CHAPTER V

DISCUSSION

The purpose of this study was to investigate whether concentrations within school buildings of students of low socioeconomic status (SES) are associated with lower student achievement. The previous chapter presented the results from the hierarchical linear modeling (HLM) analysis used in this study. This chapter summarizes the findings of the study and then discusses the meaning of the results and their implications for educational policymakers. This chapter concludes with some suggestions for future research.

Discussion of the Findings

Two research questions were addressed in this study. The primary question was whether a significant relationship exists between aggregate school poverty concentrations and individual students' academic achievement. A secondary question was whether a significant relationship exists between individual students' poverty and their academic achievement. These questions are discussed below in reverse order.

The Negative Relationship Between Individual Student Poverty and Academic Achievement

The findings from the HLM analysis indicated that students' SES exerted

significant effects on their academic achievement in all four subject areas. Low SES students tended to do worse academically than high SES students, even when controlling for other student- and school-level demographic characteristics. These results were consistent with other studies finding that, on average, students from poor families do significantly worse in school than their more advantaged peers (see, e.g., Raudenbush & Bryk, 1986; Anderson et al., 1993; Puma & Drury, 2000; Smith et al., 1997; Brooks-Gunn et al., 1997; Coleman et al., 1966; Jencks et al., 1972).

Explanations for the Negative Relationship Between Individual Student Poverty and Academic Achievement

There are a variety of reasons why low individual SES may negatively impact academic achievement, and many studies have been conducted to investigate these causes. Their findings are summarized in the sections below.

Health Factors

Researchers have found that poor children are more likely than higher SES children to suffer from chronic hunger, to lack adequate clothing and housing, to have poor sanitary facilities at home, and to have infrequent access to transportation facilities (Gortmaker, 1979; Teachman, Paasch, Day, & Carver, 1997; Children's Defense Fund, 1994; Klerman, 1991). Low SES children are more likely to suffer from low birth weight, the long-term effects of which include "grade failure, receipt of special education, lower school achievement, [and]

behavior problems," and are less likely to have parents who followed "recommended pediatric guidelines for well-baby care" (Brooks-Gunn et al., 1997, p. 10). They also are more likely to suffer from vision, hearing, dental, emotional, and behavioral problems (Klerman, 1991) and tend to experience more physical, sexual, and emotional abuse and neglect than do peers in families with higher income (Klerman, 1991; Drake & Pandey, 1996).

Additionally, children living in poverty are more likely to be anemic, to acquire pediatric AIDS, and to experience lead poisoning (Klerman, 1991), and also are more likely to catch severe infectious diseases (partly because they are less likely to receive vaccinations) (Brooks-Gunn et al., 1997; Klerman, 1991). Poor children are at increased risk of being exposed to cigarette smoking and the use of illegal drugs and are more likely to have parents who are unemployed and who have a limited education (Cicchetti & Lynch, 1993; Klerman, 1991; Children's Defense Fund, 1994).

The lower health status of poor children is compounded by the fact that poor families "tend to underuse personal health services" and that the quality of health care for poor families "may be inadequate for their needs" (Klerman, 1991, p. 142). All of these health factors seem to contribute to delays in poor children's growth and development and to their increased risk for illness, disability, and premature death (Klerman, 1991; Children's Defense Fund, 1994). All of these health factors appear to have both direct and indirect influences on poor

students' academic achievement.

Neighborhood Factors

In addition to individual and family health considerations that seem to impact the achievement of low SES students, researchers also have found that the neighborhoods in which poor children live exert differential impacts on their academic success. Neighborhoods in which poor children live have "higher concentrations of illegal economies and gang activity" (Connell & Halpern-Felsher, 1997, p. 181) and have "lower concentrations and quality of educationally supportive institutions" (Connell & Halpern-Felsher, 1997, p. 181), such as churches, scout troops, organized sports leagues, community associations, and voluntary organizations that serve children and adolescents (Connell & Halpern-Felsher, 1997; Entwisle et al., 1997). Children in poverty also are less likely to have exposure to economically and academically successful role models and are more likely to experience social isolation from non-familial adults, families, households, and other institutions (such as banks, stores, and libraries) that are interested in children's well-being (Connell & Halpern-Felsher, 1997; Entwisle et al., 1997). Like the health factors listed previously, all of these neighborhood factors appear to have both direct and indirect influences on poor students' academic achievement.

Parent Factors

The parental resources of poor children also seem to negatively impact

their academic achievement. While a preponderance of research has found little to no difference between low SES parents and more affluent parents in terms of the values they hold for their children,[11] low SES parents still seem to possess decreased "cultural capital," defined as skill "in dealing with the schools, their strategies for helping their children, their understanding of how schools work, [and] their beliefs about the role of the family in education" (Vacha & McLaughlin, 1992, p. 12). Entwistle, Alexander, & Olson (1997) have noted that lower income parents are more likely to view education

> as a process taking place on school premises and on school time, under the direction of a teacher, [and to] believe that children's learning [depends] on activities at home . . . . Middle class parents, on the other hand, [generally look] upon themselves as being partners with teachers in promoting children's academic growth. (pp. 52-53)

As a result, low SES parents exhibit less ability "to help children with homework and to effectively communicate with teachers" (Vacha & McLaughlin, 1992, p. 10) and are less likely to participate in the schools and stay informed about their children's school progress (Vacha & McLaughlin, 1992; ERIC Clearinghouse on Urban Education, 1985; Office of Research and Evaluation, 1977; Entwisle et al., 1997; Hills, 1961).[12]

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[11]For example, all parents generally value deferred gratification and self-direction and have a similar desire to see their children be academically successful (Vacha & McLaughlin, 1992).

