

It is no longer news that our society will be experiencing dramatic demographic changes in the next 10 to 20 years. There will be a dramatic increase in enrollments and an increasing demand for teachers within the next decade. For example, in 1996, total school enrollment in K-12 was 51.5 million. This is projected to increase to over 54.3 million by 2007 (Gerald and Hussar, 1997). The number of Hispanic children aged 5-17 years is expected to grow by a third in the next decade and to more than double by 2025, whereas the number of black children aged 5-17 years is expected to grow by a quarter by 2025 (U.S. Bureau of the Census, 1997; see also National Research Council, 1997). The next decade will also see an enormous increase in the demand for teachers (about two million) fueled by these large enrollment increases and high attrition rates as an aging teacher workforce becomes retirement-eligible (National Commission on Teaching and America's Future, 1997). Where these teachers will come from and where they will teach is a crucial issue.

An interdependent issue arises because students from minority backgrounds face both structural and individual obstacles during the schooling years that place them at risk of educational failure (Natriello et al., 1990; Wilson, 1991; Berends and Koretz, 1996 and in press). For example, they are more likely to live in households with incomes below the poverty line and have parents with limited educational attainment or limited English proficiency (U.S. Bureau of the Census, 1995). Thus, the projected change in the racial/ethnic composition of school-aged children implies a substantial increase in the size of the educationally disadvantaged population. As Natriello et al. (1990, p. 40) point out, "Failure to educate the educationally dis-

advantaged adequately may have catastrophic consequences for the social and economic well-being of this country.” The 1996 report *What Matters Most: Teaching for America’s Future*, produced by the National Commission on Teaching and America’s Future (1996, p. 88), emphasized the need for high-quality teachers, especially in schools serving at-risk students:

All schools must be adequately funded and staffed by first-rate teachers. . . . To ignore this imperative is to allow the nation to skate dangerously close to irreparably harming its public education system and its single best hope for preserving American democracy.

STAFFING AT-RISK DISTRICTS

National data show that minority teachers play an important role in staffing high-risk and high-minority districts. For example:

- In 1993–94, about 16.3 percent of all students were non-Hispanic black and 11.9 percent were Hispanic compared with 8.6 and 3.7 percent of all teachers, respectively. However, in central cities where 27.8 percent of students were black and 21 percent were Hispanic, the proportion of teachers who were black or Hispanic rose to 16.7 and 7.3 percent, respectively.
- Similarly, in public schools with 50 percent minority enrollment, minority teachers constituted 37 percent of all teachers compared with 2–7 percent in schools with 0–30 percent minority enrollment (U.S. Department of Education, 1997).

There is evidence suggesting that high-risk districts already face problems in recruiting and retaining qualified teachers (Lippman et al., 1996). These districts are seeing and will continue to see the largest increase in enrollment in the future; given the statistics above, the answer to the question of staffing is inextricably linked to the availability of minority teachers to teach in these high-risk districts.¹

¹The question being asked here is different from the question of representativeness—that is, whether the teacher population should mirror the student population, a question about which there is disagreement. Zapata (1988a, p. 19), for example, argues that attracting more minority teachers is critical because “teachers from minority backgrounds may be better prepared to meet the learning needs of an increasing pro-

In 1993–94, only 13.5 percent of the total teaching force was minority—6.7 percent black, 4.1 percent Hispanic, and 1.8 percent other minority—far less than the proportion of minority students (one-third in the public schools) (National Commission on Teaching and America’s Future, 1997). The underrepresentation of minorities in teaching compared with the student body is likely to become worse over time because the proportion of minorities in teaching is declining (Task Force on Teaching as a Profession, 1986; Holmes Group, 1986; Darling-Hammond et al., 1987; Alston, 1988; Murnane and Schwinden, 1989; Feistritzer, 1990; Murnane et al., 1991; Kirby and Hudson, 1993), and this decline is likely to continue as few minorities are in the teaching pipeline (Koretz, 1990).

portion of the school population than teachers from other backgrounds” (see also Dilworth, 1986; Zapata, 1988b; Farrell, 1990; Ogbu, 1974, 1978, 1989, 1992; Fordham and Ogbu, 1986).

