

**The Attributes and Career Paths of Principals:  
Implications for Improving Policy**

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# **The Attributes and Career Paths of Principals: Implications for Improving Policy**

## **Executive Summary**

Most observers believe that school leadership is crucial to realizing the high expectations for student achievement that have been put in place in most states and school districts over the last several years. There is a growing consensus regarding the attributes of effective school leaders. However, many of these attributes are difficult to clearly define and more difficult to objectively measure. Thus, despite a great deal of conventional wisdom and folklore about school leadership, little is actually known.

This paper examines the attributes and career paths of New York States principals. We believe a better understanding of the attributes and career paths of principals and how these have changed over time, are the foundation for additional analysis that will inform policies for the recruitment and retention of effective school leaders. We find that many of the commonly held beliefs about principals are supported by a systematic examination of the data. In many of these cases, going beyond a surface description reveals dynamics that are little understood but have important policy implications. In other cases, we find that some widely held beliefs about principals are more myth than fact. These, too, result in implications for policy. The following summarizes our major findings.

## Commonly Held Beliefs

## Findings from Our Analysis

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| <ul style="list-style-type: none"><li>➤ There is a shortage of principals that will grow over the next five years.</li></ul>                   | <ul style="list-style-type: none"><li>➤ In fact, up to 60 percent of current principals may retire over the next five years, and the problem is worse in urban, relative to suburban and rural, schools. Less discussed has been the fact that some portion of this “shortage” has resulted from the hiring practices of districts over the last 10 years. A fact not widely recognized</li><li>➤ However, the number of individuals under the age of 45 and certified to be principals exceeds the number of principalships by more than 50 percent.</li></ul>            |
| <ul style="list-style-type: none"><li>➤ Lower performing schools have less qualified leaders</li></ul>   | <ul style="list-style-type: none"><li>➤ Although quality of leadership is difficult to assess, urban schools are much more likely to have less experienced principals and principals who received their bachelors degrees from lower ranked colleges.</li><li>➤ Within New York City, schools where students performed poorly on standardized exams are much more likely to have less experienced principals and principals who received their bachelors degrees from lower ranked colleges. The same pattern is not so evident among other large urban schools.</li></ul> |
| <ul style="list-style-type: none"><li>➤ Paths to the principalship vary across several dimensions.</li></ul>                                   | <ul style="list-style-type: none"><li>➤ The routes to becoming a principal do vary by type of school (e.g., elementary v. high school), urbanicity, and school enrollment size.</li><li>➤ However, although difficult to assess, there is evidence in both urban and suburban districts that more qualified individuals have quicker paths to the principalship than do less qualified individuals.</li></ul>  |
| <ul style="list-style-type: none"><li>➤ Compensation for urban principals is low.</li></ul>  | <ul style="list-style-type: none"><li>➤ Until quite recently this was the case for New York City principals, who received substantially less than their suburban peers. New York City and other urban principals now typically receive somewhat higher salaries than do suburban principals.</li><li>➤ Generally, novice principals receive only slightly higher salaries than do the experienced teachers in their schools.</li><li>➤ It is not clear that these modest premiums compensate for the additional demands placed on many urban principals.</li></ul>         |
| <ul style="list-style-type: none"><li>➤ Large numbers of urban principals are recruited to the suburbs for administrative positions.</li></ul> | <ul style="list-style-type: none"><li>➤ In fact, urban principals are much less likely to take administrative positions in other districts than are suburban principals.</li><li>➤ In addition, urban principals are much more likely to take administrative positions within the same district or leave the New York state public school system than are suburban principals.</li></ul>   |

Finally, the analysis in this paper raises a number of questions for which our descriptive analysis cannot provide answers.

- What induces some individuals to become principals while others remain in teaching or leave the public school system altogether?
- Why does it seem that the least qualified principals end up at schools where students are performing worst?
- Where have the certified leaders who are no longer in the system gone? Private schools? Non-educational occupations?
- To what extent do absolute and relative salaries affect these decisions? How important are working conditions?
- Why aren't more females in leadership positions?
- What can be done to attract and retain high quality individuals into the principalship, especially in low-performing schools?
- Are there hiring strategies that would work better than those used over the last decade?

We are currently pursuing research that will help address these questions from a couple of different perspectives. We are administering a survey to 1200 school principals that explores common practices used in the hiring of teachers, e.g., to what extent is the principal responsible for this decision. This will provide useful information about the ability and common practices employed by principals to shape the most important dimension of a school's learning environment, its workforce. We are beginning a survey of all 4400 individuals who are certified to be principals but who are not currently serving in that position to explore their interest and qualifications to serve as principals. Finally, we are engaged in multivariate analyses of the factors that affect the initial match of principals to schools.

## **The Attributes and Career Paths of Principals: Implications for Improving Policy**

### **1. Introduction**

Policymakers are struggling to address the low academic achievement of many K-12 students and the gaps in achievement between urban, low-income and nonwhite students and their higher income, nonwhite and suburban peers. Concerns regarding low achievement and achievement gaps are not new. However, these issues have taken on more immediacy in an environment with heightened accountability, high stakes testing, and greater access to testing information. These heightened concerns arise at a time when there is substantial turnover of teachers, principals and superintendents. Further compounding the problem is the perception that school leadership has become more difficult. The principal is viewed not only as the building curricular expert but as the individual charged with leading and managing the internal operations of the school and the person who represents the school with a variety of external audiences regarding performance, resources and community relations.

The confluence of these changing demands of the principalship with the retirement demographics of the baby-boom generation gives rise to the perception that there is a shortage of qualified school leaders. One symptom of the so-called shortage is the impression that the best leaders are to be found in relatively well off schools and districts with high-performing students, while less qualified leaders are found in urban schools with disproportionate numbers of poor, nonwhite, and low-performing students. The reality is that little is known about the differences between high- and low-needs schools in their ability to attract and retain high quality leadership. Moreover there is little systematic information regarding the career paths, mobility and working conditions of school administrators.

This paper provides information on these issues, employing data from administrative records in New York State that allow us to follow *all* teachers and administrators in the state over the past 30 years. The breadth of the data (all teachers and administrators in all schools) allows analytical flexibility not possible with smaller datasets. The data is richer in its descriptions of school leaders than other administrative datasets used to date, and includes information on the undergraduate and graduate institutions that principals attended, their scores on teacher certification exams, the scores of students in their building on achievement tests, as well as a variety of other socio-demographic information on principals and the teachers and students in their buildings.

As is often the case with exploratory work, our analysis raises as many questions as it answers. For example, we find that:

- Although limited survey and anecdotal reports indicate that many districts report difficulty in finding principals, there are 50 percent more individuals under the age of 45 certified to be principals as there are positions. However, we have only limited information on whether these individuals have an interest in becoming, or would be suitable, principals.
- Principals are substantially sorted across schools such that the least qualified principals are most likely to lead schools where student performance is lowest. We know little about the factors that lead to this sorting.
- Over 85 percent of all principals have been teachers. Principals in urban districts are more likely than their suburban counterparts to have a non-teaching career path.
- Principals exhibit substantial mobility. In recent cohorts, about two-third of new principals leave the school in which they began their careers within six years. Most transfer within district, moving to schools similar to those they leave. We know little about what motivates this mobility.
- Principal salaries have fared poorly over the last decade, both in absolute and relative terms, but the impact of these changes is unclear.

This descriptive work does provide some insights to the behavior of principals, which should be useful in efforts to attract and retain highly qualified principals. Perhaps more importantly, it provides a basis from which to develop more sophisticated analyses of principal behavior. To better understand the descriptive analysis, the following section puts it in the context of previous research.

## **2. Background**

Improving student performance is a major educational policy focus. Moreover, improving student performance in high-needs schools is of particular concern. Even though there is extensive research regarding the effects of school resources on student performance<sup>1</sup>, much of the production function research does not account for leadership. The effective schools literature argues that administrators can play an important role in the success of children in schools. Research on effective schools was grounded in the reform studies, reports, and programs of the 1980's and 1990's. Many of these focus on inefficiency and mediocrity as the primary cause of the "decline of student achievement" (A Nation at Risk, 1983). Zigarelli (1996) examines five prominent literature reviews on effective schools

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<sup>1</sup> For example, Hanushek, 1986, Card and Krueger, 1992, Hanushek, Rivkin, and Taylor, 1996.

research (Edmonds, 1979; Block, 1983; Purkey and Smith, 1983; Downer, 1991; and Coyle and Witcher, 1992), and finds that the effective school variables identified in these reviews collapse into 6 constructs. Three of these constructs are: principal leadership and involvement, employment of teachers (a role often performed by the principal and other school leaders), and school culture (a phenomenon often influenced by the principal and other school leaders). These results, and others like them (Andrews & Sober, 1987; Bossert, Dwyer, Rowan, & Lee, 1982; Hallinger & Murphy, 1986, Eberts and Stone, 1988), lead many to accept that strong principal leadership can improve school effectiveness.

***What is an Effective Leader?*** The general leadership literature argues that leaders must be flexible with regard to their frames of reference and be able and willing to adjust their thinking in response to the needs of different individuals and situations (for example, Schon, 1983; Bolman and Deal, 1997; Collins and Porras, 1999). A similar notion is salient within the school leadership literature. Until the early 1980's, much of the focus was on management alone. During the mid 1980's, the attention shifted toward the need for principals and other school leaders to take a strong and active role in instructional leadership as well as other organizational culture phenomena (for example, Schein, 1985). Since then, many have argued that both good management skills and a strong leadership role are essential for effective leadership and effective schools (for example, Avolio and Bass, 1988). More recently, increased public information on student performance and the associated accountability of the public school system requires school leaders to be adept at creating a vision and plan to guide their school's improvement and to be effective in communicating this vision to school employees and the public (see, for example, Teske and Schneider, 1999).

Formulating an operational definition of an effective principal is much more difficult due, in large part, to the multifaceted role of the principal and the lack of relevant, objective measures. Previous research has shown that the differing perspectives of school board members, parents, teachers, students, and principals themselves lead to very different conceptualizations of what makes an effective principal (Larsen, 1987; Larsen & Harty, 1987; Gantner, Daresh, Dunlap, & Newsom, 1999; Scott et al., 1990).

Despite these difficulties, researchers have identified attributes that characterize effective principals (Terry, 1999; Fowler, 1991; Research for Better Schools, 1987; Pantili, 1991; Scannell 1988; Willis and Bartell, 1990; Smith & Piele, 1997; Teske and Scheider, 1999). While differences remain, there are remarkable similarities. These lists typically include four basic qualities:

- Competence (e.g., basic ability)
- Vision (e.g., creation of both short and long term goals)
- Perseverance/experience and
- An ability to create an effective school organizational culture (e.g., hiring and development of teachers).

In addition, much of the recent research argues that principals need to be given a substantial autonomy in order to be successful. At the same time, greater accountability, usually in the form of student performance standards is also called for. Thus, any policies intended to help attract and retain effective principals must focus on incentives designed to attract and retain individuals with these qualities, as well as incentives to provide a working environment with high levels of autonomy and accountability.

***How Can We Attract and Retain Effective Leaders?*** Even if we are able to articulate those qualities important for effective leadership, two problems remain. First, identifying individuals having these qualities is difficult, as we often do not have good measures of these attributes. Second, once identified, we know little about the efficacy of various policies to attract effective leaders.

There have been very few multivariate studies examining the career choices of school leaders, a notable exception being Ehrenberg, Chaykowski, Ehrenberg (1988). For example, are there typical career paths followed by effective principals and if so, what are they? Which individual characteristics are most often related to effective leadership? In addition, little is known about the factors related to the quality of the applicant pools for school leadership positions. For example, can higher salaries or improved working conditions be used to attract and retain higher quality school leaders? The information that is available is largely based upon survey data and anecdotal evidence (for example, O'Connell, 2001; ERS 1998; Moore, 1999; Adams, 1999; NYCOS, 2001). While often useful in providing insights concerning particular aspects of the jobs of leaders, the data employed in these studies are often limited in geographic or temporal coverage, rarely have sufficient sample sizes to permit generalizations, frequently reflect self-reported, not observed, behavior, and often do not include information on the qualifications of leaders, the attributes of their jobs, e.g., salaries, or the attributes of the schools and districts in which they work.

Although there have been very few studies examining the career choices of school administrators, these choices are related to career choices made by teachers, of which there



is an increasingly large literature. Moreover, because most school administrators, especially principals and superintendents, are former teachers, the two analyses are inherently related.

Using data on New York State teachers, Brewer (1996) tests the hypothesis that later career opportunities affect teacher-quit decisions by examining the relationship between teaching and school administration. Evidence is found that male teachers are sensitive to expected administrative rewards when making quit decisions. However, the data used in Brewer (1996) has no independent measure of individual ability. This prevents the identification of any possible relationship between teacher-administrator moves and the quality of teachers and administrators. Namely, do more highly qualified or less qualified teachers move into administrative positions? However, the results of the paper suggest that policies that discourage highly qualified teachers from taking administrative positions may lead to a higher probability of them quitting altogether. Because of this, the entire structure of incentives for teachers and administrators must be considered carefully.

Hanushek, Kain, and Rivken (1999) observe the mobility of teachers across schools and districts as well as their exiting from the Texas public schools system altogether. Using information about salaries and student characteristics for both the sending and receiving schools, they analyze the influence of each on mobility and exit. Net salaries adjusted for compensating differentials appear to influence both mobility and exit behavior. However, they find that student characteristics are more important. They also find evidence that teachers prefer certain types of students to others. Except for black teachers, the typical Texas teacher appears to favor high-achieving, non-minority students. Black teachers also favor high-achieving students, but systematically move toward schools with higher concentrations of black students. Many more papers (see, for example, Mont and Reese, 1996; Murnane, Singer & Willett, 1989; Theobald 1990; and Theobald and Gritz, 1996) have shown the importance of school and district attributes as determinants of teacher career decisions. In addition, the career choices of teachers have been shown to differ according to their education (Theobald, 1990), specialty field (Murnane, Singer and Willett, 1989), cohort (Murnane, 1981), and quality (Murnane et. al., 1991). These results would suggest that an analysis of administrator career paths should include various individual as well as school and district characteristics.

**Summary.** Reviewing the literature on school leadership suggests that much remains to be learned about how to recruit effective leaders. Moreover, little descriptive information is available to characterize the demand and supply of principals or their career paths. This

information can be informative and will provide useful insights to the development of behavioral models that would identify policies to recruit qualified leaders, especially in low-performing schools. We now turn to such a descriptive analysis.

### 3. Data and Methodology

New York State faces trends in the demand for high quality school leaders similar to those faced across the United States. More than half of New York's current principals will have retired or reached age 55 within the next five years. Principals now operate within a highly demanding performance and accountability system. New York has instituted high stakes testing for students and schools and school-level student test results are now widely available. New York serves as a good example for examining the principal workforce because of these trends and because of its diverse population and over 4400 schools.