[12]These differences in school participation may occur in part because low SES parents may be "uncertain of how to relate to teachers [and are] fearful of humiliation" (Gigliotti & Brookover, 1975, p. 259; see also Sexton, 1969).

Other differences in parental resources also appear between families. Entwistle, Alexander, & Olson (1997) noted that higher SES parents tend to

> interact with their children more often in ways that prompt children's cognitive growth - [to] give them positive rather than negative reinforcement, [to] encourage them to be self- rather than teacher-directed when they start school, [to] teach them productive problem-solving strategies, and [to] emphasize less the superficial than the deeper structure of language when opportunity offers. (p. 59)

Additionally, higher SES families tend to experience lower levels of stress from "negative life events" (Entwisle et al., 1997, p. 54; Teachman et al., 1997) and are more likely to possess tangible resources that benefit academic success, such as books, encyclopedias, computers, and a quiet place to study (Coleman et al., 1966; Vacha & McLaughlin, 1992). As Entwistle, Alexander, & Olson (1997) have noted, the presence of these tangible resources has significant effects on student learning over the summer when schools are closed.

Summary

This study indicated that there is a negative relationship between individual student poverty and academic achievement. Researchers have identified a number of individual, parent, and neighborhood characteristics which appear to contribute to poor students' lower academic achievement. In addition to the explanatory factors listed above, a few school-related characteristics also seem to negatively impact poor students' achievement, including poor students' lower educational aspirations (Suchman, 1968), greater tendency to miss school (Caldas, 1993), and greater sense of academic futility (Brookover et al., 1978).

Unsurprisingly, the cumulative effects of these negative life and school-related circumstances are overwhelming for many children in poverty.

Maeroff (1998) has noted that "the struggle to build social capital for poor children represents one of the most important endeavors in the country today" (p. 426). However, as schools struggle to mediate the negative life circumstances that often surround children in poverty, there is evidence that they also contribute to the differences in academic achievement that exist between low and high SES students.

The Negative Relationship Between Aggregate School Poverty and Academic Achievement

The findings from the HLM analysis indicated that school SES exerted statistically significant effects on students' mean academic achievement in all four subject areas, above and beyond the effects of students' individual SES and other student- and school-level demographic characteristics. Students in high poverty schools tended to do worse academically than those in low poverty schools, regardless of their own individual social class. These results were consistent with other studies finding that, on average, students in schools with high concentrations of disadvantaged students do significantly worse than those in higher SES schools (see, e.g., Kennedy et al., 1986; Puma et al., 1997; Schellenberg, 1999; Lee et al., 1997; Raudenbush & Bryk, 1986; Anderson et al., 1993). Moreover, the results from this study also indicated that higher

concentrations of poor children within school buildings had an equalizing effect on the relationships between individual SES and academic achievement. In other words, the achievement gap between high SES students and low SES students was smaller in higher poverty schools (and larger in lower poverty schools) for all four academic subject areas studied. School SES was the only school-level variable in this study that exhibited a consistent impact on social class differentiation within schools, although there was some evidence that school size, and perhaps eighth grade minority percentage, also affected student SES-achievement relationships. These results were consistent with other studies finding an equalizing effect on academic achievement for school SES (see, e.g., Lee et al., 1997; Lee & Smith, 1993; Bryk & Raudenbush, 1992).

Explanations for the Negative Relationship Between Aggregate School Poverty and Academic Achievement

There are a variety of reasons why low school SES may negatively impact academic achievement, and many studies have been conducted to investigate these causes. Their findings are summarized in the sections below.

Peer Factors

Researchers have found that direct and indirect student-to-student interactions can shape individual students' attitudes and behavior. Rumberger & Willms (1992) noted that emulation of and identification with student reference groups can affect student achievement "over and above [students' own]

individual and family characteristics" (p. 379). Similarly, Caldas & Bankston (1997) stated that "shared beliefs, habits, and peer pressure" are the "most important mechanisms by which peer groups affect individual academic achievement" (p. 270). Kilburn (1993) maintained that knowledge of a person's social network predicted attitudes and behavior "even better than knowledge of [his or her] own characteristics" (p. 1). Other researchers have affirmed the importance of peer environment on the behavior of children and adolescents (see, e.g., Coleman, 1961; Reitman, 1981).

The peer environment in high poverty schools usually is one that depresses student academic achievement (Caldas & Bankston, 1997; Rumberger & Willms, 1992). The student body in high poverty schools generally is academically unsuccessful, and students in such schools are likely to possess a number of academic and behavioral risk factors that negatively impact student achievement. For example, in addition to the negative life circumstances described previously for low SES students, students in low SES schools are less likely to do homework, less likely to have parents who expect them to go to college, more likely to have changed schools more than once, and more likely to miss school than students in more affluent schools (Lippman et al., 1996). This lack of successful normative peer references appears to have a detrimental effect on student achievement.

Ide, Parkerson, Haertel, & Walberg (1981) have reported that elementary

students' knowledge of the aspirations and achievement levels of their best friends significantly influences their academic outcomes.[13] Similar findings from school desegregation and other studies (see, e.g., Braddock & McPartland, 1988; Hacker, 1995; Bankston & Caldas, 1996) have underscored the importance of cross-group interactions in regard to student academic achievement. Thus the dearth of academically successful peer role models and the lower levels of educational and social capital present in high poverty schools appear to have a homogenizing, and debilitating, school-wide effect on student achievement (see, e.g., Anderson et al., 1993; Schellenberg, 1999; Kennedy et al., 1986).

