

What “No Child Left Behind” Means for College Access

Sara Goldrick-Rab
Assistant Professor of Educational Policy Studies and Sociology
University of Wisconsin-Madison
210 Education Building
1000 Bascom Mall
Madison, WI 53706
(608) 262-6564
srab@education.wisc.edu

and

Christopher Mazzeo
Independent Consultant
New York City, NY
chmazzeo@prodigy.net

Review of Research in Education

Forthcoming 2005

The authors would like to thank Patricia Burch, Larry Parker, and Sheri Ranis for their helpful comments on drafts of this manuscript.

What “No Child Left Behind” Means for College Access

In 2001, the federal government passed a sweeping reform of American elementary and secondary education known as the No Child Left Behind Act (NCLB). Though long and complex, NCLB embodies a fairly simple policy premise: that accountability for schools will produce better outcomes for students. In particular, NCLB requires that schools close the achievement gaps between majority and minority students. In order to accomplish this goal, the NCLB approach to accountability—unlike state and local policy efforts to end social promotion or promote minimum assessment standards for high school graduation—focuses on changing the behavior of teachers and principals, and the organization of schools and districts where necessary. Further, in a departure from prior iterations of the Elementary and Secondary Education Act (ESEA), NCLB requires schools to meet proficiency targets or face real sanctions, including the threat of restructuring and eventual closing.

The consequences of NCLB are (quite naturally) most often thought of in terms of achievement and attainment in elementary and secondary education. But in this article we assess what NCLB might mean for *college access* by examining existing evidence of the impact of school-based accountability on college participation. While NCLB explicitly aims to effect change in k-12 education, it may have longer term outcomes, particularly for postsecondary education and labor force participation (Educational Policy Institute 2005). For example, organizational and instructional reforms in schools—crucial to the success of accountability—are also likely to have an effect on how well students are prepared to access and succeed in college. Thus while the success of the legislation is currently measured in terms of elementary and secondary student test

scores, we posit that NCLB might also be assessed in a way that accounts for its impact on later student outcomes, particularly those in higher education.

We begin with a summary of research on the important factors contributing to student participation and success in college. Next, we discuss the rubric of accountability under NCLB, and compare it to how accountability was previously implemented at the state and federal level. We then consider studies on the longer-term outcomes of school-level accountability, focusing on examinations of the effects of academic press and high-stakes testing. We conclude by assessing what is known—and what remains ripe for future study—about the implications of NCLB for college access.

NCLB was passed in 2001 and has only been fully implemented since the beginning of the 2003 school year. Research on the impact of NCLB-style accountability on student outcomes, particularly outcomes of interest to higher education, is therefore limited. For this reason, we cast a wider net in this review, examining initial evidence on NCLB, along with evidence from other state and district accountability systems that have been in place for a number of years (e.g. California, Florida, Kentucky, Maryland, New York, North Carolina, South Carolina, and Texas, and the cities of Chicago and Baltimore).

What Matters for College Access

Researchers from a multitude of fields and academic disciplines have examined factors promoting the transition to college.¹ The majority of such studies focus on the importance of students' academic, financial, and social preparation (Goldrick-Rab et al. forthcoming; Louie forthcoming). From this body of research we know that students who

¹ See for example the reviews of research commissioned by the Social Science Research Council's Transitions to College project at <http://edtransitions.ssrc.org/projectresources.aspx?sid=1&A=13>

engage in more rigorous high school coursework (including more math, science, and foreign language), have higher grade point averages, and score higher on tests are more likely to go on to college (Adelman 1999; Cabrera et al. 2003; Nora and Rendon 1990; St. John 1990; Thomas 1998). Students who stay continuously enrolled without dropping out are also more likely to make a smooth transition to college immediately after high school (Bozick and DeLuca forthcoming). Therefore, providing all students the opportunity to engage in upper-level coursework and providing support to perform well in those classes and remain in school is likely to enhance college participation.