**Data.** Our database links seven administrative datasets and various other information characterizing districts, communities, and local labor markets. It includes information for every teacher and administrator employed in a New York public school at any time from 1970-71 through 1999-2000. The core data comes from the Personnel Master File (PMF), part of the Basic Education Data System of the New York State Education Department. We have linked these annual records through time, yielding detailed data characterizing the career history of each individual. Several other databases that contain a range of information about the qualifications of prospective and current principals, as well as the environments in which these individuals make career decisions, substantially enrich this core data.<sup>2</sup>

We employ several imperfect measures to proxy the qualifications of principals: the Barron's ranking of the institutions from which individuals earned bachelors degrees, total experience working in education, experience as a principal, and experience as a principal in the current school.<sup>3</sup> Certainly, these measures are limited in scope. Ideally, we would have direct measures of the four attributes that the literature has identified as skills of effective school leaders. However, the ranking of the institution granting bachelors degree has been shown to be a good proxy for various other measures of qualifications.<sup>4</sup> Furthermore, experience as a principal is often regarded as the single most important indicator of success

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<sup>2</sup> See Appendix B for a detailed description of the administrative datasets that we have linked together for this analysis.

<sup>3</sup> In future work we will also include the qualifications of the teachers hired by the principal and changes in student test scores.

as a principal.<sup>5</sup> Moreover, these measures are better proxies of principal qualifications than those commonly employed in other analyses.

**Analysis.** The education workforce database allows for an extensive descriptive investigation of school leaders. First, we examine the attributes and qualifications of current principals.<sup>6</sup> Employing data characterizing the 12,000 public school principals in New York State over the last thirty years are employed to examine the distribution of principal qualifications across schools. Cross-sectional and time series analyses are employed to examine how individual attributes and qualifications compare among schools and over time.

Next data on the careers of over 600,000 teachers and 125,000 administrators are used to analyze the career choices made by individuals that lead to becoming a principal are analyzed. This descriptive analysis proceeds in three steps. First, using a cross-sectional analysis, we descriptively investigate which individuals chose to become certified and which go on to enter administration. Second, using cross-sectional, time-series, and cohort analyses, we describe the career paths that lead to the principalship. For example, what percentage of principals have spent time as teachers, subject administrators, and vice principals? How long do they typically spend in each position? We examine the extent to which differences in the career paths of principals are associated with differences in the attributes and qualifications of principals and differences in the attributes of schools, districts, and communities. Finally, we examine the mobility of cohorts of new principals to assess movement across job titles, schools and out of the profession.

Next, using cross-sectional and time-series analyses, we explore the salaries of principals and these salaries relative to those of teachers. This analysis explores the commonly held belief that the salaries of principals fair poorly over time and in comparison to experienced teachers.

We conclude with an examination of the perceived impending shortage of principals by examining data on those currently serving as principals within New York State public system as well as data on all others certified, but not currently serving, as principals within the New York public system. Tables in Appendix A provide substantially more detail regarding the general results presented in the figures and tables presented in the text.

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<sup>4</sup> In addition to the Barron's College Guide ranking of each institution we know, the distribution of its math and verbal SAT scores, its admissions and attendance rate. There is remarkable consistency among these measures. See Lankford, Loeb and Wyckoff (2002) for tables that examine these relationships.

<sup>5</sup> See for example, Fullan (2001).

<sup>6</sup> In this analysis we have excluded principals employed by Boards of Cooperative Educational Services (BOCES) a regional provider of educational services.

#### 4. New York's Principal Workforce

***Attributes and qualifications of the principal workforce.*** The qualifications of principals systematically vary across a variety of dimensions that have important implications for recruitment and retention. First, on average, urban school principals are older, have less experience on the job and graduated from lower ranked colleges, as compared to principals from either suburban or rural school districts (Table 1).<sup>7</sup>

Next, low-performing schools as measured by student tests scores on mandatory 4<sup>th</sup> and 8<sup>th</sup> grade exams<sup>8</sup> are much more likely to have principals who are less experienced and attended less competitive colleges (Table 2). Moreover, these discrepancies are exacerbated in New York City, especially in the schools where students perform most poorly on achievement exams (Table 3). In New York City, 5 percent of the principals in schools where none of the students were in the lowest level on the 4<sup>th</sup> grade ELA exam (level 1) are in their first year as a principal (both first year in New York State and in that school). In contrast, 23 percent of the principals of schools where at least 20 percent of the students scored at level 1 of the exam were in their first year as a principal in New York and 35 percent were in their first year in that school. Poorly performing students in New York City are substantially more likely to have inexperienced principals than are better performing students. As noted above, previous research cites experience as an important qualification for the success of school leaders. This raises concerns regarding this finding and questions why retention is not higher in low-performing schools.

While there is no evidence suggesting that females are less qualified than males to be teachers or school leaders (Table A-4), it is noteworthy that female principals are more likely to lead schools with disproportionate numbers of high-need, low-performing students. On average, females are principals in schools having higher percentages of students receiving free lunch, higher percentages of students with limited English proficiency, and lower percentages of white students (Table 4). In addition, their schools have less qualified

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<sup>7</sup> Our measure of undergraduate college quality employs the Barron's College Guide ranking of colleges. We determine whether the individual attended a college that the Barron's Guide ranks as most competitive or highly competitive schools in one category or whether the individual attended a college that is ranked competitive, less competitive, or least-competitive in a second category.

<sup>8</sup> New York's student achievement data for 4<sup>th</sup> and 8<sup>th</sup> grade English Language Arts and Math place each student's test results in one of four performance levels. The school data indicate the number of students in each level. To examine low-performing students we employed the portion of the students tested whose results place them in the lowest performance group, Level 1. Level 1 for 4<sup>th</sup> grade ELA is described by the New York State Education Department as, "These students have serious academic deficiencies. They show no evidence of any proficiency in one or more of the elementary standards and incomplete proficiency in all three standards."

teachers. This results from a compositional effect of who hires female principals and how this has changed over time. New York City has a much higher percentage of female principals than other districts (see table A-6). Since the attributes of New York City's schools differ from those in much of the rest of the state, this results in female principals leading schools with more difficult working conditions. Additionally, principals hired to their first leadership positions in 2000 are much more likely to be female, older, less experienced, and have graduated from lower ranked colleges than principals first hired in 1990 (Table 5). These results suggest that attracting and retaining high-quality school leaders to high-needs, low-performing (urban) schools may be especially problematic with respect to male principals graduating from highly ranked undergraduate institutions. What is not addressed here and is a question for further research is whether the recent pattern of hiring increasing proportions of female principals results because males are less likely to want principalships in hard to staff schools. This explanation would conform to the perception that many have regarding gender inequity.

***The career paths of principals.*** Who becomes a principal and what paths do they follow? Interestingly, individuals who are presently superintendents, assistant superintendents, or principals have, on average, higher qualifications than others certified to be leaders and those employed in public schools but not certified to be leaders (see Table 6).<sup>9</sup> Current school leaders have, on average, far more total experience and are less likely to have graduated from lower ranked colleges than the individuals certified to be leaders but employed in non-leadership positions or other individuals currently employed in New York public schools.<sup>10</sup> It is also interesting to note that current leaders are substantially less likely to be female than either certified non-practicing leaders or other public school professionals.

While the notion that school leaders tend to be graduates from more highly ranked institutions than individuals within the other groups is true statewide, some differences arise when the analysis is done for major regions of New York (see Tables A-7 and A-8, note that the group of individuals not presently employed within the NYS public school system is dropped in these tables). For example, in the New York City MSA, current leaders in New York City and Yonkers are less likely to have graduated from the more competitive colleges

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<sup>9</sup> In this analysis, principals who had become administrators by 1970 were deleted from the analysis to avoid the bias associated with not observing their prior paths.

<sup>10</sup> Here leadership positions are defined to include superintendents, assistant superintendents, and principals.

than those certified, but not in leadership positions or those currently serving as leaders in suburban districts.

To better understand the careers paths taken to the principalship, we identified whether or not current principals had served as classroom teachers as well as whether they had worked as subject administrators or assistant principals, or both. Principals were grouped according to whether they had (1) previously served as a teacher, subject administrator and assistant principal (TSA); (2) previously served as a teacher and assistant principal but not as a subject administrator (TA); (3) previously served as a teacher and subject administrator but not as an assistant principal (TS); (4) previously served as a teacher but not as a subject administrator or an assistant principal; or (5) never taught. These five paths are mutually exclusive and exhaust the pool of principals. However within each path an individual may have held additional job titles, e.g., school psychologist or other non-classroom titles. When additional paths were added separately accounting for these job titles, relatively few principals followed any given path. In short, the paths presented reflect the common steps individuals take in their paths to the principalship.

As shown in Table 7, only eleven percent of current principals have never been classroom teachers within the New York State public system (path 5).<sup>11</sup> The figure is even lower in urban districts. For example, only five percent of New York City principals have no classroom teaching experience in New York State. Among those who have taught (paths 1-4), the median individual spends 10 years teaching before moving on other positions (Table A-10). Twenty six percent of all principals have careers that included positions as teachers, subject administrators and assistant principals (path 1). Another 34 percent worked as assistant principals but not subject administrators (path 2). Of the 60 percent of all principals following paths 1 or 2, almost 80 percent of them were assistant principals immediately prior to becoming a principal for the first time (Table A-11). These traditional paths are much more common in middle and high schools (Table 8) and in schools with larger enrollments (Table 9). Principals who served as subject administrators but not as assistant principals (path 3) make up roughly 13 percent of all principals. This path is more common among elementary school principals (Table 8). Finally, only 16 percent of principals entered that position without first serving as either a subject administrator or assistant principal (Table 7, path 4). This path was much more common among elementary school principals and principals of smaller schools. Almost all of these individuals (12 percent of all principals)

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<sup>11</sup> It may be the case that many of these 11 percent were classroom teachers in private schools or other states prior to coming to New York.

moved directly from a teaching position to a principalship. (Table A-11). Even fewer principals in urban districts did so (e.g., less than 5 percent of the principals in the Big 5 districts).<sup>12</sup>

Even though there is some “backward movements” (e.g., moving from a superintendency position to a principalship), less than 6 percent of the present principals had any prior experience in positions considered to be “higher up the ladder” (see Table A-8) and less than 3 percent held these positions immediately prior to becoming a principal (see Table A-10).

There are some interesting differences across career paths; both with respect the attributes of the individuals and the schools where they serve as principals (Table 10). For example, individuals who served as teachers but not subject administrators or assistant principals became principals at a younger age and are much less likely to have graduated from a less competitive college and are more likely to work in schools with more highly qualified teachers and better performing students. This results, at least in part, in that this path is more likely in small and suburban schools where there are more highly qualified teachers and better performing students. However, this same pattern occurs within urban within urban districts. For example, in New York City and Yonkers, only about 5 percent of the individuals with bachelors degrees from schools ranked not competitive moved directly from teaching to a principalship, as compared to more than 15 percent of the individuals who graduated from schools ranked most or highly competitive (see Table 11). Thus more highly qualified individuals appear to progress to the principalship more quickly.

An analysis of cohorts indicates some remarkable consistency in the prior positions held by first time principals in the 1989-1990 school year relative to those who entered during 1999-2000 (Table 12). There is one notable exception. First time principals in 2000 are far more likely to have some prior experience in other central administration or in the category we have called other building administration, but are less likely to have experience as subject administrators or in special services.<sup>13</sup>

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<sup>12</sup> As noted above, there are other positions that at least some individuals held prior to becoming principals. Table A-9 shows that relatively small percentages of principals have any experience in these other omitted individual categories. Furthermore, those who do tend not to have any experience as a teacher.

<sup>13</sup> Further investigation showed that these individuals have experience in what is labeled “other” within the “other general staff” category of the Assignment Codes for Non-teaching Staff published by the New York State Education Department. We employ other building administration to refer to “other general staff” in the paper. This assignment code originated during the 1970’s and the number of individuals within this assignment grew substantially during the period from 1980 through 2000.

**Career mobility.** What career paths do individuals follow after becoming principals? We are likely to learn much concerning retention by examining these decisions and the circumstances that surround them. We examined this issue by following the cohorts of individuals who became principals for the first time in 1990, 1991 and 1992. Each cohort was followed for six years when we examined what positions they occupied. Thirty-four percent of first-time principals remain in the same school in which they first assumed the principalship six years later (Table 13). However, over 60 percent remain in the same district.<sup>14</sup> Relatively few principals transfer to become principals, or other administrators, in other districts (about 16 percent). Such inter-district transfers are much more likely for non New York City principals than for principals whose first principalship is in New York City (22 percent v. 5 percent). Additionally, New York City principals are 60 percent more likely to have left the New York State system within six years of assuming the principalship, relative to their colleagues outside New York City (28 percent v. 18 percent). This may relate to the observation made earlier that New York City principals are older when they assume their positions. Of those exiting, 77 percent were over the age of 55 (Table A-15). It may also reflect compensation and working conditions.

There is little variation in the mobility of principals grouped by type of school, e.g., elementary, middle, and high school (Table A-14). However, there are some notable exceptions. High school principals are more likely to take administrative positions in different districts within six years of their first principalship than are elementary or middle school principals. Elementary school principals are more likely to remain in the same school. Middle school principals are more likely to have an administrative position in the same district six years later than are either elementary or high school principals. When principals do change schools, most move to a school of the same type (Table A-17).

When principals transfer out of New York City, they move to schools that tend to have higher test scores, teachers with better qualifications, and a lower percentage of students receiving free lunch, as compared to the schools they leave (Tables A-19). This is no surprise given the attributes of schools in New York City. These differences are not apparent when a principal moves to a different school within New York City (Table A-19). However, when principals in New York City take a position in a different school within NYC and remain a principal, they tend to move to schools having smaller enrollments.

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<sup>14</sup> The same analysis was done for a number of other cohorts of first-time principals; the results are substantially similar to those presented.



***The impending “shortage” of school leaders.*** Much has been made of an impending shortage of school leaders. Our analysis suggests that in some respects, the problem may not be as dire as previously suggested. It is true that the age distribution of principals has shifted over the last ten years (see Figure 1), resulting in a substantial aging of the principal workforce. Approximately 60 percent of all principals employed in 2000 are at least 50 years old.<sup>15</sup> Even more striking, more than 65 percent of urban principals are more than 50 years of age (Figure 2).

Note that the peak of the age distribution in Figure 1 has grown over time and the age distribution has become more concentrated around the mode.<sup>16</sup> This suggests that newly hired principals are drawn from an age distribution similar to the aging principal workforce. Figures 3 shows that newly hired principals in 2000 are substantially older than those hired in 1990 or 1995. The modal age of first time principals increases from 43 in 1990 to 53 in 2000. Thus, hiring practices over the last ten years have substantially contributed to the shortage problem being confronted today. For example, 66 percent of newly hired principals in 2000 were at least 50 years old and thus likely within 5 to 10 years of retirement at the time they assumed the principalship. It appears that many districts’ hiring practices have focused on short-term needs rather than seeking a younger workforce that could continue to provide school and district leadership for a longer period of time. These practices inevitably reduce the experience of the principal workforce, one of the four factors shown to contribute to effective leadership.

The extent of the problem that districts will face hiring the large numbers of principals that will be needed in the near future crucially will depend on the relative number of candidates seeking those positions. In this regard it is relevant to note that there are more than 6,700 individuals younger than 45 years of age who are certified to be principals in New York State. As a result, there are 1.5 times as many certified individuals under 45 years of age as there are total principalships in the state (Figure 5). More than 4,700 of these individuals are currently employed within the New York State public school system (Table 14), with almost half of those having at least some administrative experience. Furthermore, most individual regions have as many certified individuals under age 45 as there are total principalships within these regions (the only exception is “Rest of State- Rural” which has

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<sup>15</sup> Based on a survey of non New York City principals conducted in 2000, O’Connell (2001) reports that 60 percent responding principals will be eligible for retirement by 2006, 40 percent plan to retire by then and 60 percent plan to retire by 2008.