School Personnel Factors

In addition to the negative academic effects that seem to be associated with student social climate, high poverty schools also are more likely to have lower-qualified and more inexperienced teachers (Ingersoll, 1998; Lippman et al., 1996; Oakes, 1990; Farmer, 1998). Causes of poor teacher quality in high poverty schools may include lower average teacher salaries and a lower availability of necessary resources for teachers (Lippman et al., 1996). Lower teacher quality in high poverty schools also may be a consequence of an unwillingness by middle and upper class teachers to work in schools with

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[13]Ide, Parkerson, Haertel, & Walberg (1981) also reported that the effects of peer influence on elementary student academic outcomes were greater in urban schools (which are more likely to be high poverty schools (Lippman et al., 1996)).

disadvantaged children (Suchman, 1968; Farmer, 1998).

Lower salaries may be the result of relative teacher inexperience: the average percentage of teachers with three years or less experience is much greater in high poverty schools than in more affluent schools (Lippman et al., 1996). Many urban districts offer higher salaries (for equivalent teaching experience) than suburban or rural districts in an attempt to lure or retain high-quality teachers (Montgomery & Rossi, 1994). However, despite these financial incentives, administrators of high poverty schools report greater difficulty hiring teachers, especially those administrators in schools with poverty concentrations above 40% (Lippman et al., 1996; Oakes, 1990).

These administrators also have more difficulty retaining the teachers that they have: high poverty schools suffer from greater teacher mobility than do higher SES schools (Darling-Hammond & Green, 1990; Puma et al., 1997). The resultant effect of high poverty schools' inability to hire or retain high-quality teachers is that they "have higher levels of out-of-field teaching than do schools in more affluent communities" (Ingersoll, 1998, p. 774; Darling-Hammond & Green, 1990; Oakes, 1990). Teachers also exhibit greater absenteeism in high poverty schools (Lippman et al., 1996).

In a study of 13,000 National Education Longitudinal Study (NELS) students, Farmer (1998) reported that students attending high poverty schools have limited access to well-qualified teachers. Farmer's findings affirmed those of

other researchers, who also have found that poor teacher quality in high poverty schools negatively impacts student academic achievement (see, e.g., Coleman et al., 1966; Hanushek, 1989; Berliner, 1993; Oakes, 1990; Wendling & Cohen, 1981; Ferguson, 1991). The differential access to quality teachers tends to have devastating effects on the achievement of low SES students. For example, in a study of 150,000 teachers in Texas, Ferguson (1991) found that teacher qualifications and experience can account for up to 20 or 25% of the variation in student achievement scores. These adverse academic effects of poor teacher quality are further exacerbated by the fact that principals in high poverty schools tend to be less-experienced (Puma et al., 1997) and are more likely to engage in strong, controlling administrative behaviors rather than supportive behaviors that facilitate teachers' work (Firestone & Wilson, 1989). The end result is that children who desperately need some of the best teachers and principals available instead often get many of the worst (Kozol, 1991).

Curricular and Academic Climate Factors

The level of academic instruction and the quality of the general school academic climate also seem to be much worse in high poverty schools (Rumberger & Willms, 1992). Knapp, Shields, & Turnbull (1995b) have noted that the emphasis in high-poverty classrooms traditionally is on "learning deficits, tightly controlled direct instruction, repetitive practice, and the mastery of discrete 'basic' skills" (p. 183). These "drill-and-kill" instructional methods tend to have

detrimental effects on student achievement in low SES schools. Children in poverty are especially vulnerable to the adverse effects of skills-based curricula because they have "fewer out-of-school opportunities [than more advantaged peers] to integrate the learning of discrete skills into true proficiency . . . . Disadvantaged students often see less purpose for or meaning in skills-based learning tasks than do more-advantaged students; consequently, they need help to find meaning in what they do in school" (Knapp, Shields, & Turnbull, 1995b, p. 755).

However, despite the fact that disadvantaged students especially benefit from instruction that imparts meaning to learning tasks, teachers in high poverty schools

> generally [keep] much tighter control on students [and give] them less autonomy and less opportunity to interact with one another, [even though] such opportunity for meaningful participation has been shown . . . to be an important correlate of students' attachment to school and academic motivation and engagement in both high [and low] poverty settings. (Solomon, Battistich, & Hom, 1996, pp. 344-345)

Poor students thus are denied the classroom instruction that may benefit them the most. The result is that schools are "often teaching the children of poverty *less* than they are capable of learning" (Knapp & Shields, 1990, p. 753, emphasis in original).

Tharp (1998) has noted that all students learn best "when offered the challenge and assistance to think in complex ways . . . . Connecting new material to overarching schemata, pressing consistently for higher zones of cognitive

development, and providing clear standards and performance feedback are strategies that provide an environment of cognitive challenge and foster academic achievement and joy in learning" (p. 2). Other research has confirmed the academic benefits of higher-order classroom instruction (see Teddlie, Kirby, & Stringfield, 1989; Stringfield & Teddlie, 1988; Rutter et al., 1979; Puma & Drury, 2000; Mortimore, Sammons, Stoll, Lewis, & Ecob, 1988). Yet teachers in low SES schools often fail to offer students these rich classroom experiences because they have to spend more time maintaining classroom discipline (Lippman et al., 1996) and because they have lower academic expectations of students in poverty (Solomon et al., 1996; see also Ferguson, 1998).

