INTRODUCTION

Teacher supply and demand issues are of critical importance as our society enters the 21st century. Over the next decade, about two million new teachers will be needed largely because of a dramatic increase in enrollments (Gerald and Hussar, 1997) and high attrition rates as an aging teacher workforce becomes eligible for retirement (National Commission on Teaching and America's Future, 1996). It is important to understand where these teachers will come from and where they will teach. This is especially important for high-poverty districts that tend to have large numbers of students at risk of educational failure. These districts, which also tend to be disproportionately minority, are already facing difficulty recruiting and retaining qualified teachers (Lippman et al., 1996).

Given this, it is important to ask whether we will be able to staff high-risk and high-minority districts. National data show that these districts are staffed predominantly by minority teachers. Thus, the answer to the question of who will staff these districts revolves around whether we will have enough minority teachers. This report aims to fill part of this information gap by examining demand and supply of minority teachers in Texas.

RESEARCH QUESTIONS AND DATA

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?

Our data consist of a longitudinal data file on public school teachers in Texas from 1979 to 1996, obtained from the Texas Education Agency. Texas is a good case study because it maintains excellent teacher personnel files and it has a large minority teaching force. These files are linked to district characteristics that allow us to define high-risk districts and the teachers who work in them.

AT-RISK DISTRICTS: STUDENTS AND TEACHERS

One objective of this research is to identify children at risk for educational failure and to examine the characteristics of the districts that serve them and the teachers who are teaching them. Prior research has shown that poverty tends to be highly correlated with lower student achievement (Berends and Koretz, in press; Grissmer et al., 1994; Hill and O'Neill, 1994). Using the percentage "economically disadvantaged" in a district, we categorized school districts as low, medium, and high risk: fewer than 40 percent, 40–59 percent, and 60 percent and higher, respectively. This categorization is highly correlated with measures of student performance.

Texas experienced a significant increase in the number and proportion of students classified as economically disadvantaged over the past 15 years and, as a result, in the number of districts serving primarily at-risk populations. We find striking differences in the racial/ethnic composition of the student body in the three risk categories (Figure S.1). In fact, Hispanics account for about 70 percent of student enrollment in high-risk districts compared with fewer than 15 percent in low-risk districts, where the school population tends to be primarily non-Hispanic white.

RAND*MR1083-S.1*
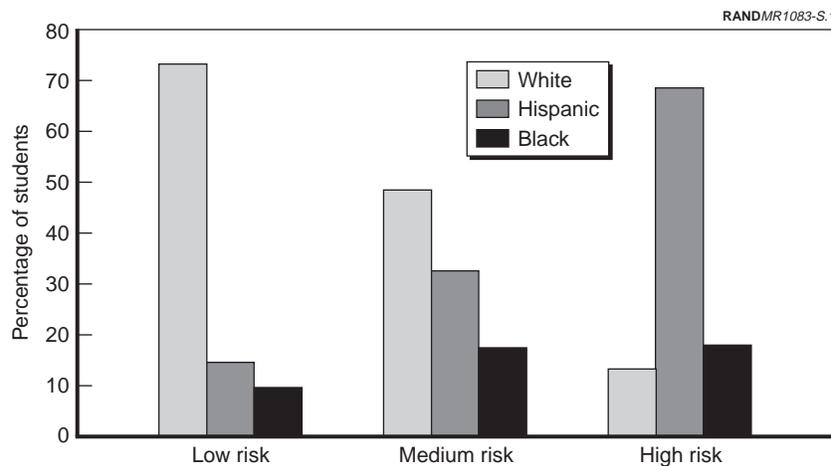
Figure S.1—Racial/Ethnic Composition of Students in Low-, Medium-,
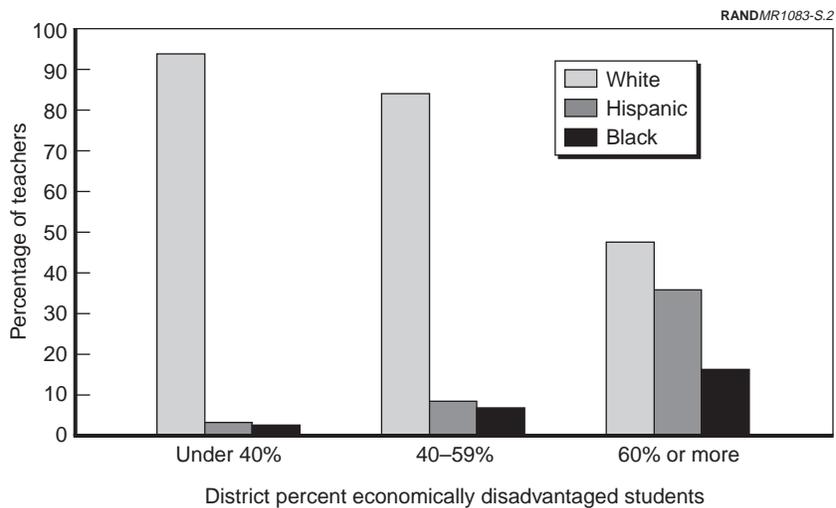and High-Risk Districts, 1995–96