Further, students whose parents receive information about college tuition and financial aid early in the schooling process are also more likely to transition smoothly to college (Avery and Kane 2004; Flint 1997; Flint 1993; Horn et al. 2003; Hossler and Vesper 1993; Orfield 1992; Steelman and Powell 1991; Stage and Hossler 1989; St. John 1990). Research has demonstrated that middle- and upper-class students are more likely to gain information about paying for college from a multitude of sources (i.e. guidance counselors, siblings, parents, friends), while lower-income students whose parents did not attend college are more likely to rely heavily on school-based counseling alone (Conklin and Dailey 1981; McDonough 1997). Thus, involving teachers who are acquainted with college admissions and financial aid processes in educating all students (not just those on the ‘college track’) early during schooling should also enhance college access.

Finally, students who are engaged in college preparation programs and receive adequate counseling have also been shown to be more likely to participate in college (Avery and Kane 2004; Fitzsimmons 1999; Tierney and Jun 2001). This is in part because such interventions build students’ social and cultural capital, which help them to

better negotiate the higher education system (McDonough 1997; Persell and Cookson 1985). Schools that involve a network of adults closely connected to students and committed to their success both immediately and later in life therefore appear more likely to produce greater numbers of students going on to college.

Yet despite having identified many factors that contribute to college participation, researchers and practitioners have not yet learned how to successfully close all of the racial and income gaps in college participation. While nearly two-thirds (65%) of white students ages 16-24 were enrolled in college in 2001, a smaller percentage of blacks (55%) and Hispanics (50%) had made that transition (Bowen et al. 2005). Moreover, upper-income students remain far more likely than low-income students to enroll in college—according to one study just over half (54%) of students from families in the bottom income quartile were enrolled in college, compared to over four-fifths (82%) of students in the top income quartile (Bowen et al. 2005). These disparities are similar to, and in some cases even larger than, the achievement gaps found in k-12 education.

The persistence of these gaps raises questions about the importance of understudied contributors to college participation outcomes—such as the role of school characteristics and in particular state, local, and school-level policies. While economists of education have examined the role of tuition and financial aid policies (e.g. Heckman and Krueger 2004; Kane 1999; Schwartz 1986) and sociologists have examined effects of school structure (e.g. Lee and Burkum 2000; Muller and Schiller 2000, 2005), studies of the effects of k-12 reforms on college access are uncommon. This omission in the research literature flows directly from the absence of such discussion in educational policy and practice; as Kirst and Venezia (2004), Conley (2005), and others have noted,

the American education “system” rarely thinks systematically. Thus policies enacted at one level are thought to only create effects at that level, when in fact there is a dynamic interplay of interaction across sectors of education. Acknowledging these connections, in this article we ask whether school-level accountability under NCLB, intended to close gaps in k-12 education, might also work to close gaps in college participation?

School Accountability: Then and Now

Despite the current disconnections between elementary, secondary, and postsecondary systems in this country, public school accountability and higher education have been linked throughout American educational history. The advent of secondary education in the late nineteenth and early twentieth century, for example, led many states and districts to adopt examinations to determine eligibility for high school admissions, examinations that were also used to shape curricula and improve elementary schools (Mazzeo 2000). With the expansion and differentiation of the American system of colleges and universities in the middle part of the twentieth century, elite institutions identified a need to better differentiate between college applicants, and helped spur the development of the SAT and ACT. Over time, performance on these tests became a widely used widely benchmark of the quality of students, schools, and school systems (Hoffer 2000). In 1983, the federal report *A Nation at Risk*—commissioned in part as a response to concerns about declining SAT scores— explicitly mentioned the need to improve college participation, stating “standardized tests of achievement...should be administered at major transition points from one level of schooling to another and particularly from high school to college” (quoted in Nelson 2005a, p. 230). During the decades following the publication of *A Nation at Risk* many states began raising

standards for high school graduation, and introduced minimum competency testing course graduation requirements and exit examinations, in part to hold schools more accountable for college access outcomes (Dee 2003).

Yet there have been historically few links between school accountability and higher education in federal policy. Indeed, school accountability at the federal level is a relatively recent phenomenon. While “federal aid and federal expectations for accountability went hand in hand” (Nelson 2005b, p. 4)” from the initial passage of Elementary and Secondary Education Act (ESEA) in 1965, it was not until the Hawkins-Stafford Amendments of 1988, part of the Title I reauthorization, that federal school aid directly tied to evidence of improved student achievement (Nelson 2005a). Parallel to these developments, a number of states and districts—responding to increasing concerns with educational performance at the state and local level—began implementing more intensive kinds of school-based performance accountability for the first time (Mazzeo 2001; Nelson 2005a, 2005b). By 2000, 39 states had implemented school level accountability policies (Hanushek and Raymond, 2002; Mazzeo 2001).