These lower academic expectations of students can and do exert significant influence upon their achievement (Irvine, 1990; Persell, 1977; Lezotte & Passalacqua, 1978; Berube, 1983). Suchman (1968) has noted that middle class teachers are likely to have negative attitudes toward poor students due to value differences. Even the act of labeling students as disadvantaged can affect teachers' expectations of, and behavior toward, those labeled students (Anyon, 1989; Koehler, 1988). Solomon, Battistich, and Hom (1996) have found that teachers often see "students in high poverty schools as less capable, . . . even when performance [is] equivalent [to other students]" (p. 345). Caldas & Bankston (1997) have noted that teacher and administrator perceptions of peer groups, whether conscious or unconscious and "whether based on past

experience or preconceived stereotypes," can influence perceptions of individuals (p. 270; see also Persell, 1977). Thus educators with lowered expectations for students often "dumb down" curricula, with a resultant negative academic effect on individual students in high poverty schools regardless of their own SES level or academic ability (Caldas & Bankston, 1997, p. 270; see also Anyon, 1989; Hanson, 1990; Oakes, 1990). The consequence of these low academic expectations is that low SES schools become ineffective learning environments for the students who attend them (see Hallinger & Murphy, 1986; McDill, Rigsby, & Meyers, 1969).

Low SES schools generally offer a narrower scope of educational offerings than more affluent schools (Oakes, 1990; Center for Policy Research in Education, 1991; Kozol, 1991). Low SES schools have a higher prevalence of vocational coursetaking by students, and lower levels of advanced coursetaking, than more affluent schools (Lippman et al., 1996; Oakes, 1990). They also are less likely to offer gifted and talented programs than higher SES schools (Lippman et al., 1996). Parents of children in low SES schools often acquiesce to school curricular practices: research has found that "parents from low SES communities often prefer an emphasis on social and vocational education, whereas parents from high SES communities generally prefer an emphasis on intellectual or academic goals" (Hallinger & Murphy, 1986, p. 348; see also Hills, 1961). These narrow curricular choices can negatively affect student

achievement (Jones, Davenport, Bryson, Bekhuis, & Zwick, 1986; Farmer, 1998; Gamoran, 1987).

In the end, the paucity of rich classroom instruction, lower academic expectations, and constrained curricular offerings often become a self-fulfilling prophecy. High poverty schools become institutions that are "characterized by a high sense of student academic futility [and] low academic norms" (Brookover et al., 1978), in part because "negative stereotypes of [teachers and administrators] . . . eventually influence how [students perceive their] own capabilities" (Caldas & Bankston, 1997, p. 270; see also Steele, 1997; Steele & Aronson, 1998). When combined with in-school ability tracking that limits low-achieving poor students' exposure to "high-achieving students who can model mastery of learning tasks" (Knapp & Shields, 1990, p. 756; see also Oakes, 1990; Persell, 1977), the result often is widespread academic failure for all students, regardless of their individual social class.

Summary

This study indicated that there is a negative relationship between aggregate school poverty and academic achievement. Researchers have identified a number of school and peer factors which appear to contribute to the lower academic achievement levels typically found in high poverty schools. In addition to the explanatory factors listed above, other characteristics also appear to negatively impact academic achievement in low SES schools, including

disparities within and between districts in regard to school funding and distribution of resources (see, e.g., Wendling & Cohen, 1981; Persell, 1977; Payne & Biddle, 1999; Hughes, 1995; Biddle, 1997; Rumberger & Willms, 1992). While the effects of school-level (and other) variables vary from student to student, it appears clear that "the dominant importance of child and family factors in predicting student achievement outcomes does not mean that school factors . . . are inconsequential" (Puma et al., 1997, p. 74).

Implications for Educational Practice

The results of this study suggest, in contrast to assertions by Coleman et al. (1966) and others (e.g., Jencks et al., 1972; Rutter et al., 1979; Brookover et al., 1978), that the high poverty levels present in many of our nation's schools exert significant, negative effects on student achievement above and beyond individual (and other school-level) characteristics. Furthermore, these effects appear to be larger than or equal to the effects of school-level minority percentages. These findings affirm earlier research (see, e.g., Kennedy et al., 1986; Puma et al., 1997; Schellenberg, 1999; Lee et al., 1997; Raudenbush & Bryk, 1986; Anderson et al., 1993) and indicate that class-based approaches to improving low SES students' achievement may be more effective than or equal to race-based approaches that historically have been employed by school districts, especially since they also are likely to avoid the judicial enmity that currently exists toward race-based approaches.

Several class-based mechanisms, including student redistribution policies, exist for addressing the academic inequalities found to be associated with concentrated school poverty. These approaches are discussed in the sections below.

Resource Allocation

One approach to addressing the academic disparities that exist in high poverty schools could be to allocate greater financial and human resources to those schools most in need. Many studies have found that academic differences in high poverty schools are a result of lower school funding levels (e.g., Payne & Biddle, 1999; Wendling & Cohen, 1981), lower quality teachers (e.g., Ingersoll, 1998; Oakes, 1990), and lower levels of other school resources (e.g., Rumberger & Willms, 1992). Redistributing teaching resources and allocating greater funds to high poverty schools could help mitigate these negative influences on student achievement (Rumberger & Willms, 1992).

Altering school curricula and classroom instructional practices also could improve student achievement in high poverty schools. The work of Michael Knapp and others has shown that alternative teaching approaches can benefit low income students, especially if they focus on teaching for meaning and understanding, connect classroom instruction to students' backgrounds and experiences, and are successful at establishing and maintaining orderly, engaging learning environments. Such approaches have been proven to be more

effective than conventional approaches at teaching both basic and advanced skills and also result in students' increased engagement in their academic learning (see, e.g., Knapp, Shields, & Turnbull, 1995a; Knapp, 1990; Knapp & Shields, 1990; Knapp & Associates, 1995). Evidence also exists that inclusion of academically-oriented course offerings in school curricula can improve student achievement (Gamoran, 1987; Hanson, 1990; Anyon, 1989).

Districts that do not have the current human capital to make these curricular and instructional changes could offer financial inducements as a means of attracting high quality teachers and administrators (Rumberger & Willms, 1992). Increasing financial expenditures to improve physical facilities and curricular and extracurricular programs are other potential methods of attracting both high quality teachers and more affluent students to more disadvantaged districts.