<sup>16</sup> In 1990 the middle fifty percent of the age distribution (25<sup>th</sup> percentile to 75<sup>th</sup> percentile) of principals occurred between 44 and 55 years of age. By 2000 the middle fifty percent of the distribution occurred between 48 and 54 years of age.

approximately 720 certified individuals and approximately 790 total principalships). In addition, there are almost 2,000 individuals under the age of 45 and certified to be principals and/or superintendents who are not currently employed within the New York State Public School System (see Table A-21). We know little concerning what these individuals are currently doing and if they could be attracted back into the public school system to assume leadership positions.

Are the individuals certified but not currently serving as principals interested in the principalship? If anecdotal reports of decreased size and quality of applicant pools are accurate and widespread, then why aren't certified individuals interested in the principalship? Are these individuals a good match for the demands of today's leadership positions?<sup>17</sup> More research is needed to better understand the interests and abilities of this group.<sup>18</sup> A better understanding of the relative size of these three groups can help inform policies aimed at recruiting school leaders to the New York State public school system.

**Salaries.** Reports of shortages of school leaders are common. These reports also suggest that the situation will reach crisis proportions in the next few years as large numbers of current leaders retire. The usual symptoms of a shortage include: smaller applicant pools for positions and reduced quality of applicants. These symptoms are first noticeable for positions that are less attractive. In the case of principals, that would mean positions for which working conditions are more difficult (e.g., schools with low-performing and high-need students and poorly qualified teachers) and where compensation is relatively low. As we have described above, there is evidence from our analysis that many urban, high-need, low-performing schools have principals with weaker qualifications than their better performing, lower need counterparts. This is most visibly demonstrated by the high turnover rates at these schools. Yet our analysis suggests that in virtually every region there are as many certified leaders under the age of 45 already working in schools in other positions as there are leadership positions, and in some regions several times as many. Thus, we are left with a bit of a paradox: a relatively large number of individuals certified to be school leaders, but

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<sup>17</sup> We are currently in the process of surveying these individuals to assess their interests in becoming principals and if they are not currently interested why.

<sup>18</sup> It may be that these individuals received administrative certification with no intention of ever using that credential. All teachers within New York State public schools are required to obtain a masters degree to become permanently certified as teachers. Until recently, a masters degree in administration could fulfill this requirement. In addition, teachers reach additional steps on the salary schedule by completing additional hours of education, which could include the credit hours necessary to become certified as principals.

anecdotal reports of a shortage that is supported by our descriptive analysis. There may be several explanations for this discrepancy.

One explanation concerns the compensation that principals receive. Relative to readily available employment alternatives, the compensation of school leaders may not compensate for the extraordinary demands placed on school leaders, with this being most likely in schools where working conditions are most difficult. How are principals compensated? What is the relationship of the principal salaries to the salaries of teachers? How do these vary across schools and over time? This section examines these questions.

An analysis of the real salaries<sup>19</sup> of principals over the last 25 years reveals two important patterns: salaries in the last ten years have been relatively constant in real terms in most regions, and salaries paid to principals in urban schools are typically less than or only slightly greater than the salaries paid to principals working in the surrounding suburbs, settings where working conditions are typically better (see Figures 6 through 11).<sup>20</sup> Both of these findings have important implications for the observation made earlier regarding the shortage of principals. The case of New York City is most telling (Figure 6). Until 1990 real salaries (adjusted for inflation and length of the year) paid to New York City principals mirrored those of their suburban counterparts. In response to the 1990-91 recession and resulting fiscal crisis, real salaries in New York City fell dramatically and remained constant until the 2000.<sup>21</sup> In contrast, salaries in suburban New York City consistently increased over the period, creating an average difference between urban and suburban salaries of about 25 percent in 1999.

Principal salaries in the urban areas of the other major metropolitan areas of in the state are at least as great, and often higher, than their suburban counterparts, with real salaries being relatively constant since the early 1990s.<sup>22</sup> This is in sharp contrast to the dramatic increase in real salaries during the 1980s. Additionally, these comparisons do not account for what many perceive as more difficult working conditions for all principals in recent years resulting from increased pressure for accountability in schools generally, nor do

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<sup>19</sup> We have indexed all salaries to the year 2000 using the Consumer Price Index.

<sup>20</sup> Compensation involves a number of components beyond salary, including workload and benefits. Our data allow us to examine the length of school year, which is one component of workload. Urban principals report work years that are about 1 month shorter than other principals. As a result we adjusted all salaries to reflect a 12-month appointment and report both unadjusted and adjusted salaries. An analysis of the length of the work year between types of school (e.g., elementary and secondary) revealed no systematic differences.

<sup>21</sup> The dramatic increase in real salary paid to principals within NYC schools in 2000 is due to a contract change that included a variety of other provisions, including a 12-month work year. Previously many New York City principals had 10 or 11-month work years.

<sup>22</sup> This pattern is nearly identical to one observed for teachers in these same metropolitan areas, see Lankford, Loeb and Wyckoff (2002).

they account for the differential in working conditions that typically exist between urban and suburban schools, or similar differentials between schools within an urban area.

The salaries of experienced teachers provide another dimension against which to benchmark principal salaries. A common perception is that the salary differential between principals and experienced teachers is not worth the additional hours, job responsibilities, and stress that accompany leadership positions. Again the New York City region provides some insights. From 1985 through 1999 the ratio of salaries paid to principals relative to salaries paid to experienced teachers<sup>23</sup> within New York City declined (see Figure 7). This decline is due to decreases in real salaries paid to principals coupled with increases in real salaries paid to teachers (especially experienced teachers) over this time period. In the suburbs of New York City (Figure 8), the falling ratio largely results from increasing real salaries paid to experienced teachers, which increased far more dramatically than salaries for experienced teachers in New York City. In the remainder of the state, the ratio has remained fairly constant, although this masks districts with increases and others with decreases.

Thus, salaries may be an important piece in the puzzle of recruiting and retaining more highly qualified school leaders, especially in high-needs, low-performing schools. Our analysis indicates that with respect to salary, whether measured in absolute and relative terms, urban principals in New York, especially those in New York City have been at an increasing disadvantage over last decade. These trends may help account for the seeming paradox of reportedly small and weak applicant pools for leadership positions at a time when there are large numbers of individuals certified to be leaders who perform other duties.<sup>24</sup>

## 5. Implications

The descriptive analysis in this paper has led to many interesting findings that should be helpful in policy discussions as state and local policymakers work to increase the quantity and quality of school principals and superintendents. Some of the most interesting results include the following.

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<sup>23</sup> For this analysis, experienced teachers are defined as teachers with 25 years experience and a education beyond a masters degree. The teacher salary data comes from the replication of teacher salary schedules in each district for each year. For details on the method see Lankford and Wyckoff (1997).

<sup>24</sup> Anecdotal reports also suggest that some portion of the certified, non-practicing leaders pursued certification with no intention of becoming leaders, but because associated educational hours offered increased pay in their current positions.

- While there will soon be a large increase in demand for new principals due to retirements, there is a large pool of relatively young individuals certified to be principals who are not currently principals.
- Urban and low-performing schools are more likely to have principals with less experience and who graduate from lower ranked institutions.
- Female principals are more likely to be in urban schools and schools with lower quality teachers.
- Today's principals are more likely to have less experience and to be graduates of lower ranked institutions than were those of a decade ago. They are also more likely to take non-teaching career paths
- There are dramatic differences in the career paths of principals by region and urbanicity as well as across individuals grouped by ranking of bachelors degree institutions attended.
- About two-thirds of new principals leave their first principalship within six years making it very difficult to develop the culture necessary to improve student performance.
- Principal compensation has lagged in absolute and relative terms over the last decade. This was especially true in New York City until 2000.

These findings are descriptive and not causal. For example, we cannot infer from the statistics presented that higher salaries in New York City would necessarily have brought forth more qualified job applicants or necessarily reduced the shortage. Nonetheless, these findings are suggestive. However, they raise as many questions as are answered. For example:

- What induces some individuals to become principals while others remain in teaching or leave the public school system altogether?
- Why does it seem that the least qualified principals end up at schools where student performance is lowest?
- Where have the certified leaders who are no longer in the system gone? Private schools? Non-educational occupations?
- How important are absolute and relative salaries to these decisions? How important are working conditions?
- Why aren't more females in leadership positions? Why are some schools much more successful at attracting female principals?

- What can be done to attract and retain high quality individuals into the principalship, especially in low-performing schools?
- Are there hiring strategies that would work better than those employed over the last decade?

We are currently pursuing research that will help address these questions from a couple of different perspectives. We are currently administering a survey to 1200 school principals that explores common practices used in the hiring of teachers, e.g. to what extent is the principal responsible for this decision. This will provide useful information about the ability and common practices employed by principals to shape the most important dimension of a school's learning environment, its workforce. We are also engaged in multivariate analysis of the factors that affect decisions of some individuals to become principals and their retention in those positions.