This “new accountability” as Susan Fuhman (1999) and others (Carnoy, Elmore and Siskin 2003) call it, focuses squarely on student performance, and places the locus of responsibility for performance at the school, rather than at the district level. The new accountability also uses public reporting of student outcomes and rewards and sanctions as ways to motivate schools and change their curriculum and instructional practices (Fuhman 1999; McDonnell 1997; Mazzeo 2001). It is important to note that these policies target elementary and to a lesser extent secondary schooling—the links between

school performance and college participation identified in *A Nation at Risk* were noticeably absent from contemporary school accountability in the states.

The No Child Left Behind Act of 2002 was explicitly built upon the premises of the “new accountability.” NCLB, however, goes beyond both prior iterations of ESEA and the accountability policies of many states by attaching significant “stakes” to school-level performance, including the use of public school choice and the threat of curriculum changes, restructuring and even closure for schools that continue to fail to meet accountability targets. To avoid federal sanctions, schools must make what is called Adequate Yearly Progress (AYP) towards the proficiency standards.² These targets rise incrementally each year until all students are expected to be proficient in reading and math by the year 2013–14. When a school fails to make AYP it sets in motion the heart of the legislation—the provisions for school improvement and accountability. NCLB includes progressively more serious consequences for districts and schools that fail to make AYP for two or more years.

In setting out its accountability provisions, NCLB embodies two key starting premises that underlie much of the “new accountability” (Carnoy, Elmore and Siskin 2003; Furhman 1999). First, NCLB embodies the belief that federal accountability measures are powerful and salient enough to influence the behavior of states, schools and districts and motivate them to improve student proficiency towards standards and to close achievement gaps. Secondly, NCLB, as designed, assumes that schools have or can easily develop the capability to “identify, select, and implement policies and practices

² To make AYP, schools must meet state-defined benchmarks for: 1) Proficiency in mathematics and reading/language arts on annual statewide assessments in grades three through eight, as well as once in high school; 2) Participation rates on these statewide assessments; and 3) An additional indicator chosen by the state (e.g., high school graduation rates are often used as a secondary indicator of success for high schools).

that will improve their performance” (Goertz and Massell 2005, p. 123). School improvement, in short, is defined in federal law as primarily a problem of creating urgency and the will to improve, with accountability the primary mechanism of instilling these changes. School accountability under NCLB seeks to improve school performance through three (successively intensive) stages of intervention—identification, capacity-building and sanctions.

The first stage of school accountability under NCLB is identification. When schools miss their proficiency targets (AYP) for two consecutive years they are labeled as “in need of improvement.” The theory here is that schools identified as needing improvement will be motivated to improve by the public designation of their performance weaknesses. This is consistent with traditional state approaches to school accountability that use publicly reported test score data to identify student performance gaps and “shame” schools into doing better and to avoid embarrassing public scrutiny (McDonnell 1997; Mazzeo 2001).

Yet identification at its best merely raises the urgency of student performance—ultimately schools must still find ways to improve instruction in order to meet proficiency benchmarks. As Elmore (2003a, 2003b) and others have noted (Massell 1998; O’Day 2002), improving instruction is less a matter of will than skill—inherent to the success of accountability is the building of what is called school “capacity.” Capacity can be defined as the ability “to translate high standards and incentives into effective instruction and strong student performance” (Massell 1998, p.1). Capacity includes the skill and knowledge of teachers and principals, and also a school community’s willingness to diagnose problems and develop instructional improvement strategies (Abelmann et al.

