensation. Salaries in small private schools are relatively low. For example, the SASS data indicate that in 1993-94, the average starting salary for a teacher with a bachelor's degree and no experience in a small private school was about \$16,000, and the average maximum salary (the highest offered by the school to any teacher) was about \$28,000. In contrast, in the same year, the average starting salary for a teacher with a bachelor's degree and no experience in public schools was about \$22,000, and the average maximum salary was about \$40,500. These figures suggest that, despite high levels of job satisfaction, some teachers in small private schools depart because they cannot afford to remain.

The data in Table 4 also indicate, however, that low salaries are not the only reason for the high level of turnover in small private schools. Significant numbers of those who depart their jobs in these schools report they are dissatisfied with the administration of their school. What explains these surprisingly high levels of dissension between teachers and administrators in small private schools?

Below I offer an explanation as a hypothesis for further empirical investigation. This hypothesis is drawn from my research on the organizational and occupational conditions in schools and also from my own experiences as a former high school teacher in both public and private schools.<sup>19</sup> High levels of teacher turnover in small private schools may, paradoxically, be caused by a coherent mission, clearly defined values, and a tight-knit sense of community.

Numerous analysts have pointed out the negative consequences of the impersonal, alienated, "shopping mall," organizational climate often found in large public schools (e.g., Bryk, et al., 1990). Another characteristic often found in this kind of organization, however, is diversity. Organizations without a coherent mission, clearly defined values, and a tight-knit sense of community may, intentionally or unintentionally, allow more choice and be more tolerant of differences. From the viewpoint of teachers, larger public schools lacking such coherence and community may provide more academic freedom and more career options. To use Hirschman's (1970) framework, those who disagree with the policies of an organization face three basic options: exit, voice or loyalty. For teachers who disagree with school policies, large public schools may be more likely to provide options, other than

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either conformity to existing policies or exit from the job. Moreover, simply by virtue of their size, large schools and large school systems may also offer more job and mobility opportunities for teachers either within the school or within the district.

In contrast, a coherent mission, clearly defined values, and a tight-knit sense of community may be a source of strength and success in small and religious private schools, as argued by Coleman and Hoffer (1987), but may also be a source of conflict. Emphasizing one set of goals, values, policies, and programs, by definition, results in de-emphasizing others. From the viewpoint of teachers, key questions are these: Whose policies are emphasized by the school? What options and choices are available for those who disagree with the dominant policies, values, and goals? My hypothesis is that teacher's choices to stay or exit are shaped by the occupational and organizational conditions in schools. For instance, if the school provides mechanisms for the protection of academic freedom and job security, such as tenure, and mechanisms for voicing opposition, such as teacher unions, those who disagree with school policies will be less likely to exit. However, if there are few mechanisms for the collective or individual expression of disagreement with school policies and few protections for those employees who challenge school policies, those who disagree with school policy will be more likely to exit. My hypothesis is that small and religious private schools are less likely to have teacher unions, tenure provisions, formal mechanisms for collective opposition to school policies, or faculty grievance procedures and, as a result, have higher rates of teacher turnover.

This discussion also raises another issue for further research—what impact do high rates of teacher turnover have on schools? My analysis has focused on the effects of school and organizational characteristics on teacher turnover, but the reverse is also an important issue and focus in organizational research (e.g., Price, 1989).

Of course, the departure of individuals who do not share the goals and values of the organization is useful to maintain a coherent mission and sense of purpose. After reaching a certain threshold level, however, turnover may become a source of group disintegration, rather than group integration. At such a point, the negative consequences of turnover for organization stability and coherence would begin to overshadow the positive consequences resulting from the elimination of dissension. It is unclear, of course, where this threshold point is for schools, regardless of size and type. The organizational literature suggests that turnover rates of, for example, almost 25 percent will likely have a negative impact on organizational performance, especially if these are organizations, such as schools, for which coherence and continuity are deemed important for effectiveness (e.g., Mobley, 1982). Further research is necessary to address the impact of teacher turnover on school performance and school community. Research needs to address questions regarding how well schools are able to cope with a recurring loss of staff and a recurring need to rehire; what continual turnover means for the ability of the teaching staff to establish teamwork and continuity of curricula and programs; and how the loss of teachers affects ties to parents, students, and the community.