## Figures

Figure 1

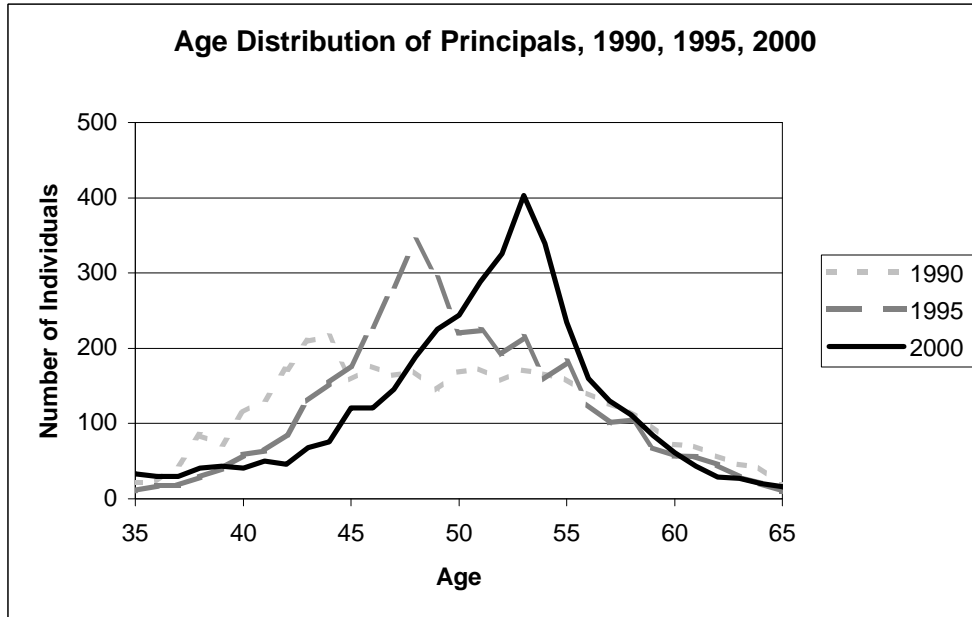


Figure 2

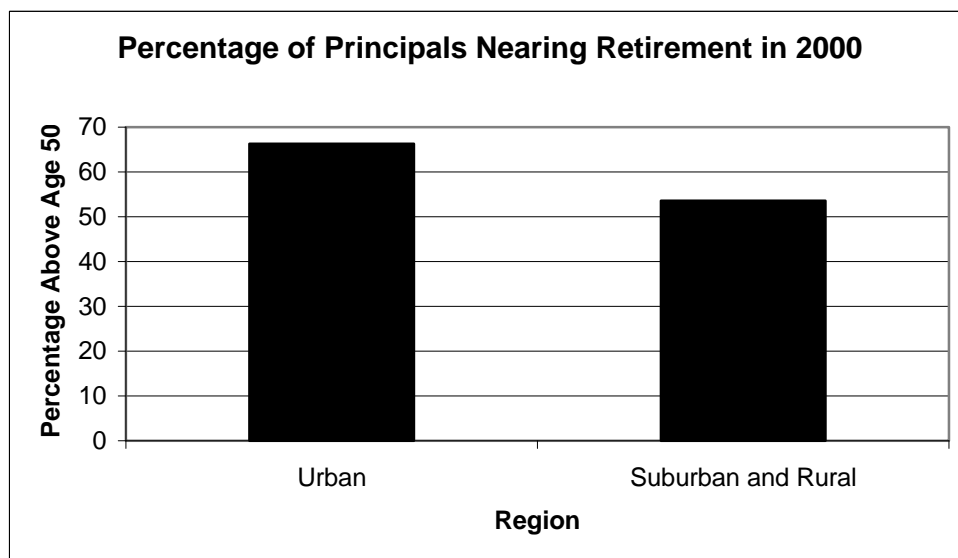


Figure 3

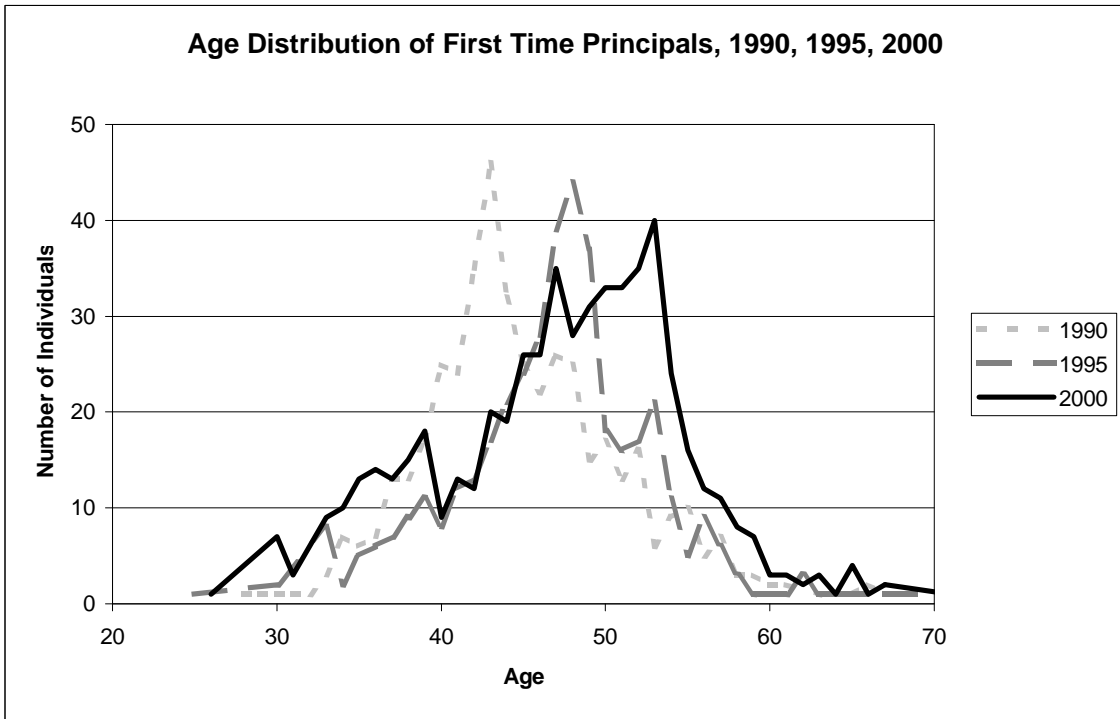
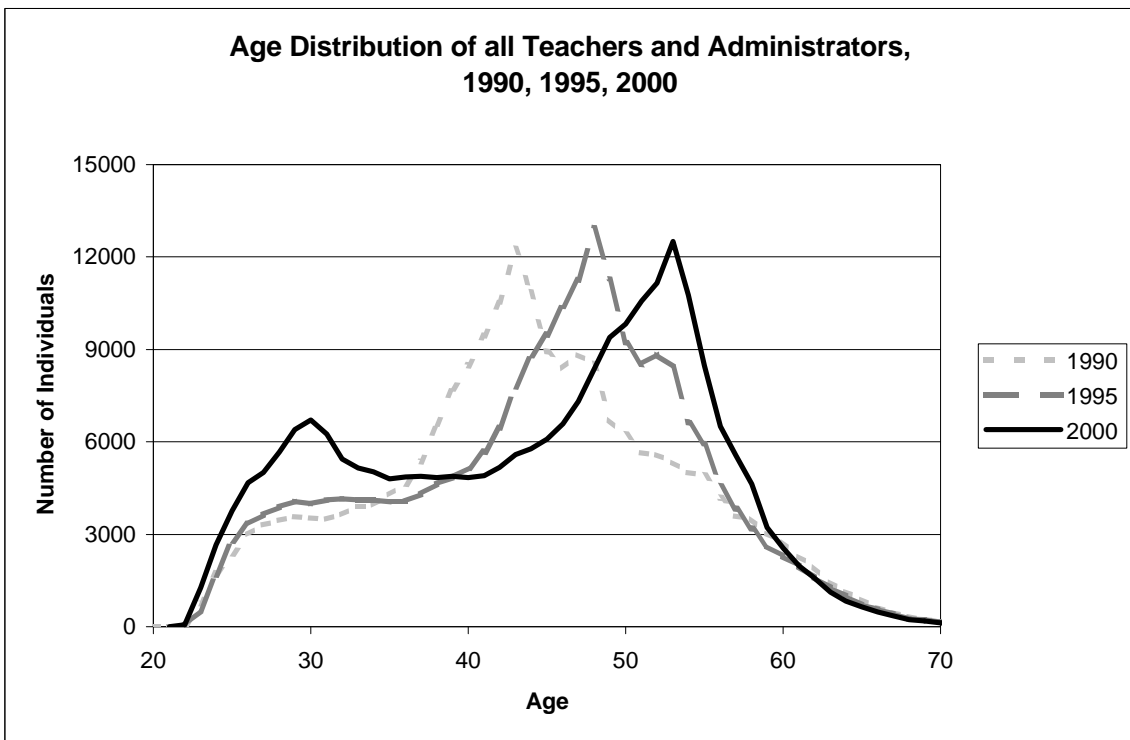
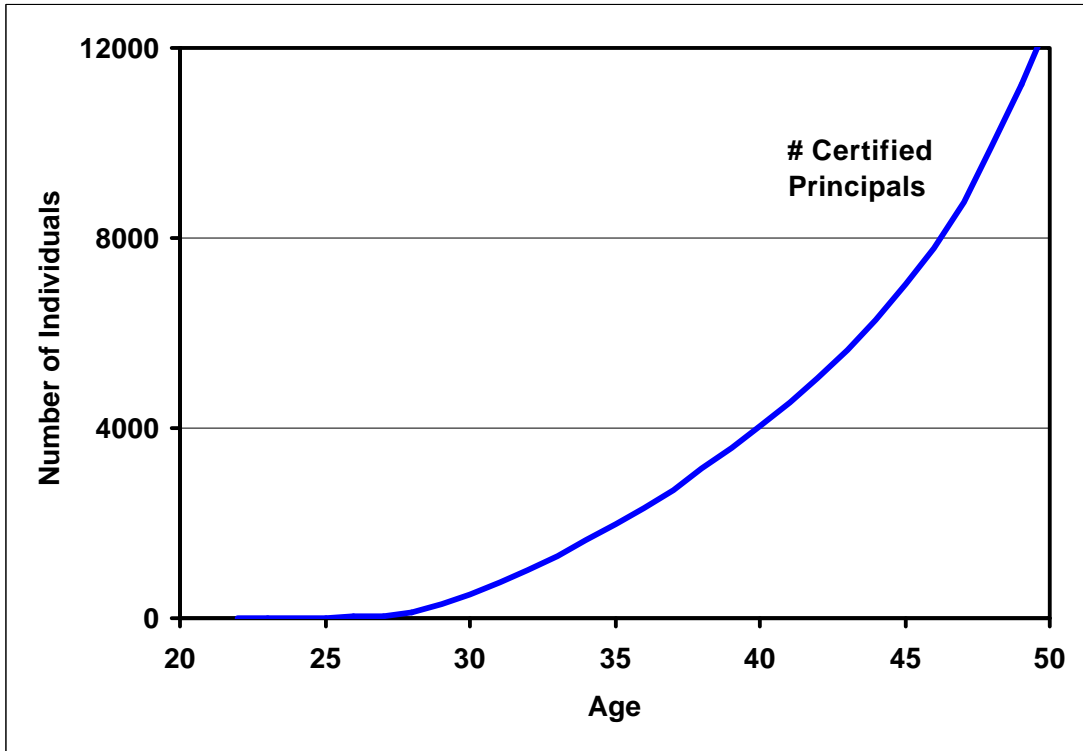


Figure 4

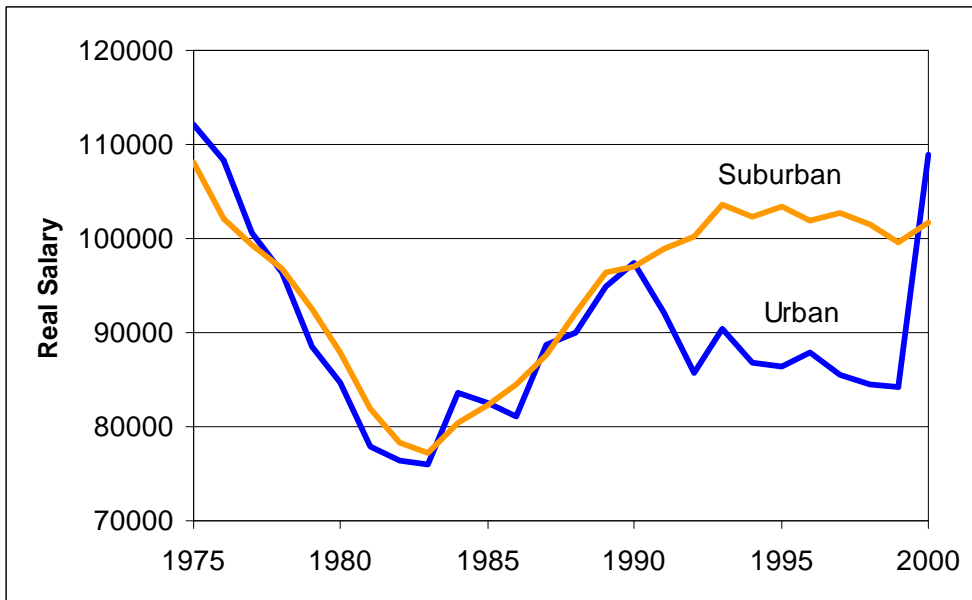




**Figure 5: Cumulative Number of Individuals Certified to be Principals by Age**

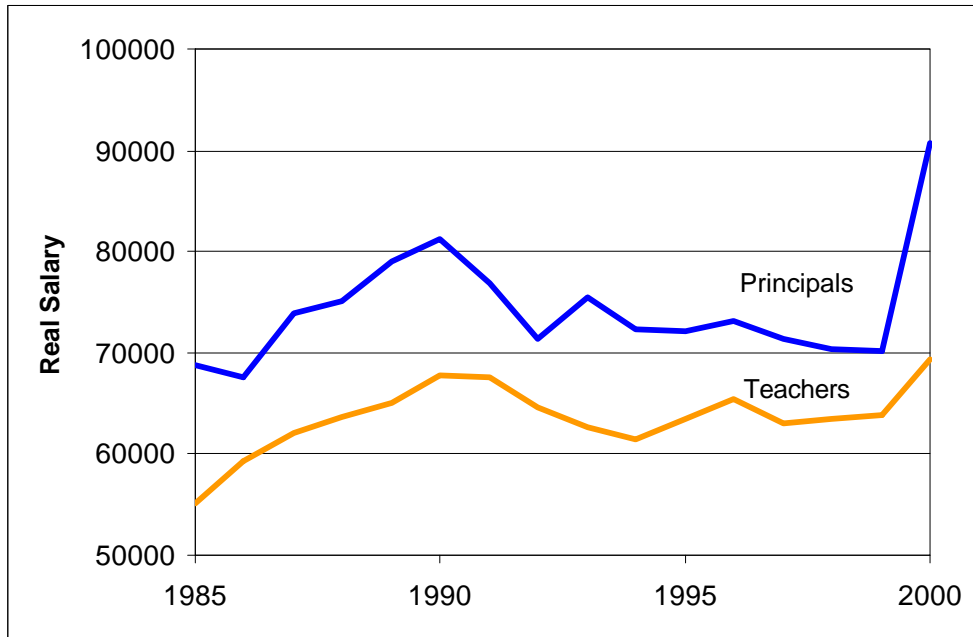


**Figure 6: Real Salaries for Inexperienced\* Urban and Suburban Principals in the New York City Metropolitan Area, 1975-2000**  
(Salaries prorated to 12 months)



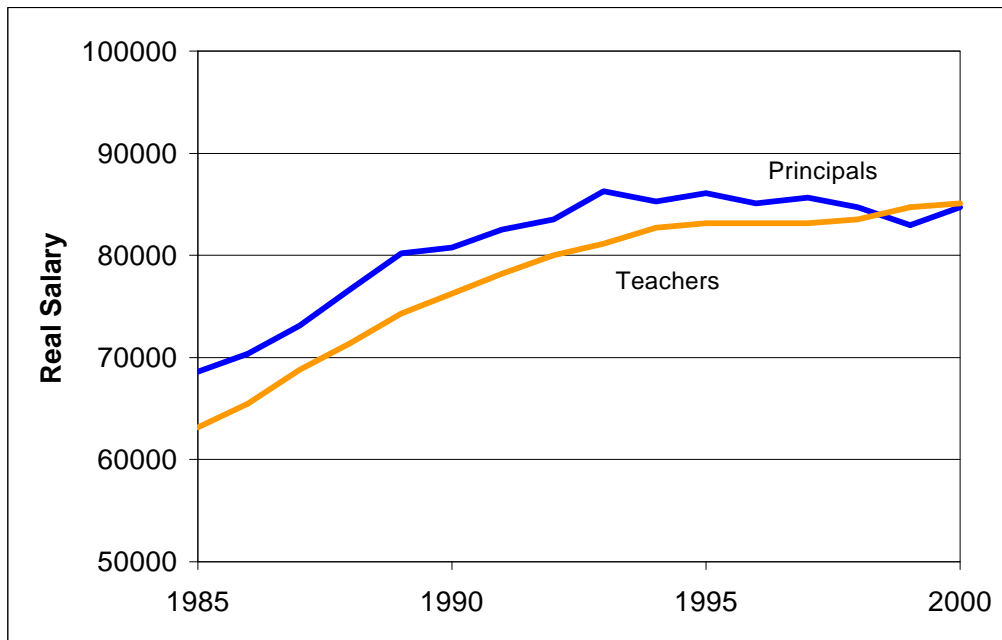
\* Inexperienced is defined as having 1-5 years experience as principal.

**Figure 7: Real Salaries for Inexperienced\* Principals and Veteran\*\* Teachers in New York City Schools, 1985-2000** (Salaries prorated to 10 months)



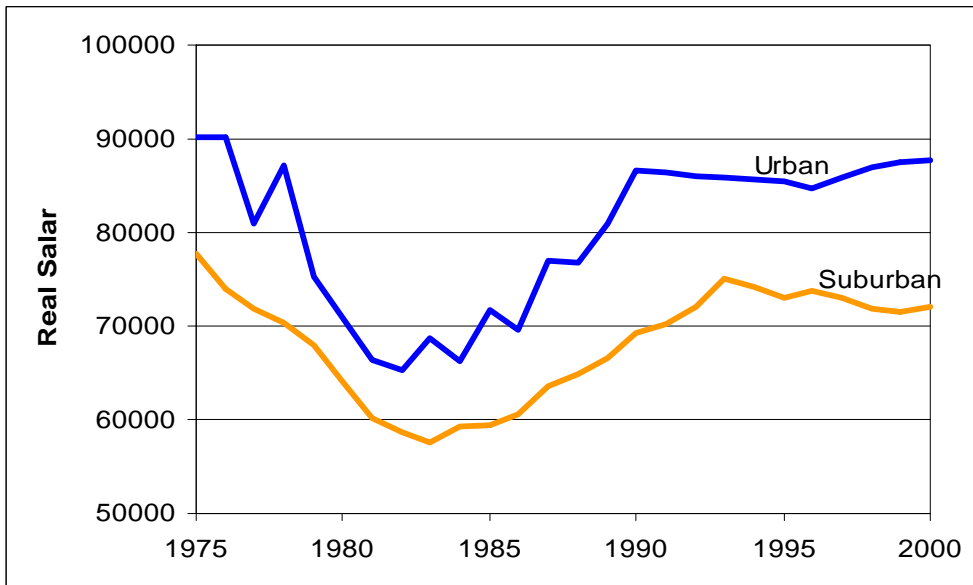
\* Inexperienced is defined as having 1-5 years experience as principal.  
 \*\* Veteran is defined as having 25 years of district experience as a teacher

**Figure 8: Real Salaries for Inexperienced\* Principals and Veteran\*\* Teachers in New York City Suburbs, 1985-2000** (Salaries prorated to 10 months)



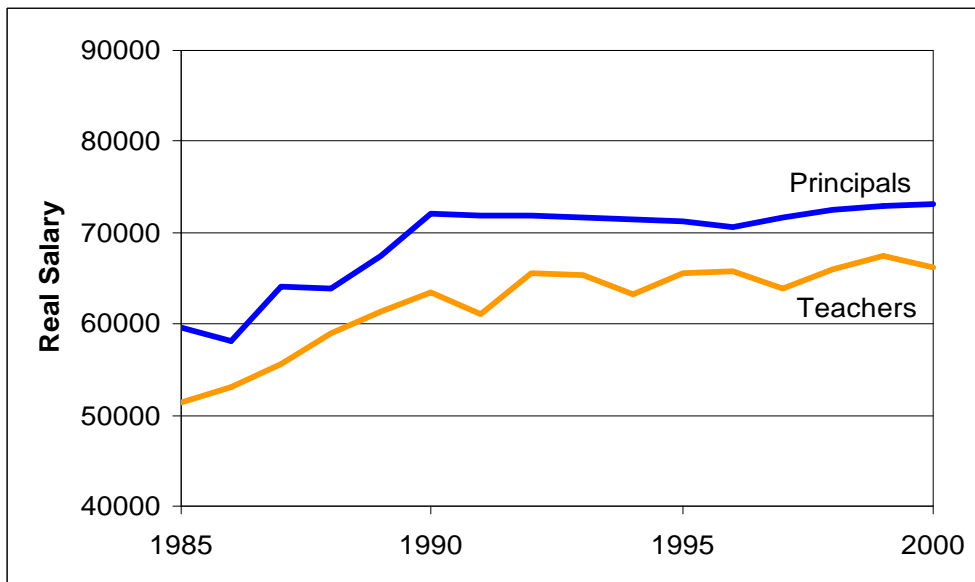
\* Inexperienced is defined as having 1-5 years experience as principal.  
 \*\* Veteran is defined as having 25 years of district experience as a teacher

**Figure 9: Real Salaries for Inexperienced\* Urban and Suburban Principals in Buffalo, Rochester, and Syracuse Metropolitan Areas, 1975-2000**  
(Salaries prorated to 12 months)



\* Inexperienced is defined as having 1-5 years experience as principal.