1999; Elmore 2003a, 2003b) that can impact whether a school sustains improvement in the long run.³ Unfortunately, as noted earlier, NCLB addresses capacity issues only marginally, primarily by requiring that schools “in need of improvement” to develop an improvement plan that sets performance targets by academic subject, and devote a portion of their school’s Title I funds for professional development and teacher mentoring. NCLB does not provide states with additional resources (money or expertise) to build school capacity though it does suggest that states should provide its own interventions to help low-performing schools identified under the law (Mazzeo and Berman 2003). Consistent with the premises of the new accountability, NCLB assumes states, districts and schools will figure out ways to improve capacity in response to federal pressures.⁴

Accountability systems, it has been said, “have no teeth” without penalties for low achievement (Nelson 2005a, 2005b; Hanushek and Raymond 2005), and thus sanctions are a crucial part of the NCLB school accountability model. NCLB includes progressively more serious consequences for districts and Title I schools that fail to make AYP for two or more years. For example, students attending schools that miss their performance targets for two consecutive years must be offered the option of moving to a higher-performing public school within the school district. After three years of missing the state performance target, parents of children in these schools must be offered the option of using federal Title I dollars to purchase supplemental educational services from an approved provider on the open market. When schools fail to meet their proficiency

³ School capacity is also strongly shaped by the complementary capacities of districts and the wider community of which the school is part.

⁴ For a counterargument, that external pressure alone cannot compel capacity development, see McLaughlin (1987) and Newmann, King and Rigdon (1997).

targets for four consecutive years under NCLB the school becomes subject to “corrective action,” which requires the district to formulate an improvement plan for the school. That plan could include replacing staff, decreasing management authority at the school level, appointing outside experts to advise the school, lengthening the school day or year, or restructuring the school. Under restructuring, the district—working with the school—has up to one year to choose one of five options: 1) closing the school and reopen it as a charter school; 2) replacing all or most of the school’s staff; 3) hiring a private management company to manage the school; 4) placing the school under state management or receivership; or 5) restructuring the school’s governance in some other way. Schools that fail to meet AYP for a sixth consecutive year must implement their restructuring plan the next academic year (Mazzeo and Berman 2003).

In sum, school-level accountability under NCLB works through successive stages—identification, capacity-building and sanctions—to improve school quality. The underlying assumption of the law is that stronger accountability will produce greater teacher effort and school attention to performance problems—either in the short or long term—that will ultimately enable all schools to meet proficiency targets. Although the law is weaker on capacity measures, it does recognize that instructional improvement is central to improved student learning and attempts to leverage Title 1 dollars towards instructional reforms and professional development designed to build school capacity.

But will identification, capacity-building, and sanctions lead schools to produce greater numbers of college students? The answer must take into account two limitations of the law. First, NCLB does not require states to hold high schools accountable for much, nor does it establish high school graduation requirements. This may change in the

future (see discussion at the end of this paper), but for now NCLB is an elementary and middle-school focused policy. Second, extending the first point, the new federal law does not hold schools accountable for college participation rates. As Michael Kirst (2005) has observed, there is no governance structure connecting k-12 and higher education, and as a result there is no mechanism by which policies such as NCLB could hold schools accountable for students' college outcomes. Thus, while the Department of Education's 2002-2007 Strategic Plan does include enhancing access to college among its goals and one of the four principles of NCLB, "Raising Academic Achievement and Accountability," is explicitly designed to strengthen the preparation of college-bound students, schools are not held accountable for whether or not these goals are achieved. Moreover, ESEA and its postsecondary counterpart, the Higher Education Act, have remained distinct policies throughout most of their histories (Stein 2004). As a result neither k-12 schools nor higher education institutions are explicitly held responsible for the achievement and attainment of students during the critical years of the transition to college (10th-13th grade).

Therefore, while it is reasonable to anticipate some college-related outcomes of NCLB (based on the policy's rhetoric) the law's effects "will be highly dependent on the way it is administered by the states and on the specific strategies they devise to promote improvement" (West and Peterson 2003, p. 9). In other words, only if school-level accountability acts to improve the skills that are important for college readiness (thus increasing the value of the high school diploma) might we expect to see changes in college participation. In the next section, we examine this very issue, exploring the

potential impact of NCLB implementation on college participation outcomes, based on a review of similar policies undertaken by states and districts in the last decade or so.