Yet in many high poverty areas many of these mechanisms already have been implemented. While effective schools research has shown that these approaches and others can and do work in some high poverty schools and school districts, the effects of poverty often have proven overwhelming for educators attempting to raise the academic achievement of low SES students. The largest program for disadvantaged students, the federal Title I (or Chapter I) program, spends nearly $7 billion each year and serves over six million poor students nationwide (Puma & Drury, 2000), yet it has improved education in low

income areas only marginally (Rotberg, 1993).[14] As Rotberg (1993) has noted, Title I funds are distributed so broadly that they cannot meet the needs of our nation's most disadvantaged students and schools and they cannot overcome the large funding inequities that still exist between and within states.

School districts that have implemented programs to make some or all of their schools more attractive to middle class White students often have experienced few benefits in relation to expenditures (Gewertz, 2000). Furthermore, consequences of such programs frequently have been "higher concentrations of low income students in neighborhood schools" as more affluent students within districts migrate to take advantage of these district magnet programs (Yancey et al., 1999, pp. 15-16).

Increased expenditures and resource allocations also do not address the low teacher expectations and impoverished leadership that frequently exist in high poverty schools. While professional development practices could help address inappropriate and inaccurate teacher perceptions of students in low SES schools (see Ferguson, 1998), reliance upon staff development programs probably is an insufficient mechanism to counter the numerous disadvantages associated with concentrated school poverty.

As Jencks et al. (1972) noted, "reallocating resources . . . and rewriting the

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[14]Puma & Drury (2000) have noted that, "although Title I has not compensated for the early effects of poverty, the program *may have prevented disadvantaged students from falling farther behind*" (p. 9, emphasis in original).

curriculum seldom change the way teachers and students actually treat each other minute by minute" (p. 255), and altering teachers' and administrators' perceptions of low SES students is difficult. Furthermore, although increased resource allocations appear to have helped prevent many poor students from falling further behind, to date such programs have been fairly unsuccessful at closing the persistent gap in academic achievement between low SES students and their more advantaged peers (Puma & Drury, 2000). These disheartening effects may be due to a failure to fund such programs in a manner adequate to address poor children's needs (Hunter, 2000). However, it appears probable that increasing resource allocations alone will not be a panacea for the myriad ills that trouble low SES schools. Given the overwhelming needs associated with high poverty schools, the solution may be for our states and school districts simply to have fewer of them.

Intradistrict Class-Based Student Assignment Plans

As Bankston & Caldas (1996) have noted, "allowing the concentration of advantaged children and, as a necessary consequence, also the concentration of disadvantaged children, simply perpetuates . . . imbalances of abundance and deprivation" (p. 536; see also Coleman, 1990). Thus it is unsurprising that many researchers and policymakers have argued for class-based student redistribution policies in order to correct these inequalities (Kahlenberg, 1996; Johnston, 2000; Quinn, 1999; Hodgkinson, 1995).

As the results from this study (and others) show, high school poverty concentrations appear to exhibit significant negative effects on student achievement. Implementation of class-based student assignment policies to reduce concentrations of poverty within schools thus may have some merit.[15] These plans could be either voluntary, such as the use of magnet school preferences, or mandatory, such as the imposition of class-based criteria for determining school attendance zones (Rumberger & Willms, 1992; Johnston, 2000; Quinn, 1999). Through the use of such plans, school districts could directly utilize student SES as an indicator of academic need, rather than using race as a proxy identification measure (Hodgkinson, 1995, p. 176), and could institute appropriate remedial interventions for students regardless of their racial or ethnic status. For districts in which the correlation between minority status and low SES was high, class-based student assignment plans also would result in racial diversity within schools. For districts in which the correlation was low, non-minority poor students might face a better chance of having their academic needs recognized and met than under race-based plans. Given the existing evidence that concentrations of poverty within schools are likely to result in lower student achievement (Lee et al., 1997; Puma et al., 1997; Schellenberg, 1999; Anderson et al., 1993), class-based student assignment plans could effectuate

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[15]At least one researcher has disagreed, stating that "recommendations such as a massive reorganization of the student population based on SES would likely do very little to equalize achievement levels among schools, because SES of the individual student plays too small a role in achievement" (White, 1982, p. 342).

an overall improvement of the academic achievement of low SES students.

Increased exposure to higher SES students, parents, and schools would likely produce a number of benefits for poor children. As Wells & Crain (1997) have noted, attending schools "in which college is a reasonable expectation for the vast majority of students is very different from attending [schools] in which the majority of students are isolated from higher education institutions and people who have been to them" (p. 338). Other researchers have concurred, noting that one of the greatest barriers to date to economic and social mobility for "low income, inner-city [minority students has been] the degree to which they remain isolated from the opportunities and networks of the mostly White and middle-class society" (Wells & Crain, 1997, p. 342; see also Wilson, 1987; Coleman et al., 1966).