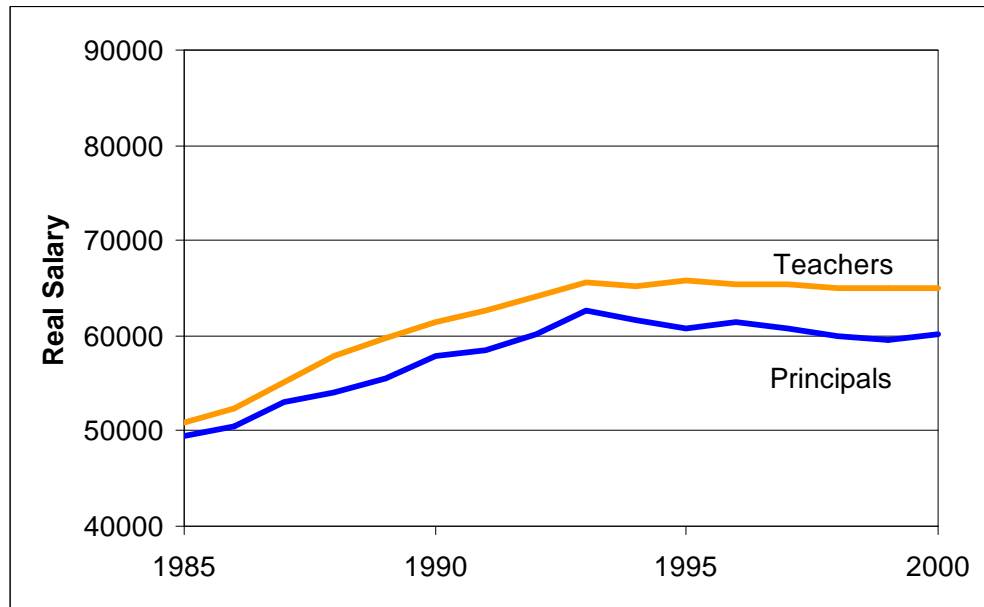
**Figure 10: Real Salaries for Inexperienced\* Principals and Veteran\*\* Teachers in Buffalo, Rochester, and Syracuse Schools, 1985-2000**  
(Salaries prorated to 10 months)



\* Inexperienced is defined as having 1-5 years experience as principal.

\*\* Veteran is defined as having 25 years of district experience as a teacher

**Figure 11: Real Salaries for Inexperienced\* Principals and Veteran\*\* Teachers in Buffalo, Rochester, and Syracuse Suburbs, 1985-2000**  
(Prorated to 10 months)



\* Inexperienced is defined as having 1-5 years experience as principal.  
\*\* Veteran is defined as having 25 years of district experience as a teacher

## Tables

**Table 1: Personal Attributes of Principals by School Urbanicity, 2000  
(Means)**

	Urban	Suburban	Rural	Statewide
overall sample size	1275	1661	788	3724
age in 2000	52.1	50.7**	49.6**	50.9
age at 1st principalship	46.8	43.5**	43.1**	44.5
percentage above 55 in 2000	22.7	18~	13.3*	18.6
percentage above 50 in 2000	67.3	58**	51**	59.7
years as a principal	6	8**	7.1**	7.1
percentage female	56.1	41.9**	41.1**	46.6
total experience	25.3	23.5**	22**	23.8
<b>Ranking of Bachelor's Degree Institution</b>				
percentage most or highly competitive	7.9	11.4**	10.1~	10.1
percentage not competitive	20.1	13.6**	6.4**	13.9

Tests of statistical significance compare urban to suburb and rural within MSAs (notation in suburb and rural column). ~ p < .10; \* p < .05; \*\* p < .01

**Table 2: Personal Attributes of by School Level Student Performance, 2000  
(Means)**

	Percentage of students score in level 1 on either a grade 4 or grade 8 exam		All
	<=20	>20	
years as a principal	7.6	5.8**	7.3
<b>Ranking of Bachelor's Degree Institution</b>			
percentage most or highly competitive	9.5	7.4~	9.2
percentage not competitive	13.4	20.5**	14.4

Tests of statistical significance compare schools with <=20% to >20%. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 3: Proportion of Principals in First Year as Principal and First Year in That School as Principal by 4th Grade ELA Achievement and Region, 2000**

Percent of Students in Level 1 4th Grade ELA	New York City		Buff/Roch/Syr/Yonk		Suburbs		Rural		All	
	First Year NYS	First Year School	First Year NYS	First Year School	First Year NYS	First Year School	First Year NYS	First Year School	First Year NYS	First Year School
<b>0%</b>	0.05	0.05	0.33	0.33	0.08	0.15	0.16	0.24	0.10	0.16
<b>0% to &lt;5%</b>	0.17~	0.22*	0.17	0.25	0.09	0.16	0.13	0.18	0.11	0.17
<b>5% to &lt;20%</b>	0.16*	0.22**	0.12	0.18	0.16*	0.23*	0.09	0.16	0.14~	0.21*
<b>&gt;20%</b>	0.23**	0.35**	0.17	0.21	0.33	0.33	0**	0**	0.21**	0.32**
<b>All</b>	0.19	0.27	0.15	0.20	0.11	0.17	0.12	0.18	0.13	0.20

Tests of statistical compare zero percent level 1 and each other category of level 1. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 4: Differences in School Attributes for Principals By Gender, 2000  
(Means)**

	Male	Female	All
<b>Student Characteristics</b>			
percentage non-white	32.9	45.1**	38.6
percentage L.E.P.	2.4	3.9*	3.0
percentage free lunch	20.9	25**	22.6
<b>Attributes of Teachers Within the School</b>			
percentage cert. in all subjects	71.4	68.1 <sup>†</sup>	69.9
percentage with at least masters	87.1	85.6	86.4
total experience	15.6	14.4**	15.0
percentage most or highly competitive	9.8	9.2	9.5
percentage not competitive	10.2	12.0 <sup>†</sup>	11.0
<b>Test Scores</b>			
percentage level 1 score (lowest) on grade 4 exam	8.0	9.4	8.8
percentage level 1 score (lowest) on grade 8 exam	11.5	14.6 <sup>~</sup>	12.6

Tests of statistical significance compare males to females. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 5: Attributes/Qualifications of First Time Principals in 1990 and 2000  
(Means if not indicated)**

	1990	2000
<b>Age at first principalship (median)</b>	43	47**
<b>Percentage female</b>	39.8	61.5**
<b>Total experience</b>	18.6	16.8**
<b>Ranking of Bachelor's Degree Institution</b>		
Percentage most or highly competitive	13.5	10.8
Percentage not competitive	14.1	15.7

Tests of statistical significance compare 1990 to 2000. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 6: Attributes/Qualifications of Leaders vs. Non-Leaders, 2000**

	Employed in NYS System			Not Employed in NYS System but Certified to be a Leader	All
	Certified and Practicing Leaders	Certified, but not employed as a Leader	Not Certified to be a Leader		
<b>Overall sample size</b>	4379	16287	224160	24277	269103
<b>Age in 2000</b>	51.3	48.7**	44**	60.6**	45.9
<b>Number under 55 in 2000</b>	3193	12596	186784	6625	209198
<b>Number under 45 in 2000</b>	527	4364	104019	1926	110836
<b>Percentage female</b>	41.9	57.6**	73.1**	39.8**	68.7
<b>District experience</b>	14.8	16**	12.3**	na	12.6
<b>Total experience</b>	24.1	19.6**	13.7**	na	14.2
<b>College of B.A.</b>					
Most or highly competitive	11.5	10.4*	11.1	13.8**	11.1
Less competitive	12.7	15.8**	13.4~	14.5**	13.6

Tests of statistical significance compare certified, practicing leaders in NYS public system to each of the other categories. ~ p < .10; \* p < .05; \*\* p < .01.



**Table 7: Career Paths of Principals by MSA and Urbanicity, 2000  
(percentages)**

	New York City/Yonkers		Buffalo, Rochester, Syracuse		Rest of State			All
	Urban	Suburban	Urban	Suburban	Urban	Suburban	Rural	
Sample size	1041	854	168	568	66	239	788	3724
Teacher and:								
1) Subj Adm.-Asst. Prin	38.2	24**	44.6~	17.8**	12.1	18.8	15.2	25.6
2) Asst. Prin	36	36.5	35.7	38	43.9	26.8**	27.9**	34.3
3) Subject Adm.	13.0	12.6	8.3~	12.9~	18.2	11.7~	14.7	13.1
4) Teacher Only	7.5	13.7**	4.2~	19**	18.2	23.8	27.3~	16
5) Non-teaching Paths	5.3	13.1**	7.1	12.3~	7.6	18.8~	14.8~	11.2
All	100	100	100	100	100	100	100	100

Statistical significance compares urban to suburb and rural within MSA (notation in suburb and rural column) as well as NYC/Yonkers urban to other Big 3 urban (notation in Big 3 urban column). ~ p < .10; \* p < .05; \*\* p < .01.

**Table 8: Career Paths of Principals by School Type, 2000  
(percentages)**

	Elementary	Middle	High	All
Sample size	1989	705	808	3502
Teacher and:				
1) Subject Adm.-Asst. Prin.	22.2	29.8	30.4	25.6
2) Teach-Asst. Prin.	32.8	44.1	33.5	35.2
3) Subject Adm.	15.5	6.7	9.9	12.4
4) Teacher Only	18.6	9.5	14.0	15.7
5) Non-Teaching Paths	11.0	9.9	12.1	11.0
All	100	100	100	100

**Table 9: Career Paths of Principals by Enrollment of School  
(percentages)**

	Enrollment					All
	25 - 400	401 - 575	576 - 850	851 - 1250	> 1250	
Sample size	865	938	873	540	351	3567
Teacher and:						
1) Subject Adm.-Asst. Prin.	19.5	20.7	28.3	34.1	39.3	26.1
2) Teach-Asst. Prin.	26.5	32.6	40.2	40.7	38.2	34.8
3) Subject Adm.	17.8	12.8	10.5	9.8	8.8	12.6
4) Teacher Only	24.0	20.7	11.1	7.0	5.1	15.6
5) Non-Teaching Paths	12.1	13.2	9.9	8.3	8.5	10.9
All	100	100	100	100	100	100

**Table 10: Attributes of Principals Taking Different Career Paths, 2000**

	Teacher and:				(5) Non-teach Paths	All
	(1) Subj. Adm.- Asst. Prin.	(2) Asst. Prin.	(3) Subject Adm.	(4) Teacher Only		
<b>Sample size</b>	952	1276	486	594	416	3724
<b>Personal Attributes</b>						
Experience as principal (f.t.e.)	6.6**	7	7.7**	7.2	8.1**	7.1
Age in 2000	52**	50.3	51.8**	49.3**	52**	50.9
Age at 1st principalship - 25th pct	43**	39	40**	36**	40**	40
Age at 1st principalship - 50th pct	47	45	46	42	45	45
Age at 1st principalship - 75th pct	50	49	49	47	50	49
Percentage female	46.2*	42.2	57.6**	51.3**	41.3	46.6
Total experience	26.2**	24.5	25~	21.4**	18.3**	23.8
<b>Ranking of Bachelor's Degree Institution</b>						
Percentage most or highly competitive	9.8	8.4	10.5~	11.8*	13.4**	10.1
Percentage less competitive	17.4*	14.3	13.8	7.5**	15.1	13.9
<b>School Attributes</b>						
Total enrollment	818	747	641	529	642	707
Percentage non-white	51.4**	39.5	38.7	23.8**	25.9**	38.6
Percentage L.E.P.	3.2	3.1	3.4	2.6	2.6	3
Percentage free lunch	24.7	22.7	22.7	22.7	18.9~	22.6
<b>Attributes of Teachers Within the School</b>						
Percentage cert. in all	65.9*	69.9	69.7	72.9~	74.2	69.9
Percentage with at least masters	85.9	86.7	86	86.1	87.5	86.4
Total experience	14.8**	15.2	15~	15	15.3	15
Percentage most or highly competitive	8.9	9	9.7	10.5	10.8	9.5
Percentage not competitive	12.7	11.8	10.8	8.3*	9.2~	11
<b>Test Scores</b>						
% level 1 score (lowest) on grade 4 exam	11.5	10.1	8.1	5.4**	5.4*	8.8
% level 1 score (lowest) on grade 8 exam	14.7	11.9	12.1	12.5	10.1	12.6

Statistical significance compares the Teach-Asst. Prin. pathway (the most common pathway) to each of the others. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 11: College Rankings for NYC and Yonkers Principals by Career Paths, 2000**

	BA: Most or highly competitive	BA: Less competitive
<b>Sample size</b>	45	173
<b>Teacher and:</b>		
1) Subject Adm.-Asst. Prin.	35.6	42.2
2) Teach-Asst. Prin.	33.3	35.3
3) Subject Adm.	11.1	11.6
4) Teacher Only	15.6	5.2**
5) Non-Teaching Paths	4.4	5.8
All	100	100

Statistical significance compares most or highly competitive ranking to not competitive ranking. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 12: Prior Positions held by First Time Principals, 1990, 2000\*  
(percentages)**

	<b>1990</b>	<b>2000</b>
<b>Sample size</b>	402	541
<b>Teacher</b>	88.1	85.8
<b>Assistant principal</b>	64.4	60.6
<b>Subject administrator</b>	38.6	33.3*
<b>Other building administrator</b>	8.7	25.7**
<b>Other central administrator</b>	13.9	18.3*
<b>Special services.</b>	18.2	14.8~
<b>Assistant superintendent</b>	3.0	4.3
<b>Superintendent</b>	0.5	0.4

Statistical significance compares 2000 relative to 1990. ~ p < .10; \* p < .05; \*\* p < .01.

\* Totals do not add to 100 as individuals can have more than one prior position.