In addition, it is widely believed that minority teachers can act as mentors and role models for minority students. For example, Ogbu (1992), based on his extensive comparative research on various minority groups, suggests that the teachers who learn about the students’ backgrounds, histories, and community organization can better serve the needs of high-risk students, their parents, and communities—thus overcoming some of the obstacles to their integrating into society’s mainstream. Serving as mentors, teachers can also provide a buffer between the dominant culture of the school—its curriculum, instructional styles, and orientation toward the American economic structure—and the pull of high-risk students’ peers and community histories (see also Ogbu, 1974, 1978, 1989; Fordham and Ogbu, 1986).

On the other hand, the evidence regarding a direct correlation between teacher diversity and student academic performance is mixed at best (Ferguson, 1991; Ehrenberg and Brewer, 1995; Ehrenberg et al., 1995). For example, Ehrenberg and Brewer, in a reanalysis of 1966 data from *Equality of Educational Opportunity*, found that after controlling for teachers’ verbal scores and other characteristics, black teachers were associated with lower gains than white teachers for elementary students but higher gains for black high school students. Ehrenberg et al. (1995) found no statistically significant effects of race/ethnicity on scores for white, black, or Hispanic students using data from the 1988 National Educational Longitudinal Study. Ferguson (1991), in his detailed analysis of Texas and Alabama data, found little evidence that black teachers are significantly better than white teachers in helping black children to perform better on standardized tests. However, the differences in performance of first-graders by socioeconomic status (SES) of the teacher are intriguing: high-SES black teachers were the most effective in raising scores for white students and least effective in raising scores for black students; low-SES black teachers and high-SES white teachers were the most effective in raising black scores. Ferguson points out that black teachers usually have weaker academic preparation and lower test scores than white teachers. Given this, the fact that students do not seem to do worse on average with black teachers may point to some compensating set of skills or attitudes.

The causes for the decline are well-known and include factors such as the increasing array of alternative white-collar occupations available to minorities and the higher salaries available in many of these fields compared with teaching. In addition, researchers believe that the decline has been further exacerbated by the increasing use of standardized tests to screen entrants for teacher certification (and sometimes for entry into education programs) (Murnane and Schwinden, 1989; Murnane et al., 1991; Spellman, 1988; Kirby and Hudson, 1993). For example, Dometrius and Sigelman (1988) find that pass rates of minority teachers in Texas tend to be markedly lower than those of nonminority teachers and warn that “the imposition of teacher testing will have a homogenizing impact on the racial-ethnic diversity of the Texas educational work force, measurably decreasing the number of black and Latino teachers” (p. 81).

RESEARCH QUESTIONS

The main focus of this study is at-risk students and the resources available to them in terms of teachers and schools. The two main research questions addressed in this report are:

- What defines “at-risk” districts? How do at-risk districts differ from those not at risk in terms of resources and student and teacher characteristics?
- Given that at-risk districts are staffed largely by minority teachers, what do we know about the likely future demand and supply of such teachers?

RATIONALE FOR SELECTING TEXAS AS THE FOCUS OF STUDY

Texas was selected as the focus of study for three reasons: Texas maintains excellent teacher personnel files, it has a large minority teaching force, and it has an explicitly stated commitment to increasing diversity in its teaching force.

Availability of Longitudinal Teacher and District Data

In addition to personnel data, Texas has detailed district data as well. With the assistance and cooperation of the Texas Education Agency, we were able to match these personnel records over time to create a longitudinal data file on public school teachers in Texas from 1979–1996, obtained from the Texas Education Agency. These data provide a complete work history of teachers during this period. These files have been linked to district characteristics that allow us to define high-risk districts and the teachers who work in them. However, because district data are available only for the years 1980–1995, for most of our analyses, we are limited to this 16-year period.