Yet the viability of class-based student assignment policies would differ from school district to school district. In districts with a wide socioeconomic range of students, class-based redistributions of students between schools could be a practicable approach toward improving the low academic performance of low SES students. These districts could recognize that "contextual effects [of school SES] can [and do] affect achievement over and above those compositional effects associated with low income students' individual and family characteristics" (Rumberger & Willms, 1992, p. 379) and could implement class-based assignment policies that more evenly distributed students across schools. Other

districts, however, would not have that luxury. Because of student enrollments that are predominantly (or almost unanimously) poor, many urban districts, for example, would have few or no students with whom to even out social class distributions, even if the districts wished to do so.[16]

Assignment policies based on student SES would have other potential drawbacks as well. As the number of low SES students within schools increased, it is both possible and probable that at some point the achievement of higher income students would be negatively impacted (Kahlenberg, 1996; Caldas & Bankston, 1997). Mayer (1991) has noted that there is "little evidence that disadvantaged students gain proportionately more from increases in schools' mean SES than advantaged students lose from decreases in mean SES" (p. 330) and there is some evidence that decreases in mean high school SES actually have a greater academic impact on affluent students than on low income students (Mayer & Jencks, 1989; Bryk & Driscoll, 1988; Mayer, 1991). Thus school socioeconomic diversity may benefit low SES (and minority) students but be a disadvantage, at least in terms of academic achievement, for higher SES students (Mayer, 1991; Caldas & Bankston, 1997).[17]

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[16]For example, in the following urban school districts, 70% or more of the students are poor enough to quality for free or reduced price lunch: Compton and Los Angeles, California; Bridgeport and Hartford, Connecticut; Atlanta, Georgia; New Orleans, Louisiana; Camden, Newark, Paterson, and Jersey City, New Jersey; Cleveland, Ohio; and San Antonio, Texas (Jerald & Curran, 1998).

[17]These findings are in contrast with racial desegregation studies, which almost unanimously have found that desegregation has little to no impact on the academic achievement of White students (see, e.g., St. John, 1975; Crain & Mahard, 1978; Weinberg, 1975; Braddock &

In addition to these negative effects on the achievement of higher SES students, it also is probable that at some point increased poverty concentrations within schools that previously had few low income students would result in the estrangement of higher SES parents (Friedman & Gutnick, 1999). Hodgkinson (1995) has noted that

> the furor some Whites showed when informed that their children would have to go to school with minority children [would be] mild compared to the reaction of upper- and middle-income parents (of *any* race or ethnic background) when told that their children will have to go to school with poor children (of *any* race or ethnic background). (p. 178, emphasis in original)

Gary Orfield, leader of the Harvard Project on School Desegregation, has concurred, stating that "middle-class families, the bedrock of stable communities, will not tolerate high concentrations of poverty in their schools" (Olson & Jerald, 1998, p. 14; see also Friedman & Gutnick, 1999; Kahlenberg, 1996, p. 179).

Those school districts that look to class-based remedies to improve the academic achievement of low SES students thus will face difficult challenges in regard to implementation of those remedies. Yet as David Hornbeck, Superintendent of the School District of Philadelphia, has noted, "any restructuring effort that does not aggressively respond to the impact of poverty is naive" (Olson & Jerald, 1998, p. 14). Given the urgent academic needs of low SES students (and the increasing judicial tendency to invalidate race-based

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McPartland, 1988).

policies), the number of school districts that implement class-based student assignment plans is likely to increase over the next few years. For districts with large numbers of low income students, however, implementation of class-based student assignment plans that cut across school district boundaries may be the only hope of equalizing student distributions.

Interdistrict Class-Based Student Assignment Plans

Interdistrict class-based student assignment plans may hold some promise for improving the academic achievement of low SES students and for reducing the negative effects that seem to inherently accompany high school poverty concentrations. Like intradistrict plans, interdistrict student assignment policies have the potential to reduce poverty concentrations within schools (with a likely concomitant effect on overall student achievement) because they would reduce the between-school segregation by social class that results from segregation within and between residential areas (Rumberger & Willms, 1992, p. 392).[18] Implementation of interdistrict plans could be expected to have the same benefits and drawbacks as intradistrict plans, including increased student achievement for low SES students, increased potential for social networking between poor students and more affluent peers, and increased alienation of higher SES parents (Friedman & Gutnick, 1999; Wells & Crain, 1997; Puma et

[18]Some researchers have commented that much of the social costs of minority [and poverty] concentration [in urban areas] "occurs *because* of White flight" to outlying suburbs (see, e.g., Bankston & Caldas, 1996, p. 553, emphasis in original).

al., 1997; Jencks et al., 1972; Coleman et al., 1966).

In many metropolitan areas the need for interdistrict student redistribution plans may be great. Schellenberg has stated that once a school district in an urban area "has concentrations of [poor children that are] over 60%, . . . the district can no longer rely solely on its own internal efforts" (p. 131). Similarly, Walsh (1986) has noted that

> even if [districts] were able to reorganize [their] schools to minimize the percent of low income students in each school, the predictable effect on achievement would be slight . . . . Even specialty schools appear to be running low on middle income minority students. For a reorganization plan to have an important effect on achievement, then, it would have to involve suburban and city schools. (p. 89)

Yet despite the need for such programs, few examples currently are in place.[19]

One such program, aimed at reducing racial segregation, involves the city of St. Louis and its suburbs and may be "one of [the] very few . . . programs [nationwide] that give meaningful choices to students who have traditionally been very poorly served by the educational system" (Wells & Crain, 1997, pp. 344-345). Nearly 13,000 inner-city African-American students are bused daily to suburban schools under the program, which has proven to be very successful for the students who participate. As Wells & Crain (1997) have noted, "students [show] greater gains [than nonparticipating peers] because they are in schools in which they feel more secure about their futures and their options for life after high

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[19]One example is the newly-created (March 13, 2000) West Metro Education Program (WMEP) Choice Program involving Minneapolis and surrounding suburban school districts (Minnesota Department of Children Families and Learning, 2000).

school [and are more connected] to a network of college counselors and vocational training programs" (p. 338). The number of students served by the program, however, is relatively small.[20]

Many other school districts and states currently allow students to choose the schools they attend, even across district boundaries. These typically take the form of interdistrict magnet schools or generalized school choice programs. Few of these plans have been enacted for the explicit purpose of mitigating student racial or socioeconomic segregation and even fewer appear to result in large-scale transfers of students between districts. Given the relatively small number of students who tend to benefit from such programs, neither voluntary interdistrict choice programs nor interdistrict magnet schools that draw students from both cities and suburbs are likely to "solve the broad systemic problems" that face high poverty schools (Friedman & Gutnick, 1999, p. 26).