**Table 13: Patterns of Principal Mobility for First Time Principals, 1990, 1991, and 1992  
Six Years Later**

<b>Location</b>	<b>Non New York City</b>	<b>New York City</b>	<b>All</b>
<b>Principal Same School</b>	35.6	31.9	34.2
<b>Principal Diff School Same District</b>	12.1	14.2	12.9
<b>Administration Same District</b>	10.5	20.1**	14.1
<b>Teacher Same District</b>	1.2	0.9	1.1
<b>Principal Different District</b>	14.2	3.5**	10.2
<b>Administration Different District</b>	7.7	1.8**	5.5
<b>Teacher Different District</b>	1.1	0.0	0.7
<b>Exit</b>	17.7	27.7**	21.5
<b>All</b>	100.0	100.0	100.0

Statistical significance compares New York City to rest of state by location. ~ p < .10; \* p < .05; \*\* p < .01.

**Table 14 Positions and Attributes of Individuals Employed in NYS Public School System in 2000  
Who are Under 45 Years of Age and Certified to be Principals by Region\***

	New York City/Yonkers		Buffalo/Rochester/Syracuse		Rest of State			All
	Urban	Suburban	Urban	Suburban	Urban	Suburban	Rural	
Principal	85	76	12	117	8	44	133	475
Assistant Principal	345	170	49	124	8	36	108	840
Other Building Administration	102	39	27	33	4	7	31	243
Other Central Administration	33	42	2	38	3	9	29	156
Special Services	55	71	13	43	2	14	46	244
Subject Administration	170	111	25	46	4	27	63	446
Teacher	807	751	64	210	39	88	278	2237
Other within NYS public schools	82	40	6	29	2	10	29	198
Other outside NYS public schools								1926
<b>Total over all positions</b>	1679	1300	198	640	70	235	717	6765
<b>Total number of principalships</b>	1041	854	168	568	66	239	788	3724
<b>Age in 2000</b>	37.9	37.4**	38.2	38.1	38.4	38.4	38.1	37.9
<b>Percentage female</b>	69.4	57.6**	64.1~	48.3**	58.6	52.8	47~	58.9
<b>Ranking of Bachelor's Degree Institution</b>								
Percentage most or highly competitive	10.7	13~	15.2~	15.7	6.1	14.2~	13.3~	12.7
Percentage not competitive	22.1	13.3**	3.3**	2.9	7.6	2.3~	6.2	12.9

Tests of statistical significance compare urban to suburb and rural within MSA (notation in suburb and rural column) as well as NYC/Yonkers urban to other Big 3 urban (notation in Big 3 urban column). ~ p < .10; \* p < .05; \*\* p < .01.

\* We excluded individuals who are currently Superintendents or Asst. Superintendents)

**Table 15: Attributes of Individuals Not Employed in NYS Public School System in 2000 Who are Under 45 Years of Age and Certified to be Principals**

	Mean
<b>age in 2000</b>	38.2
<b>percentage female</b>	68.7
<b>Ranking of Bachelor's Degree Institution</b>	
percentage most or highly competitive	16.2
percentage not competitive	16.8

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## Appendix A

The following appendix contains tables that provide added depth to the analysis presented in this paper.

**Table A-1: Attributes of Principals, 2000  
by MSA, Urban, Suburban, and Rural (Means)**

	New York City/Yonkers		Buffalo/Rochester/ Syracuse		Rest of State			All
	urban	suburban	urban	suburban	urban	suburban	rural	
overall sample size	1041	854	168	568	66	239	788	3724
age in 2000	52.1	52.1	52.2	49.2**	51	49.3*	49.6*	50.9
age at 1st principalship	47.1	44.5**	45.7**	42.4*	43.9	42.2*	43.1	44.5
percentage above 55 in 2000	22.5	23.3	25	11.8*	21.2	13.8*	13.3	18.6
percentage above 50 in 2000	67.4	68.3	67.9	46.8**	63.6	48.1*	51~	59.7
years as a principal	5.5	8.2**	7.8**	7.7	8.8	7.8	7.1**	7.1
percentage female	57.3	45.3**	56.5	40.8**	36.4	32.2	41.1	46.6
total experience	25.1	24.6~	26.4**	22.5**	24.8	21.7**	22**	23.8
<b>Ranking of Bachelor's Degree Institution</b>								
percentage most or highly competitive	6	10.4**	15.1**	13.3	14.3	10.2	10.1	10.1
percentage not competitive	23.1	21.4	11.2**	5.4**	5.4	6.2	6.4	13.9

Statistical significance compares urban to suburb and rural within MSA (notation in suburb and rural column) as well as NYC/Yonkers urban to other Big 3 urban (notation in Big 3 urban column). ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-2: Attributes of Principals, 2000  
by Type of School**

	<b>Elem.</b>	<b>Middle</b>	<b>High</b>	<b>All</b>
overall sample size	1989	705	808	3502
age in 2000	51.5 <sup>**</sup>	50.9 <sup>**</sup>	50	51.1
age at 1st principalship	44.7 <sup>*</sup>	45 <sup>**</sup>	44.1	44.6
percentage above 55 in 2000	20.8 <sup>~</sup>	16.9	15.6	18.8
percentage above 50 in 2000	63.1 <sup>**</sup>	60.7 <sup>**</sup>	52.8	60.3
years as a principal	7.8 <sup>**</sup>	6.5	6.3	7.2
percentage female	57.3 <sup>**</sup>	38 <sup>**</sup>	27.7	46.6
total experience	24.3 <sup>**</sup>	24.3 <sup>**</sup>	22.9	24
<b>Ranking of Bachelor's Degree Institution</b>				
percentage most or highly competitive	9 <sup>*</sup>	9.6	11.7	9.7
percentage not competitive	14.8 <sup>~</sup>	14.6	12.5	14.2

Statistical significance compares high schools to both elementary and middle schools. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-3: Attributes of Principals, 2000  
by Performance of School (Means)**

	<b>Percentage of students level 1</b>				<b>All</b>
	<b>0</b>	<b>&gt;0 and &lt;=5</b>	<b>&gt;5 and &lt;=20</b>	<b>&gt;20</b>	
overall sample size	402	871	992	435	2700
age in 2000	51.6	50.9 <sup>*</sup>	50.7 <sup>**</sup>	51.8 <sup>**</sup>	51.1
age at 1st principalship	44.1	43.4 <sup>~</sup>	44.7 <sup>~</sup>	46.6 <sup>**</sup>	44.5
percentage above 55 in 2000	21.4	19.6	15.7	20.7	18.6
percentage above 50 in 2000	64.4	58.4 <sup>~</sup>	60.5 <sup>**</sup>	63.7 <sup>**</sup>	60.9
years as a principal	8.5	8.2 <sup>**</sup>	6.7 <sup>**</sup>	5.8 <sup>**</sup>	7.3
percentage female	56	45.2 <sup>**</sup>	44.3 <sup>**</sup>	59.3	48.7
total experience	24.1	23.7	24.2	24.4	24
<b>Ranking of Bachelor's Degree Institution</b>					
percentage most or highly competitive	10.8	10.5	8.1 <sup>~</sup>	7.4 <sup>~</sup>	9.2
percentage not competitive	16.4	11.9 <sup>*</sup>	13.5 <sup>~</sup>	20.5 <sup>~</sup>	14.4

Statistical significance compares schools with 0% of students with level 1 to each of the other categories. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-4: Attributes of Principals by Gender, 2000**

	Male	Female	All
<b>sample size</b>	1989	1735	3724
<b>Personal Attributes</b>			
experience as principal (f.t.e.)	8.4	5.7 <sup>**</sup>	7.1
age in 2000	50.7	51.2 <sup>*</sup>	50.9
age at 1st principalship - 25th pct	38	42 <sup>**</sup>	40
age at 1st principalship - 50th pct	44	46	45
age at 1st principalship - 75th pct	48	50	49
total experience	24.8	22.7 <sup>**</sup>	23.8
<b>Ranking of Bachelor's Degree Institution</b>			
percentage most or highly competitive	9.8	10.4	10.1
percentage not competitive	13.3	14.7	13.9
<b>School Attributes</b>			
total enrollment	755	651 <sup>**</sup>	707
percentage non-white	32.9	45.1 <sup>**</sup>	38.6
percentage L.E.P.	2.4	3.9 <sup>*</sup>	3
percentage free lunch	20.9	25 <sup>**</sup>	22.6
<b>Attributes of Teachers Within the School</b>			
percentage cert. in all	71.4	68.1 <sup>*</sup>	69.9
percentage with at least masters	87.1	85.6 <sup>**</sup>	86.4
total experience	15.6	14.4 <sup>**</sup>	15
percentage most or highly competitive	9.8	9.2 <sup>*</sup>	9.5
percentage not competitive	10.2	12 <sup>*</sup>	11
<b>Test Scores</b>			
percentage level 1 score (lowest) on grade 4 exam	8	9.4	8.8
percentage level 1 score (lowest) on grade 8 exam	11.5	14.6 <sup>~</sup>	12.6

Statistical significance compares males to females. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-5: Attributes of Principals by Ranking of Bachelors Degree for Principals, 2000**

	<b>Most or highly comp.</b>	<b>Not comp.</b>	<b>All</b>
<b>sample size</b>	327	452	779
<b>Personal Attributes</b>			
experience as principal (f.t..e.)	6.1	6.8 <sup>*</sup>	6.5
age in 2000	49.4	51.6 <sup>**</sup>	50.7
age at 1st principalship - 25th pct	38.5	42 <sup>**</sup>	40
age at 1st principalship - 50th pct	44	46	45
age at 1st principalship - 75th pct	48	49	49
percentage female	48.6	49.6	49.2
total experience	21.5	24.2 <sup>**</sup>	23.1
<b>School Attributes</b>			
total enrollment	673	722 <sup>**</sup>	702
percentage non-white	28.1	48.9 <sup>**</sup>	40.5
percentage L.E.P.	2.7	5 <sup>~</sup>	3.9
percentage free lunch	22.4	22.9	22.7
<b>Attributes of Teachers Within the School</b>			
percentage cert. in all	71.8	67.3	69.2
percentage with at least masters	87.6	86.3	86.8
total experience	15.2	14.6 <sup>**</sup>	14.8
percentage most or highly competitive	16.1	8.2 <sup>**</sup>	11.5
percentage not competitive	8.5	17 <sup>**</sup>	13.4
<b>Test Scores</b>			
percentage level 1 score (lowest) on grade 4 exam	6.3	9.1	8.1
percentage level 1 score (lowest) on grade 8 exam	11.8	15.4	13.8

Statistical significance compares most or highly competitive to not competitive. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-6: Attributes/Qualifications of First Time Principals, 1990, 2000  
by MSA and Urbanicity (Means)**

	New York City/Yonkers				Buffalo/Rochester/ Syracuse				Rest of State						All	
	urban		suburban		urban		suburban		urban		suburban		rural			
	90	00	90	00	90	00	90	00	90	00	90	00	90	00	90	00
<b>overall sample size</b>	131	225	85	94	20	19	56	70	3	3	24	30	98	107	417	548
<b>age at first principalship</b>	46.8	47.6 <sup>**</sup>	43.4	46.9 <sup>**</sup>	44.1	46.3	43.2	42.4	46.5	35.7 <sup>~</sup>	41.9	42.3	41.6	43.2 <sup>~</sup>	44.1	45.6 <sup>**</sup>
<b>percentage female</b>	50.4	72.9 <sup>**</sup>	41.2	60.6 <sup>**</sup>	35	57.9 <sup>~</sup>	32.1	48.6 <sup>*</sup>	33.3	0	25	40	33.7	55.1 <sup>*</sup>	39.8	61.5 <sup>**</sup>
<b>total experience</b>	21.8	19.5 <sup>**</sup>	17.5	16.6	19.3	20.4	18.5	13.2 <sup>*</sup>	20.3	10 <sup>~</sup>	16.7	13.7 <sup>~</sup>	15.7	14.2 <sup>~</sup>	18.6	16.8 <sup>**</sup>
<b>Ranking of Bachelor's Degree Institution</b>																
most or highly competitive	6.5	6.3	13	15.3	21.1	16.7	18.9	18.5	50	0	4.5	7.1	16.7	10.5	13.5	10.8
not competitive	26	24.9	19.5	16.5	10.5	16.7	7.5	6.2	0	0	0	3.6	7.8	7.4	14.1	15.7

Statistical significance compares 1990 to 2000. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-7a: Attributes of Leaders vs. Non-Leaders,  
New York City Region, 2000**

	New York City/Yonkers						All
	urban			suburban			
	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	
sample size	825	5852	71496	1146	4888	50717	134924
age in 2000	51.5	48.8 <sup>**</sup>	44.1 <sup>**</sup>	52.7 <sup>**</sup>	49.1 <sup>**</sup>	43.5 <sup>**</sup>	44.4
number under 55 in 2000	609	4477	57564	756	3663	42703	109772
number under 45 in 2000	94	1594	33083	85	1224	24333	60413
percentage female	61.5	66.1 <sup>**</sup>	73.2 <sup>**</sup>	41.9 <sup>**</sup>	53 <sup>**</sup>	74.7 <sup>**</sup>	72.4
district experience	23.2	17.8 <sup>**</sup>	12 <sup>**</sup>	12.6 <sup>**</sup>	15.1 <sup>**</sup>	12.1 <sup>*</sup>	12.5
total experience	24	18.7 <sup>**</sup>	12.6 <sup>**</sup>	25.2 <sup>**</sup>	20.7 <sup>**</sup>	13.9 <sup>**</sup>	13.8
most or highly competitive	6.1	7.8 <sup>*</sup>	8.6 <sup>**</sup>	11.4 <sup>**</sup>	10.8	10.5	9.4
not competitive	23	23.8	25.1 <sup>~</sup>	19.5 <sup>*</sup>	16.9 <sup>*</sup>	16.5 <sup>**</sup>	20.9

**Table A-7b: Attributes of Leaders vs. Non-Leaders,  
Rochester, Buffalo, Syracuse Regions, 2000**

	Buffalo/Rochester/Syracuse						All
	urban			suburban			
	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	
sample size	154	733	9496	768	1872	32759	45782
age in 2000	52.2	49 <sup>**</sup>	44.6 <sup>**</sup>	50.1 <sup>**</sup>	48.1 <sup>**</sup>	43.2 <sup>**</sup>	43.9
number under 55 in 2000	102	569	8074	603	1510	28537	39395
number under 45 in 2000	13	186	4104	129	523	16014	20969
percentage female	55.2	66.7 <sup>**</sup>	75.2 <sup>**</sup>	35.5 <sup>**</sup>	49.3 <sup>**</sup>	73.1 <sup>**</sup>	71.7
district experience	24.7	18.4 <sup>**</sup>	12.8 <sup>**</sup>	12.2 <sup>**</sup>	14.3 <sup>**</sup>	12.7 <sup>*</sup>	12.9
total experience	26.2	20.1 <sup>**</sup>	13.7 <sup>**</sup>	23.5 <sup>**</sup>	20 <sup>**</sup>	14.4 <sup>**</sup>	14.8
most or highly competitive	17.4	13.3 <sup>~</sup>	12.3 <sup>*</sup>	15.1	14.9	16.2 <sup>*</sup>	15.3
not competitive	11.1	8.4	7.3 <sup>*</sup>	5 <sup>**</sup>	4.6	3.7 <sup>*</sup>	4.6

Statistical significance compares certified, practicing leaders in the urban area of each region to other categories in that region. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-7c: Attributes of Leaders vs. Non-Leaders,  
Rest of State, 2000**