High Representation of Minorities in the Teaching Force

In 1995–96, minorities constituted 24 percent of the full-time teaching workforce: Hispanics accounted for 15 percent of the teaching force, 8 percent were black, and fewer than 1 percent were other minority. In particular, the presence of a large Hispanic teaching force offers a unique opportunity to study the career patterns of Hispanics. This is particularly important because with some exceptions (notably recent research carried out by the Texas Education Agency, 1994, 1996), there is little systematic, longitudinal, large-scale research aimed specifically at Hispanic teachers.

Commitment to Increased Diversity in the Teaching Force

Texas is also an important case study because a stated objective of the State Board of Education is to have a teaching force that reflects the ethnic composition of the state (Texas Education Agency, 1994, p. 2). The Education Agency provides three reasons for adopting this objective:

- Students need role models of people in professional positions who are like them; the absence of role models sends a negative signal that minorities cannot aspire to such positions.
- Teachers may interact more successfully with students who share similar cultural backgrounds. The report cites studies that show (a) white teachers are more likely to assign Hispanic students to special education classes than white students at the

same level of achievement; and (b) Hispanic teachers are less likely to mistake language problems as learning disabilities.²

- Diversity in the teaching force may foster knowledge and understanding of different cultures on the part of all teachers.

WHAT THIS REPORT DOES AND DOES NOT DO

It is important to be clear about what this report does and does not do. We piece together evidence from a variety of data sources and analyses—including a detailed analysis of teacher attrition—about the likely future demand and supply of minority teachers. However, given the limitations of our data, we cannot address the question of teacher quality in high-risk districts directly. This is an important limitation because a growing body of literature suggests that teacher quality can have a significant effect on student outcomes. For instance, detailed studies of teacher ability and qualifications have found that teacher preparation in mathematics and science has a positive effect on student achievement in those subjects (Monk and King, 1994; Goldhaber and Brewer, 1997a, 1997b). Additionally, there is evidence that teachers' cognitive ability serves as an important predictor of how effective a teacher will be in the classroom. For instance, individuals who score higher on standardized exams and attend more selective colleges tend to be more effective teachers as reflected in student outcomes (Ehrenberg and Brewer, 1994; Ferguson, 1991, 1998; Strauss and Sawyer, 1986).

In fact, recent research provides strong evidence that teacher quality is the single most important school factor affecting student achievement. Sanders and Horn (1994) find that the effectiveness of teachers has a larger effect on students than any other school factor and that there is a wide range of performance among teachers. However, it appears that the most important teacher attributes are difficult to identify in extant data. For instance, the ability of teachers to convey knowledge or their enthusiasm for class material might have a dramatic effect on students, but these characteristics are difficult to quantify in data and may not be related to identifiable characteristics that are more easily measured (Goldhaber et al., 1999).

²The report does not provide any references to these studies.

Thus, although teacher quality is a central issue, as we said above, our data do not allow us to address this issue. We have some measures of teacher quality: percentage of uncertified teachers teaching in at-risk districts, proportion of teachers with no degrees, and teaching experience, but these are proxies at best. The evidence we gather is suggestive and informative but a great deal more work remains to be done in this area.

ORGANIZATION OF THE REPORT

This report is organized around the themes of teacher supply and teacher demand, with particular emphasis on minority teachers and at-risk school districts. The second chapter provides some background data on Texas and provides a rationale for our measure of “risk” and how we use this to categorize districts as high-, medium-, and low-risk districts in terms of the proportion of students at risk for educational failure. The third chapter examines the components of teacher supply, using a variety of data sources. The fourth chapter delineates the components of teacher demand, the most important of which is teacher attrition. The major focus of this chapter is, therefore, an examination of teacher attrition patterns, which encompasses both bivariate and multivariate analyses. Conclusions are presented in the final chapter. Appendix A presents data comparing low-, medium-, and high-risk districts along a variety of dimensions. Appendix B presents an alternative specification of the multivariate model of teacher attrition, using the full span of data, 1980–81 to 1995–96. Although the report does not attempt to construct a full-scale teacher demand and supply model, the evidence presented here on the separate components of teacher demand and supply offers interesting, provocative, and troubling insights into the future demand and supply of minority teachers.