For school districts that primarily serve disadvantaged students, families, and neighborhoods, cooperation with surrounding districts may be the only chance they have of ever equalizing student distributions (Crain et al., 1982; Wells & Crain, 1997; Schellenberg, 1999; Walsh, 1986). Such plans, however, would have to be voluntarily implemented by all districts involved or mandated by

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[20]Under the terms of a January 6, 1999 settlement agreement, the program, which was previously mandated by law, became voluntary for suburban districts, who can opt out of the program beginning in 2002 (United States Department of Justice, 1999).

a state legislature or department of education[21] (Milliken v. Bradley, 1974) and are unlikely to occur given the political resistance that could be expected from both urban and suburban families (Olson & Jerald, 1998, p. 14; Friedman & Gutnick, 1999; Kahlenberg, 1996, p. 179; Hodgkinson, 1995). Public opposition to top-down, mandatory approaches to regional cooperation between school districts (such as large-scale busing or redrawing of student catchment areas) appears to be strong (Friedman & Gutnick, 1999). This renitence may be due to a number of factors, including a strong desire to retain the perceived benefits of neighborhood schools,[22] concerns by suburban parents about their children's exposure to troubled urban youth, and existing social and political tensions between cities and suburbs (Friedman & Gutnick, 1999).

In short, interdistrict class-based student assignment plans would face many challenges. Despite the recognition by many that "the only adequate way to address achievement differences between schools [may be] to reorganize urban and suburban school districts" (Walsh, 1986, p. 90; Crain et al., 1982;

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[21]In Milliken v. Bradley (1974), the Supreme Court of the United States held that a court cannot order desegregation to occur across school district lines where *de jure* racial segregation was only present in the urban district and where the surrounding suburban districts committed no official acts that contributed to the racial discrimination faced by children in the urban district. Thus, although states could choose to make school districts implement inter-district desegregation plans to remedy effects of past racial segregation, the Court noted that they did not have to do so (Milliken v. Bradley, 1974). Given that poverty is not a suspect class under the Constitution (Kahlenberg, 1996), it is extremely unlikely that a court ever would require a state or school districts to implement an interdistrict class-based student assignment plan.

[22]These benefits were perceived even by inner-city parents, whose children presumably were more likely to suffer the negative consequences that often accompany attendance at high poverty schools.

Wells & Crain, 1997; Schellenberg, 1999; Hodgkinson, 1995), and despite assertions that politically the time may be ripe for class-based measures (Kahlenberg, 1996), it appears that middle class, predominantly White parents are likely to accept influxes of low SES inner-city students only if the numbers are "not overwhelming" (Friedman & Gutnick, 1999, p. 27).[23] The difficulty, of course, is that the problems of many impoverished urban districts already are overwhelming and desperately need to be addressed.

Hodgkinson (1995) has noted that "questions must be raised as to what suburbs and cities owe one another" (p. 179). However, these questions are likely to be neither asked nor answered anytime in the near future. As a result, the institution of interdistrict class-based student assignment plans as a means of addressing poor children's low academic achievement probably is not a viable policy option at this time.

Summary

The evidence thus is not clear that districts should "go directly to poverty and see about desegregating it" (Hodgkinson, 1995, p. 176). While this study and others have confirmed the negative academic effects that accompany attendance at high poverty schools, potential solutions all seem to suffer from severe limitations. Mandated intra- and interdistrict class-based student assignment plans may have negative effects on the achievement of more affluent students.

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[23]As one White suburban parent in Cleveland stated, "How far am I willing to go [to accommodate inner-city students]? Not real far" (Friedman & Gutnick, 1999, p. 27).

They also are likely to be politically unpopular with both high and low SES families. Voluntary class-based student assignment plans, such as interdistrict choice programs, magnet schools, or educational vouchers, probably will have little overall effect on low SES students' achievement. Increased resource allocation, the traditional course of action to date in most areas, has yet to yield significant improvements in poor students' achievement. While additional funding could result in future improvements, further increases are politically unlikely without a significant shift in our societal commitment to disadvantaged students and schools.

In the end, it may be that combinations of all of these approaches are necessary to solve the long-seated problems of student- and school-level poverty. Other creative, complex solutions, such as increasing our commitments to serving poor children and reconceptualizing the purposes and processes of schooling, probably will be needed as well. Unfortunately, meaningful change is not likely to occur soon: to date our country has displayed a "singular tolerance for large numbers of poorly funded schools and massive amounts of child poverty" (Payne & Biddle, 1999, p. 12). Yet until our nation succeeds in significantly reducing both the number of children who are poor and the concentrations of those children within school districts and school buildings, our children and our society will be the worse for it.

Suggestions for Future Research

Attempting to answer questions often raises new ones, and the findings of this study suggest several avenues for future research.

First and foremost, a great need exists in this area for additional high-quality research of all types: the current knowledge base on the relationships between academic achievement and individual- and school-level poverty is sorely deficient. As noted previously, large-scale quantitative analyses ideally would "be based on sizable, random, national samples; [would] make use of good measures for ... child poverty, achievement, and various control variables; and [would] feature appropriate models and techniques for analysis" (Biddle, 1997, p. 11). Multilevel research models that analyze comprehensive federal- and state-level datasets would be particularly useful in this regard. Qualitative analyses that explore in depth the social and academic experiences of students in high poverty schools also would yield valuable information.