	Rest of State									All
	urban			suburban			rural			
	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	Certified, Practicing Leaders within NYS Public Schools	Certified, Non-practicing Leaders currently employed within NYS Public Schools	Other NYS Public School Teachers and Admins	
<b>sample size</b>	76	230	3089	318	682	12298	1092	2030	40055	59870
<b>age in 2000</b>	51.7	48.6**	44.5**	50.3~	48.2**	43.5**	50.7	48.1**	43.5**	44
<b>number under 55 in 2000</b>	56	187	2606	249	555	10875	818	1635	35058	52039
<b>number under 45 in 2000</b>	8	62	1366	48	191	5772	150	584	19063	27244
<b>percentage female</b>	36.8	56.5**	76.1**	29.9	52.2**	74.1**	33.6	50.4**	72.2**	70.8
<b>district experience</b>	20.9	17**	13.7**	11.1**	13.9**	12.9**	11.7	14.1**	12.6**	12.8
<b>total experience</b>	25.4	19.9**	14.9**	22.9**	19.9**	14.7**	23.2	19.3**	14.3**	14.9
<b>most or highly competitive</b>	19.4	8.3**	10.1**	10.9*	12.6	10.5*	11.8	11.4*	11.2	11
<b>not competitive</b>	6	5.9	5.9	6.6	6.2	4.2	6.1	8.3	6.4	6

Statistical significance compares certified, practicing leaders within each region to other categories in that region. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-8: Prior Positions held by Principals, 2000  
by MSA and Urbanicity (percentages)**

	New York City/Yonkers		Buffalo/Rochester/ Syracuse		Rest of State			All
	urban	suburban	urban	suburban	urban	suburban	rural	
sample size	1041	854	168	568	66	239	788	3724
teacher	94.7	86.9 <sup>**</sup>	92.9 <sup>**</sup>	87.7 <sup>*</sup>	92.4	81.2 <sup>**</sup>	85.2 <sup>~</sup>	88.8
asst. principal	76.8	65.3 <sup>**</sup>	85.1 <sup>**</sup>	61.4 <sup>**</sup>	60.6	53.6	49 <sup>*</sup>	64.6
subject adm.	53.3	39.9 <sup>**</sup>	55.4 <sup>**</sup>	33.1 <sup>**</sup>	31.8	38.5	34.8	42
other building adm.	36.5	19.1 <sup>**</sup>	45.8 <sup>**</sup>	15.3 <sup>**</sup>	25.8	11.7 <sup>**</sup>	14.5 <sup>**</sup>	23.3
other central adm.	25.6	18.3 <sup>**</sup>	19.6 <sup>*</sup>	18	15.2	13	18.4	20
special services.	23.8	15.9 <sup>**</sup>	10.7 <sup>**</sup>	13.9	6.1	13 <sup>~</sup>	12.6 <sup>~</sup>	16.5
asst. superintendent	5.3	4.6 <sup>*</sup>	3	4.2	0	4.6 <sup>**</sup>	4.2 <sup>**</sup>	4.5
superintendent	0.1	0.6	0.6 <sup>~</sup>	1.4	1.5	1.3	1.1	0.8

Statistical significance compares urban to suburb and rural within MSA (notation in suburb and rural column) as well as NYC/Yonkers urban to other Big 3 urban (notation in Big 3 urban column). ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-9: FTE in All Prior Positions (in NYS) for Principals, 2000  
by MSA and Urbanicity (Medians in Years)**

	New York City/Yonkers		Buffalo/Rochester/ Syracuse		Rest of State			All
	urban	suburban	urban	suburban	urban	suburban	rural	
sample size	1041	854	168	568	66	239	788	3724
teacher	10	10	10	10	11	10	11	10
asst. principal	4	3.4 <sup>**</sup>	3 <sup>*</sup>	3	2.5	3	2.4 <sup>~</sup>	3
subject adm.	2	2 <sup>**</sup>	2	1.3	1.3	1	1.3	1.9
other building adm.	1	1 <sup>**</sup>	1 <sup>**</sup>	1 <sup>**</sup>	1	1	1 <sup>**</sup>	1
other central adm.	1	2 <sup>*</sup>	2	1	1.8	1 <sup>~</sup>	1.3	1
special services.	1.6	1.8 <sup>**</sup>	2.8	2	1	2 <sup>*</sup>	2 <sup>**</sup>	1.8
asst. superintendent	1	1 <sup>~</sup>	2	1	.	2	1.1	1
superintendent	1	4 <sup>**</sup>	4	3.5	8.5	8	2 <sup>**</sup>	3

Statistical significance compares urban to suburb and rural within MSA (notation in suburb and rural column) as well as NYC/Yonkers urban to other Big 3 urban (notation in Big 3 urban column). Means were used for tests even though medians are shown in table. ~ p < .10; \* p < .05; \*\* p < .01.



**Table A-10: Immediate Prior Positions for Principals, 2000  
by MSA and Urbanicity (Percentages)**

	New York City/Yonkers		Buffalo/Rochester/ Syracuse		Rest of State			All
	urban	suburban	urban	suburban	urban	suburban	rural	
sample size	1041	854	168	568	66	239	788	3724
Asst. Principal	54.6	49.1**	63.7**	47.7**	45.5	38.9	34.4*	47.2
Teacher	4.2	10.2**	3	13.7**	15.2	17.6	21.4	11.7
Other Building Adm.	14.5	10.5**	17.9	7.4**	16.7	9.6~	10.4~	11.5
Subject Adm.	11	10	7.7~	10.4	13.6	13	9.1	10.3
Other Central Adm.	3.9	4.6	3.6	4.6	6.1	2.1	4.1	4.1
Both Teaching and Adm.	5.8	4.2*	.**	2.5**	.	4.2*	3.4~	3.9
Special Services	1.2	2.8**	0.6	3.2*	.	4.2*	3.4~	2.5
Multiple Adm.	0.5	1.6**	.	3.5**	.	3.8~	5.5*	2.4
Asst. Superintendent	2.5	2.1	1.8	2.3	.	2.5~	2.7~	2.3
Superintendent	0.1	0.5~	0.6~	1.2	.	1.3	0.8	0.6
Missing data	1.6	4.4**	1.2	3.5~	3	2.9	4.8	3.3
All	100	100	100	100	100	100	100	100

Statistical significance compares urban to suburb and rural within MSA (notation in suburb and rural column) as well as NYC/Yonkers urban to other Big 3 urban (notation in Big 3 urban column). ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-11: Principal Career Paths by Ranking of Bachelors Degree for Big 5 Principals, 2000 by MSA and Urbanicity (Means)**

	New York City/Yonkers				Buffalo/Rochester/Syracuse				All
	urban		suburban		urban		suburban		
	most or highly comp.	not comp.	most or highly comp.	not comp.	most or highly comp.	not comp.	most or highly comp.	not comp.	
sample size	45	173	82	169	23	17	72	29	610
Teach-Asst. Pal-Pal	33.3	35.3	30.5	43.2*	17.4	35.3~	36.1	34.5	36.1
Teach-Subj Adm.-Asst. Pal-Pal	35.6	42.2	20.7	21.9	52.2	41.2	25	27.6	30.8
Teach-Pal	15.6	5.2**	12.2	11.2	8.7	5.9	19.4	6.9~	10.5
Teach-Subj Adm.-Pal	11.1	11.6**	15.9	15.4	8.7	11.8	11.1	10.3~	13
Non-teaching Paths	4.4	5.8	20.7	8.3**	13	5.9	8.3	20.7*	9.7
All	100	100	100	100	100	100	100	100	100

Statistical significance compares most or highly competitive to not competitive. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-12: Principal Career Paths by Ranking of Bachelors Degree for Rest of State Principals, 2000 by MSA and Urbanicity (Means)**

	Rest of State						All
	urban		suburban		rural		
	most or highly comp.	not comp.	most or highly comp.	not comp.	most or highly comp.	not comp.	
sample size	8	3	23	14	74	47	169
Teach-Asst. Pal-Pal	25	.	17.4	7.1	27	27.7	23.7
Teach-Subj Adm.-Asst. Pal-Pal	37.5	33.3	30.4	35.7	9.5	23.4**	20.1
Teach-Pal	25	33.3	30.4	14.3	32.4	17*	26
Teach-Subj Adm.-Pal	12.5	33.3	13	7.1	16.2	10.6	13.6
Non-teaching Paths	.	.	8.7	35.7**	14.9	21.3	16.6
All	100	100	100	100	100	100	100

Statistical significance compares most or highly competitive to not competitive. ~ p < .10; \* p < .05; \*\* p < .01.

**Table A-13: Principal Mobility, First Time Principals, 1992**  
(Percentages, N=516)

Position	1993	1994	1995	1996	1997	1998
Principal Same School	63.6	53.9	46.0	39.2	36.1	34.2
Principal Diff School Same District	7.3	11.1	13.8	14.5	15.0	12.6
Administration Same District *	21.6	19.2	18.1	15.1	14.0	14.6
Teacher Same District	1.4	1.0	1.6	1.6	1.6	1.0
Principal Different District	1.6	4.6	6.1	9.2	8.6	8.3
Administration Different District	1.4	4.0	4.3	4.9	5.0	6.9
Teacher Different District	0.4	0.4	1.0	0.4	0.2	0.2
Exit	2.6	5.7	9.1	15.1	19.4	22.3
All	100.0	100.0	100.0	100.0	100.0	100.0

\* Note: Most of those in this category appear to be principals on an interim basis. Of the 99 principals who by 1994 had moved to Administration Same District--51 were Asst Principals in 1991 and returned to being Assistant Principals by 1994; another 10 had been teachers in 1991 and became Asst Principals by 1994.

**Table A-14: Principal Mobility First Time Principals 1990, 1991 & 1992  
Six Years Later, by School Type**

Location	School of Origin				All
	Elementary	Middle	High	Ungraded	
Principal Same School	59.8	53.0	53.3	41.7	56.6
Principal Diff School Same District	8.0	5.9	7.4	16.7	7.5
Administration Same District	10.6	13.2	9.5	8.3	10.9
Teacher Same District	1.1	0.9	0.0	0.0	0.8
Principal Different District	5.3	7.3	6.1	8.3	6.0
Administration Different District	2.5	2.7	6.1	0.0	3.3
Teacher Different District	0.2	0.0	0.4	0.0	0.2
Exit	12.6	16.9	17.3	25.0	14.7
All	100.0	100.0	100.0	100.0	100.0

**Table A-15: Attributes of Principals by Mobility Status 1990, 1991, and 1992 Cohorts Six Years Later--NYC Principals**

Location	Age > 55	Age < 45	Female	Most Competitive	Least Competitive
Principal Same School	0.29	0.01	0.51	0.09	0.20
Principal Diff School Same District	0.28	0.03	0.49	0.02~	0.23
Administration Same District	0.29	0.03	0.48	0.01*	0.29
Teacher Same District	0.25	0.25	0.50	0.00**	0.00**
Principal Different District	0.25	0.06	0.50	0.07	0.29
Administration Different District	0.38	0.00	0.25	0.14	0.57~
Exit	0.77**	0.02	0.52	0.09	0.22
All	0.42	0.02	0.50	0.06	0.24

Statistical significance compares principal same school with other locations. ~ p < .10; \* p < .05; \*\* p < .01

**Table A-16: Attributes of Principals by Mobility Status 1990, 1991, and 1992 Cohorts Six Years Later--Non NYC Principals**

Location	Age > 55	Age < 45	Female	Most Competitive	Least Competitive
Principal Same School	0.22	0.08	0.44	0.10	0.12
Principal Diff School Same District	0.15	0.12	0.46	0.11	0.13
Administration Same District	0.35*	0.09	0.46	0.09	0.11
Teacher Same District	0.22	0.00~	0.11**	0.00**	0.00**
Principal Different District	0.12**	0.08	0.35~	0.14	0.09
Administration Different District	0.17	0.19	0.37	0.16	0.07
Teacher Different District	0.25	0.25	0.50	**	0.13
Exit	0.6**	0.09	0.37	0.16	0.10
All	0.27	0.10	0.41	0.12	0.11

Statistical significance compares principal same school with other locations. ~ p < .10; \* p < .05; \*\* p < .01

**Table A-17: Principal Mobility by School Type of Origin and Destination 1991 & 1992 Cohorts Six Years Later**

	School Type in 1991 or 1992								
	Elementary School Type in 1997 or 1998			Middle School Type in 1997 or 1998			High School Type in 1997 or 1998		
	Elementary	Middle	High	Elementary	Middle	High	Elementary	Middle	High
	(N=272)	(N=14)	(N=7)	(N=9)	(N=90)	(N=11)	(N=8)	(N=9)	(N=81)
<b>job</b>									
<b>Principal Same School</b>	54.0	0.0	0.0	0.0	47.0	0.0	0.0	0.0	50.5
<b>Principal Diff School Same District</b>	14.4	0.0	2.0	1.7	6.1	1.0	2.1	6.1	4.0
<b>Administration Same District</b>	14.1	7.8	0.0	0.3	16.5	4.0	0.3	0.0	13.1
<b>Teacher Same District</b>	1.4	0.0	2.0	0.0	0.9	0.0	0.0	0.0	0.0
<b>Principal Different District</b>	7.9	2.6	2.0	1.0	8.7	3.0	0.3	1.7	9.1
<b>Administration Different District</b>	2.4	1.7	1.0	0.0	0.9	3.0	0.0	0.0	5.1
<b>All</b>	94.2	12.2	7.1	3.1	80.0	11.1	2.7	7.8	81.8

\* Schools were categorized as high schools if they had grades 10 through 12 total enrollment that exceeded 25. They were categorized as middle schools if they were not high schools and had grade 7 through 9 enrollment that exceeded 25. Schools were labeled elementary schools if they were not high schools or middle schools and had grade k through 6 enrollment that exceeded 25. Schools were labeled ungraded if they did not fit one of the previous categories and had more than 25 ungraded students. 314 observations do not have a school type classification; 227 of these observations either exited the system.

**Table A-18: Proportion of Principals in First Year and First Year in That School by Previous Location, Various Cohorts**

Previous Location	First Year			First Year School		
	1980	1990	2000	1980	1990	2000
Same School	48.6**	39.0	37.5	31.2	28.1	26.7
Different School Same District	23.6**	31.9	34.8	46.9**	41.6	37.5
Different District Same MSA and Region	11.5	12.1	14.2	8.7**	10.8**	15.7
Different Region Same MSA	0.3	1.5	1.2	0.2**	1.8	1.6
Not Employed Prior Year	6.6	8.4	6.2	5.2**	9.1	9.4
Different MSA	9.4~	7.2	6.2	7.8	8.6	9.2
All	100.0	100.0	100.0	100.0	100.0	100.0

Statistical difference between the proportion in 2000 and each other year. ~ p < .10, \* p < .05, \*\* p < .01.