College Outcomes of School-Level Accountability

NCLB holds schools, rather than students themselves, accountable for improved student achievement. Arguably, NCLB's shift to school-based rather than student-based accountability was intended to lead policymakers and practitioners to focus more on the importance of school actions in promoting student success, rather than compensating for specific student 'deficiencies' (Stein 2004). We posit that such a shift might work to increase college participation if at least two criteria are met: (1) Outcome-driven student assessment, tied to school-accountability, creates greater "academic press" in schools, reducing tracking and a climate of low expectations and (2) High stakes school-accountability serves to raise the achievement levels of all students. These two criteria are interconnected in important ways. Outcome-driven student assessment, tied to student accountability, can contribute to shifts in assessment practices at the school level, which in turn may lead to a better understanding of students' needs, and contribute to better teaching, an increase in academic press, and improved student achievement.⁵ Thus, in this section we review the extant bodies of literature on the role of "academic press" and "high-stakes tests" in promoting student achievement.

Increasing School Capacity and Enhancing "Academic Press"

A large body of literature, particularly in the sociology of education, has documented the negative impact of a form of curricular organization known as "tracking" on student achievement, particularly the achievement of low SES students (e.g. Carbonaro 2005; Gamoran 1992; Hallinan 1994; Lucas and Good 2001; Oakes 1985).

⁵ The authors thank Patricia Burch for raising this important point.

Tracking, and its close cousin “ability grouping,” act to sort students into various forms and sequences of curricula (Dauber 1996; Gamoran 1993). Tracks are rarely created equal, and students’ ascriptive characteristics are frequently found to correlate with placement in lower tracks (Entwisle et al. 1997; Gamoran 1992; Hallinan 1994; Lucas and Good 2001). Such differential placement reflects a lower set of expectations for certain students, held by teachers and principals, which helps to reinforce the lower achievement of that group of students (Oakes 1985). Also reinforcing lower levels of achievement in the lower tracks is a lack of “academic press.” Academic press is a normative focus on success and high standards that develops as “schools raise their expectations for students, assume responsibility for students’ learning, and adopt specific policies and practices” (Shouse 1997, p. 61; see also Murphy et al. 1982, McDill et al. 1986). Closely connected to the notion of academic press is the concept of “authentic intellectual work.” Defined as the “construction of knowledge through the use of disciplined inquiry [that produces] discourse, products, or performances that have value beyond school,” this form of teaching is less common in disadvantaged schools, but has been shown to significantly increase student test scores, even for disadvantaged students (Newmann et al. 1998, 2001).

NCLB, with its clear focus on holding schools accountable for raising student achievement, may serve to enforce an organizational culture of high standards where authentic intellectual work could take place. As Shouse (1997) notes, “while nearly every principal will claim student achievement to be an important goal, it seems reasonable to expect variation in the degree to which their school organizational cultures are actually driven by academically oriented beliefs, values, and norms” (p. 60). A

federal policy with a fiscal mandate would seem to reduce such variation. While some might object to such a culture, which might logically compromise other goals, such as building student self-esteem, Shouse argues that “strong academic press serves as a prerequisite for creating...communality in schools” (1997, p.60).

Academic press is a strong indicator of student achievement, particularly in high school (Bryk et al. 1993; Lee et al.; Shouse 1997). Importantly, the largest effects of academic press on student achievement have been identified in schools with more disadvantaged students (Shouse 1997). Schools with higher levels of academic press channel all students into higher-level courses (Oakes 1985). At least one study suggests that students increase their expectations for college in response to high track placement (Alexander et al. 2005).

Moreover, there is some evidence that altering the academic context by increasing academic press will also alter the social context of students’ friendships. Frank and his colleagues (2005) contend that a student’s “local position” in a school (rooted in their coursetaking patterns) partly determines who a student will befriend, since students tend to create new friendships with others in their same position. Students who are pushed to take higher levels of mathematics, for example, will thus stand to benefit not only in terms of the quality of their high school transcripts but also in terms of their social capital—they are more likely to have friends who are also academically-pressed and more likely to be college-bound. Shouse explains, “...As schools become more output-driven, they also become better able to generate among their members the type of normative social current necessary for meaningful academic success” (1997, p. 77). Put another way, there does appear to be value in “a relentless focus on the academic core”