Furthermore, even with recognition that school SES has independent effects on student achievement above and beyond the effects of students' individual SES and other student- and school-level demographic characteristics, the question still remains as to what an optimal distribution of students by SES across schools would look like. Altering school SES levels appears to have differential academic effects on affluent and poor students, and further research into the "kinds of school populations that contribute the most to and detract the

least from students' academic performance" would be useful (Caldas & Bankston, 1997, p. 276). This research could be done, for example, "by controlling individual [student] backgrounds on [a variety of] relevant criteria . . . and [then] determining the types of population concentrations that produce optimal results for all students" (Caldas & Bankston, 1997, p. 276).[24]

Additional research into the equalizing effects of school SES on the student SES-achievement relationship would be particularly relevant. This study and others have found that increasing the percentage of low income students within schools decreases the amplification of initial academic differences among students. However, as Lee & Bryk (1989) have noted, "social equity is meaningless . . . unless it is accompanied by high average achievement. Equalizing schools in which everyone does poorly [is] hardly 'effective'" (p. 188). Examinations of student SES effects on the balance of social equity within and between schools would be extremely useful for districts that wish to implement class-based student assignment plans.

There also is a need for experimental studies that examine the direct effects on students of being redistributed under class-based assignment plans. Pre- and post-redistribution assessments of students and schools would yield especially valuable insights into the benefits, if any, of class-based policies. Crain & Mahard (1979) have noted that "the barriers to using randomized experiments

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[24]See Lee & Smith (1997) for a study that employs such a methodology to hypothesize optimal school size.

are political and ethical rather than technical" and that "random assignment is ethical under any condition when the demand for a service such as desegregation exceeds the supply" (p. 10). Thus there are few reasons why districts or states could not implement high-quality experimental programs to determine the short- and long-term effects of class-based interventions, much as was done for the Tennessee STAR Project that examined class size (Office of Educational Research and Improvement, 1999). Improving cross-sectional empirical studies (e.g., checking results by following up on students and families later in time) also would be worthwhile (Mayer & Jencks, 1989).

Further research that extended the methodology of this and other studies to younger and older students would be valuable. So would continued explorations of other positive interventions, whether in students' homes, schools, or communities, that result in successful remediation of the needs of low income students and high poverty schools. Because variations in student distributions between public schools reflect both conscious and unconscious decision-making by school officials, investigations of the intricacies involved in such decision-making also would be beneficial.

Finally, efforts should be undertaken to increase the policy relevance and political acceptance of academic research in this area. Crain & Mahard (1979) noted over twenty years ago that

> not very many school districts are interested in research to help them choose the best desegregation plan - at least, not research having to do

> with achievement. School boards seem to make decisions about plans almost entirely on the basis of what will be acceptable to the courts and what will produce the least objection from White [middle class] leaders. (p. 11)

Similarly, Orfield (1999) has stated that

> most of the reforms of the past 15 years [have been] proposed by politicians . . . without any review or consideration of current data or consultation with leading researchers . . . . [Indeed,] many of the best researchers in the country who are conducting important studies on school reform and learning in low income schools have never been contacted by any policy makers. (p. 4)

As these comments indicate, continued research into the relationships between academic achievement and poverty will be of little use if the results do not make their way into public practice.

Conclusion

Currently almost one-fourth of American children live in poverty, a rate "five to eight times as great as rates in many prominent, industrialized [Western] countries" (Payne & Biddle, 1999, p. 7). Many of these poor children live in secluded rural areas; most others are concentrated in urban inner cities. These children live together and attend school together, and rarely are they exposed to the social and economic advantages that more affluent families take for granted. This geographic and social isolation allows the upper and middle class segments of our society to generally ignore the plight of these disadvantaged children, and great costs to American society are incurred as a result.

As the findings from this study and others indicate, concentration of our

nation's poor children within high poverty schools has devastating effects on their academic achievement. Moreover, failure to effectuate these students' academic potential "wastes" their human capital (Rumberger & Willms, 1992, p. 377), decreases their ability to contribute to society, and "diminishes the power of [our] society's future" (Horowitz & O'Brien, 1989, p. 445). In the world's most affluent country, this situation is both "absurd" (Payne & Biddle, 1999, p. 8) and embarrassing. As Hodgkinson (1993) has stated,

> if we were told that an unfriendly foreign power had disabled one-third of our youth, rendering them incapable of reasonable performance in school, we would view it as an act of war. [Yet we] don't need to imagine [such] a foreign enemy; by systematically neglecting the needs and potential of disadvantaged children, we have done the damage to ourselves. (p. 623)

Given the tremendous societal costs that accompany the academic underachievement of our nation's poor children, and the enormity of social and financial resources that our nation could bring to bear on the problem if it wished, the failure of current and past legal, educational, and social policy to remedy the inequities of educational opportunity that exist in our country can only be viewed as shameful.

Levin (1991) has stated that "the true measure of the humanity of an affluent society is not how the society treats its wealthy but how it treats its poor" (p. 241); by most measures we are doing a miserable job. Not only do we deny "a massive proportion of our children adequate nutrition, housing, clothing, health care, and an equal start in life," we then ask the schools they attend "somehow to

'make up' for the poverty of their clients" (Payne & Biddle, 1999, p. 12). That the schools are unable to do so should hardly be surprising.

As this study illustrates, class-based student assignment policies may be one means of increasing the low academic achievement of students who live in poverty. They even may be more effective than the race-based assignment policies that our nation has historically relied upon to date. But they will not be enough. Until we implement comprehensive, multifaceted solutions that address the more significant underlying issues of poverty and deprivation that permeate the lives of low income children, no large-scale meaningful change for disadvantaged children is ever likely to occur.