**Table A19: Mean Attributes of Schools by Principal by Mobility Status 1990, 1991 & 1992 Cohorts Six Years Later--NYC Principals**

Location	Percent Non White		Percent Poor		School Enrollment		Teacher Qualif. <sup>1</sup>		% Level 1 4th ELA <sup>2</sup>		% Level 1 8th ELA	
	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter
Principal Same School	0.83	0.83	0.69	0.69	1114	1114	-1.79	-1.79	0.17	0.17	0.21	0.21
Principal Diff School Same District	0.80	0.79	0.66	0.63	1086	771**	-1.36	-1.62	0.12	0.13	0.26	0.15**
Administration Same District	0.86	0.85	0.73	0.71	1090	1158	-2.18	-2.26	0.19	0.18	0.20	0.23
Teacher Same District	0.94	0.81	0.93	0.89	619	765	-2.85	-2.69	0.12	0.21	0.21	0.41
Principal Different District	0.85	0.22**	0.62	0.08**	1418	831~	-1.32	0.64**	0.14	0.01**	0.15	0.05
Administration Different District	0.80	0.19**	0.45	0.02**	2102	690**	-1.76	0.22~	0.22	0.01	0.12	0.01
Exit	0.86	na	0.70	na	1193	na	-2.19	na	0.17	na	0.22	na
All	0.84	0.79	0.69	0.65	1144	1033	-1.91	-1.71	0.17	0.16	0.21	0.20

Statistical significance compares attributes of schools principals exit to those they enter. ~ p < .10; \* p < .05; \*\* p < .01

1. The teacher quality factor is the factor score where lower values indicate that the average teacher in the school lower teacher qualifications on measures such as: whether the teacher is certified to teach courses that she currently teaches, failure of certification exam, college from which the BA was received, and level of experience, level of education.

2. Level 1 is the lowest of four groupings on the test. Level 1 for 4th grade ELA is described by the New York State Education Department as "These students have serious academic deficiencies. They show no evidence of any proficiency in one or more of the elementary standards and incomplete proficiency in all three standards."

**Table A-20: Attributes of Schools by Principal by Mobility Status  
1990, 1991 & 1992 Cohorts Six Years Later--Non NYC Principals**

Location	Percent Non White		Percent Poor		School Enrollment		Teacher Qualif. <sup>1</sup>		% Level 1 4th ELA <sup>2</sup>		% Level 1 8th ELA	
	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter
<b>Principal Same School</b>	0.24	0.24	0.24	0.24	619	619	0.82	0.82	0.04	0.04	0.08	0.08
<b>Principal Diff School Same District</b>	0.35	0.30	0.31	0.31	712	664	0.76	0.70	0.07	0.08	0.16	0.11
<b>Administration Same District</b>	0.26	0.25	0.27	0.25	747	826	0.59	0.66	0.09	0.06	0.09	0.08
<b>Teacher Same District</b>	0.34	0.33	0.30	0.20	534	866*	-0.36	0.06*	0.08	0.06	0.05	0.06
<b>Principal Different District</b>	0.13	0.12	0.22	0.16*	583	782	0.62	1.04	0.07	0.03	0.09	0.07
<b>Administration Different District</b>	0.13	0.15	0.25	0.16*	635	783	0.73	0.35	0.06	0.05	0.09	0.10
<b>Exit</b>	0.24	na	0.24	na	687	na	0.79	na	0.04	na	0.11	na
<b>All</b>	0.24	0.23	0.25	0.24	650	691	0.73	0.77	0.06	0.05	0.10	0.08

Statistical significance compares attributes of schools principals exit to those they enter. ~ p < .10; \* p < .05; \*\* p < .01

1 The teacher quality factor is the factor score where lower values indicate that the average teacher in the school lower teacher qualifications on measures such as: whether the teacher is certified to teach courses that she currently teaches, failure of certification exam, college from which the BA was received, and level of experience, level of education.

2 Level 1 is the lowest of four groupings on the test. Level 1 for 4th grade ELA is described by the New York State Education Department as “These students have serious academic deficiencies. They show no evidence of any proficiency in one or more of the elementary standards and incomplete proficiency in all three standards.”

**Table A-21: Present Position of Individuals  
Under Age 45 by Area of Certification**

	Certification Area				All
	Superintendent and Principal		Principal Only		
	Permanent	Provisional	Permanent	Provisional	
Superintendent	11	.	4	.	15
Asst. Superintendent	25	.	7	5	37
Principal	222	1	142	110	475
Asst. Principal	291	3	155	391	840
Oth. Bldg. Adm.	111	5	25	102	243
Oth. Ctrl. Adm.	86	1	23	46	156
Special Serv.	111	3	28	102	244
Subj. Adm.	176	2	100	168	446
Teacher	888	7	128	1214	2237
Other	68	.	27	103	198
Not in PMF	619	10	439	858	1926
<b>Total over all positions</b>	2608	32	1078	3099	6817
<b>age in 2000</b>	38.4	36**	39.8	37**	38
<b>percentage female</b>	59	65.6	62.2	63.5	61.6

Statistical significance compares permanent to provisional. ~ p < .10; \* p < .05; \*\* p < .01.



## Appendix B- New York State Workforce Database

	<i>Personnel data</i>	<i>Certification and exam data</i>	<i>School and district data</i>
<b>UNIVERSE:</b>	All public school superintendents, principals, and other staff	All individuals taking certification exams	All public schools and districts
<b>ELEMENTS:</b>	<ul style="list-style-type: none"> <li>- salary</li> <li>- administrative/teaching assignment</li> <li>- experience (district and other)</li> <li>- years of education and degree attainment</li> <li>- age</li> <li>- gender</li> </ul>	<ul style="list-style-type: none"> <li>- scores on NTE and NYSTCE exams</li> <li>- college of undergraduate and graduate degrees</li> <li>- degrees earned</li> <li>- certification title code</li> <li>- date of certification</li> <li>- certification status</li> </ul>	<ul style="list-style-type: none"> <li>- enrollment</li> <li>- student poverty (free lunch)</li> <li>- enrollment by race</li> <li>- limited English proficiency</li> <li>- student test results</li> <li>- dropout rates</li> <li>- district wealth</li> <li>- district salary schedule</li> <li>- support staff and aides</li> </ul>
<b>TIME PERIOD:</b>	1969-70 to 1999-00	1984-85 to 1999-00	1969-70 to 1999-00
<b>SOURCE:</b>	New York State Education Department	New York State Education Department	New York State Education Department

**Data notes:**

- 1) An individual was considered to be a principal if she reported spending most of her time as a principal. All other teaching and administrative categories were defined in the same manner. For all salary analyses, the individual had to spend more than 90 percent of her time as a principal to be considered a principal. More than 90 percent of individuals who report any time spent as a principal report more than 90 percent of their time as a principal. Thus, changes in this cut-off point would be of little consequence. No BOCES principals were used in the analysis. 144 principals in 2000 report BEDS codes ending in (0000) implying that they are district level personnel, however further investigation showed that all such occurrences of (0000) matched up to schools with identical beds codes in the first 8 digits that were missing principals in the 2000 data. It was determined that these are miscodings, e.g. 0000 should have been 0001 or 0004. As such, these principals remain in the analysis; although, they are missing all school level data.
- 2) A principal was considered to have gained a year of experience as a principal if she reported spending most of her time as a principal. Because most principals spend more than 90 percent of their time as principals, there is little difference between this measure and a summation of FTEs over years.
- 3) Certification information is available for individuals receiving any form of certification after 1984-85. For New York City principals, certification status is available since 1990.
- 4) District level teacher salaries were constructed from district level salary equations that resulted from a spline regression analysis using the personnel data of all fulltime (FTE > .96) classroom non-BOCES teachers within the district. The salary equation took account of district experience (separate coefficient for each 5 year increment), total experience, and education.

## Appendix C – Administrator Certification Regulations<sup>25</sup>

### Categories of Certification

There are three major categories of "Teaching Certificates for Public School Service" established by Part 7 of the Rules of the Board of Regents:

- a) Administrative and supervisory
- b) Classroom teaching
- c) School service (e.g., counselors, psychologists)

### General Requirements

Education Law requires that to be authorized to seek employment in the public schools a person must be:

- a) Eighteen years of age
- b) A citizen, or have filed a Declaration of Intention, or be prohibited from filing for statutory reasons, and
- c) In possession of a certificate

### Forms of Certification

There are three forms of certification:

- a) Certificate of Qualification (CQ):<sup>26</sup> This credential is issued when an applicant satisfies all requirements for the provisional certificate. It is valid for five years and not renewable. A holder of a CQ may legally substitute in the schools without additional certification. When the holder of a CQ accepts a regular position in the public schools, the CQ must be exchanged for the provisional certificate. The Certificate of Qualification was eliminated in 1998.
- a) Provisional Certificate:<sup>27</sup> This credential enables the holder to provide professional service in keeping with the certificate's title. It is valid for five years and is renewable once for a five year period in accordance with criteria specified in Commissioner's

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<sup>25</sup> Much of the information in this appendix was taken directly from the New York State Department of Education website, [www.nysed.gov](http://www.nysed.gov).

<sup>26</sup> C.Q.'s are only given for substitute positions (less than one semester). Once a more permanent appointment is taken, the C.Q. must be converted into a provisional. C.Q.'s are not renewable or extendable, if one was issued and not converted within 5 years; it is automatically converted to a provisional certification. C.Q.'s have not been issued since September of 1999.

Regulations (Section 80.2 (n)(2)). The certificate notes that the holder is responsible for knowing the conditions necessary to make the certificate permanent.

- b) **Permanent Certificate:** This credential is valid for the life of the holder unless annulled for cause. It is issued upon completion, typically, of a masters degree in a field of study functionally related to the subject of the provisional certificate, two years of teaching experience or an academic year supervised internship, and the achievement of qualifying scores on the required assessments.

**Certificates valid for administrative and supervisory service** (school district administrator, and school administrator and supervisor, and school business administrator).<sup>28</sup>

- a) **School district administrator** (superintendent of schools, district superintendent, deputy superintendent, associate superintendent, assistant superintendent and any other person having responsibilities involving general district-wide administration excepting those responsibilities defined in subdivision (c) of this section, shall hold this certificate).<sup>29</sup>

(1) **Preparation.\*** The candidate shall hold a baccalaureate degree, based upon a four-year program of collegiate preparation, from a regionally accredited higher institution or from an institution approved or registered by the department and shall have completed in addition 60 semester hours of graduate study and an approved administrative/supervisory internship under the supervision of a practicing school administrator and of a representative of the sponsoring institution of higher education. Within the total program of preparation, the candidate shall have been awarded a master's degree. These 60 semester hours shall include 24 semester hours of graduate study in the field of school administration and supervision. An internship experience carrying graduate credit may be included within the 60-semester hour program. One year of satisfactory full-time experience in a school administrative or supervisory position may be substituted for the internship.

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<sup>27</sup> Administrators can easily become re-certified if their certification has lapsed because there have been no changes in the regulation since 1971. An individual simply applies again for a provisional certification and it is granted.

<sup>28</sup> New administrator regulations took effect in 1966, then again in 1971; they have remained the same ever since.

<sup>29</sup> The 60 hours of graduate study and 3 years of experience as a teacher are statutes.

- (2) **Experience.** Three years of teaching and/or administrative and/or supervisory and/or pupil personnel service experience in the schools (N-12).
- (3) **Exceptions**<sup>30</sup> The Commissioner of Education, at the request of a board of education or board of cooperative educational services, may provide for the issuance of a certificate as school district administrator (superintendent of schools) to exceptionally qualified persons who do not meet all of the graduate course or school teaching requirements in paragraph (1) and (2) of this subdivision, but whose exceptional training and experience are the substantial equivalent of such requirements and qualify such persons for the duties of a superintendent of schools. Prior to the appointment of any such individual the board must obtain the approval of the Commissioner. In its formal request to the Department the board must submit its resolution noting approval of the request, the job description, its rationale for requesting such certification of the individual, a statement identifying the exceptional qualifications of the candidate, the individual's completed application for certification, vita and official transcripts of collegiate study. The certificate, if issued, will be valid only for service in the district making the request. The Commissioner will refer the materials submitted by the board to a screening panel consisting of representatives of the Department and appropriate educational organizations for review and advice.

b) **School administrator and supervisor** (principal, housemaster, supervisor, department chairman, assistant principal, coordinator, unit head and any other person serving more than 25 percent -- 10 periods per week -- of his assignment in any administrative and/or supervisory position excepting those defined in subdivision (a) of this section shall hold this certificate).

- (1) **Provisional certificate.**\* The candidate shall hold a baccalaureate degree, based upon a four-year program of collegiate preparation from a regionally accredited higher institution or from an institution approved or registered by the department, and shall have completed in addition 30 semester hours of graduate study and an approved administrative/supervisory internship under the supervision of a practicing school administrator and of a representative of the sponsoring institution of higher education. These 30 semester hours shall include

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<sup>30</sup> This exception clause is a statute and applies only to the superintendent.

18 semester hours of graduate study in the field of school administration and supervision.

- (i) *Substitution.* One year of satisfactory full-time experience in a school (N-12) administrative or supervisory position may be substituted for the internship.
- (ii) *Experience.* Three years of approved teaching and/or administrative and/or supervisory and/or pupil personnel services within grades N-12.
- (iii) *Time validity.* The certificate will be valid for five years from date of issuance.

(2) **Permanent certificate.** The candidate shall have completed, in addition to the requirements for the provisional certificate, two years of school experience in an administrative/supervisory position. Within the total program of preparation, the candidate shall have been awarded a master's degree.

c) **School business administrator** (deputy superintendent of schools for business, associate superintendent of schools for business, assistant superintendent of schools for business and any other person having professional responsibility for the business operation of the school district shall hold this certificate).

(1) **Permanent certificate.\*** The candidate shall hold a baccalaureate degree, based upon a four year program of preparation, from a regionally accredited higher education institution or from an institution approved or registered by the department, and shall have completed 60 semester hours of graduate study and an approved administrative/supervisory internship under the supervision of a practicing school administrator and a representative of the sponsoring institution of higher education. Within the total program of preparation, the candidate shall have been awarded a master's degree. These 60 semester hours shall include 24 semester hours of graduate study in the field of school administration and supervision. An internship experience carrying graduate credit may be included within the 60-semester hour program. One year of satisfactory full-time experience as the chief business official of a school district may be substituted for the internship.

\* All persons shall have completed two clock hours of coursework or training regarding the identification and reporting of suspected child abuse or maltreatment. A listing of approved providers is available, upon request, from your local library.

## Appendix D – Administrator Categories<sup>31</sup>

**Superintendent** – All individuals with the superintendent assignment code under the General Administration category.

**Assistant Superintendent** – All individuals with a Deputy or Associate Superintendent code or an Assistant Superintendent code under the General Administration category (except the code titled “Administrative Assistant”).

**Other Central Administration** – All individuals under the General Administration category not considered to be superintendents nor assistant superintendents by the definitions above.

**Principal** – All individuals with a Principal code under the School or Building Administrator category.

**Assistant Principal** – All individuals with an Assistant Principal code under the School or Building Administrator category.

**Other Building Administration** – All individuals under the School or Building Administration category not considered to be principals nor assistant principals by the definitions above.

**Special Services** – All individuals under the Special Services category.

**Subject Administrator** – All individuals under the Subject Area Administration category.

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<sup>31</sup> The definitions listed below refer directly to bold typed major heading on the “Assignment Codes for Nonteaching Professional Staff” document printed by the NYS Department of Education. To view the 1998 version of this document, please see Appendix E.

## **Appendix E – Assignment Codes for Non-teaching Professional Staff**