## ENDNOTES

- 1 An important exception to this general trend is the recent work of Boe et al. (1998), which presents an unusually thorough look at the effects of a range of factors on teacher turnover.
- 2 Steers and Momday calculated that, by 1981, well over 1,000 studies of employee turnover had been done.
- 3 For details on the TFS, see Bobbitt et al., 1994.
- 4 The 1990-91 SASS did not collect data on poverty levels in private schools.
- 5 The analyses' measures of student discipline problems, faculty influence, and administrative support are all school means of the reports of the total SASS teacher sample for each school and are not limited to the reports of those in the smaller TFS sample. Hence, these measures of school organizational conditions are somewhat independent of the TFS respondents. The use of employees' perceptions to construct measures of organizational conditions is standard practice in research on school organization and research on organizations in general, but questions of validity and reliability often arise. Elsewhere I address in detail these questions and the measures' strengths and limitations. See Ingersoll, 1996a and 1997a.
- 6 This is an important distinction and it should also be noted that the measure of teacher salary utilized in this analysis is unusual. Teacher salary levels are often standardized according to a uniform salary schedule, based on the education levels and years of experience of the teachers. Especially with an aging teaching workforce, it can be unclear if differences in average salary levels are due to real differences in the compensation offered to comparable teachers at different schools or are due to differences in the experience and education levels of the teachers employed. That is, a school with older teachers may appear to offer better salaries, when, in fact, they do not. A more effective method of comparison across schools is to compare the normal salaries paid by schools to teachers at common points in their careers. This analysis examines data on the normal base year teacher salary for those with 20 years of experience and a masters degree. This measure represents the financial rewards teachers can look forward to at an advanced point in their careers if they stay in their particular schools and which could effect their decisions to depart or stay.
- 7 This limitation applies to HLM, MLn, BUGS, VARCL, SAS' PROC MIXED/GLMMIX, MIXREG, BMDP, Mplus, and SABRE.
- 8 The Bureau of National Affairs, a leading research and information service for both business and non-business organizations, has gathered data on employee turnover for over two decades through quarterly surveys of human resource and employee relations executives. Its 1997 4th quarter survey, for example, included 230 respondents representing about 300,000 employees from a wide range of organizations. The latter vary in size from those employing less than a hundred to those employing thousands and include both manufacturing, non-manufacturing, finance and health care establishments. Perhaps the best, albeit now dated, source of comparative data on occupational turnover rates is chapter 4 of Price's seminal 1977 study on employee turnover.

- 9 The data on school hiring difficulties were from the 1993-94 SASS school questionnaire that asked school officials "how difficult or easy it was to fill the vacancies for this school year" in each of 14 fields. I counted as having "difficulty filling teaching vacancies" all those schools reporting either: "somewhat difficult," "very difficult," or "could not fill." The results were very similar to those obtained from similar items in both the 1987-88 and 1990-91 SASS data. The extent to which a school has hiring difficulties is perhaps one of the best indicators of staffing problems. However, it is, of course, not the only indicator of these problems. Elsewhere I examine in detail another indicator of school staffing problems—the extent of under-qualified teachers in classrooms. See Ingersoll, 1999.
- 10 In keeping with my organizational-level perspective, the data in Table 1 are calculated at the level of the school. Hence "hires" and "departures" refer to those newly entering or departing a particular school. "New entrants" refers to those who did not teach the prior year, but some new entrants did teach in the past. Reassignments within a school are not defined as hires or as departures.
- 11 Elsewhere I analyze in more detail the dynamic nature of teacher turnover and present data showing the number, type and magnitude of the flows of teachers into, through, and out of schools. See Ingersoll, 1995a.
- 12 Using a one-way random effects ANOVA model, the data show that the variance component within states was 44 times the size of the variance component between states. Intraclass correlation = .022.
- 13 In figure 2, large schools are defined as those with 600 or more students; small schools are those with fewer than 300 students. High-poverty refers to schools with a poverty enrollment of 50% or more; low-poverty refers to schools with a poverty enrollment below 15%. Middle categories of size and poverty are omitted in the figure.
- 14 These school population proportions are estimates derived from SASS.
- 15 Note that because some of the types of predictors used in the public and private models differ, Table 3 does not, of course, represent an exact comparison of sectoral differences of the predictors' effects.
- 16 Besides public schools in low-income and high-poverty communities, many have also argued that predominantly minority public schools also have very high levels of teacher turnover (e.g., Rosenholtz, 1985; Kozol, 1991). Because a school's poverty enrollment is very highly inter-correlated with its minority enrollment, I tested the effect of the latter factor on turnover in a separate model, not shown here. Like percent poverty enrollment, the relationship between percent minority enrollment and turnover was statistically significant, but not strong.
- 17 Note that the column segments displaying percent reporting various reasons for turnover each add up to more than 100 percent, because respondents could indicate up to three reasons for their departures. The same applies to the columns displaying reasons for dissatisfaction.
- 18 For a fuller discussion of the policy implications of this research, see Ingersoll, 1998.
- 19 For reports of my research on differences in the organization and occupational conditions of school, see Ingersoll, 1993, 1994, 1996a.

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