About 37 percent of teachers teach in low-risk districts, another third
teach in medium-risk districts, and 30 percent teach in high-risk dis-
tricts. However, if we examine the distribution of teachers by
race/ethnicity and by where they are teaching, we find that minority
teachers are teaching disproportionately in high-risk districts (Figure
S.2). For example, in low-risk districts, non-Hispanic white teachers
account for 95 percent of the teaching force compared with 45 per-
cent in high-risk districts.

FINDINGS AND POLICY IMPLICATIONS

One objective of the State Board of Education is to have a teacher
workforce that reflects the racial/ethnic composition of the state
(Texas Education Agency, 1994, p. 4). However, 76 percent of all full-
time teachers are non-Hispanic white, 15 percent are Hispanic, 8
percent are black, and somewhat fewer than 1 percent are other mi-
nority. Compare this to the student body, where currently minorities
account for 54 percent of all students—37 percent are Hispanic, 14
percent are black, and 3 percent are other minority. Further, enroll-
ment projections show that by 2025, minorities will make up two-

thirds of the student body, thus increasing the gap in representative-
ness. In addition, attrition (especially among black teachers) will
likely rise over the next several years because of retirements, increas-
ing future demand. Thus, it does not seem likely that Texas will be
able to hire minority teachers in sufficient numbers to make measur-
able progress toward its objective.

There are some disturbing implications of a potential shortage of
minority teachers, particularly in high-risk districts. First, turnover
in these districts will increase as new, inexperienced, non-Hispanic
white teachers are hired who tend to leave at much higher rates. This
turnover could potentially have adverse effects on the quality of
teaching. Second, there will be increasing competition for minority
teachers from other school districts within a state, from other states,
and from other professions. Third, with increasing numbers of un-
filled vacancies, the districts may have to resort to a number of ac-
tions to compensate for these shortages—substitute teachers, teach-
ers from other fields, and noncertified teachers—actions that are not
likely to improve the quality or continuity of teaching.

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**Figure S.2—Race/Ethnicity of Teachers in Low-, Medium-, and High-Risk
Districts, 1995–96**

We find that minority teachers tend to have lower attrition than white, non-Hispanic teachers but that, controlling for everything else, high-risk districts experience significantly higher attrition than low-risk districts. In addition, our findings suggest that minority teachers tend to display a greater sensitivity to pay and working conditions, especially in high-risk districts. Thus, raising beginning teacher salaries, reallocating resources to increase the number of aides and support staff, or lowering the student/teacher ratio in high-risk districts may well have important payoffs in both recruiting and retention of minority teachers. Of these, raising teacher pay holds the most promise for reducing attrition. Presumably, this would not only increase teacher supply in general but may increase the supply of high-quality teachers who, because they have greater nonteaching labor market opportunities, are likely to be even more sensitive to working conditions and pay.