(Haycock 2001, p.11). While some contend that such a focus requires increased funding, others argue that even schools with few fiscal resources are capable of such a focus, a claim supported by the statistical variation in academic press among schools serving disadvantaged students (Shouse 1997; Haycock 2001). Thus, to the extent that state and federal policies work to increase academic press—particularly in high schools—students from all backgrounds may be better-prepared for college.⁶

Of course, in order to increase “academic press,” a school’s capacity to deliver higher-level instruction must also be improved. This is a tall task for a single policy—in other words, NCLB must work to not only increase standards in all schools for all students, but, as noted earlier, increase the ability—the capacity—of schools, districts, and states to enforce those standards and implement instructional improvements. Evidence on this front is mixed. In a comprehensive review of high school accountability reforms in 36 schools in six states (Gross and Goertz 2005) the authors consistently found that state accountability policies did increase academic press and the urgency around instructional improvement. What these systems failed to do in most of the schools was improve the quality or capacity of decision making around curriculum and instruction, school organization or teacher professional development. Very few of the schools responded in ways that were systematic and coherent, incorporated new ideas and information from outside the school, nor made use of research-based practices. In making sense of these findings, Goertz and Massell (2005) suggest that even the most powerful accountability systems can only influence the urgency, or “level of response” of

⁶ It is worth noting that Shouse and his collaborators on *Redesigning American Education* (1997) are careful to note that using accountability to increase academic press should be accompanied by other reforms, including the creation of smaller schools, changing the role and preparation of teachers, and increasing parental involvement in schools. This outcomes-driven model, developed by James Coleman, thus calls for a more comprehensive reform than NCLB currently entails (Schneider 1997b).

schools; they do little, by themselves to improve the quality of those responses or the extent to which these decisions are well matched to the problems and needs of the schools and its staff (p. 125).

Some states have attempted to address these capacity and decision-making problems by providing direct technical assistance to schools. Such strategies vary, but most states and districts have used a process that includes an initial audit or school review, the development of a school improvement plan, and the provision of assistance from expert educators, instructional specialists, and/or assistance teams (Mazzeo and Berman 2003; Mintrop 2003a, 2003b; O’Day 2004). Other states and districts leverage support and assistance in an indirect way, brokering assistance from external providers, such as consultants and universities, or promoting the use of regional service centers that are open to all schools. In addition, some states also provide significant financial resources to low-performing schools in the form of direct grants that schools can use to hire external consultants or support improvement activities (Mazzeo and Berman 2003).

Research on state and district school improvement strategies shows that state and district technical assistance efforts have struggled to build the capacity of low-performing schools in meaningful ways (Brady 2003). In examining school responses to being placed on probation by the Chicago Public Schools, O’Day (2002) found that some schools improved rapidly while others lingered in the program. Initial capacity to develop improvement strategies and sustain them was a key factor in explaining the results. Elementary schools with higher initial capacity had higher “peer collaboration, teacher-teacher trust, and collective responsibility for student learning” and responded

more favorably to the reform push (p. 304). Unsurprisingly, schools with the lowest capacity benefited the least from district accountability policies.

Researchers suggest these outcomes have much to do with the problem states and districts face in improving persistently low-performing schools, those schools likely to be classified as “corrective action” or “restructuring” under NCLB, and the schools with the greatest numbers of students at risk of dropping out or falling below grade level. Low-performing schools often operate in chaotic and unstable environments. With high turnover of personnel, investments in capacity-building and professional development are often blunted. Elmore (2003b) examined one, not atypical, low-performing school that had 15 percent to 25 percent of its teachers turn-over in the course of a single year. While such schools face multiple challenges, the research suggests that they continue to underperform because most lack what some call “internal accountability” (Abelmann et al. 1999; Elmore 2003a, 2003b). Schools without internal accountability show little or no evidence of consistent expectations about the quality of instruction or student performance; adults within the schools assign responsibility for low student performance to families and communities rather than to themselves, and resources to support student learning are managed chaotically. They lack agreement on anything but the most basic expectations—i.e. student behavior and conduct (Mazzeo and Berman, 2003). High schools that lack internal accountability, for example, often have poor advising capacities, low rates of college preparatory coursetaking, and poor graduation rates (Siskin, 2003, 2004; Gross and Goertz, 2005).

Persistently underperforming schools are the most probable targets for sanctions like “restructuring” under NCLB, including such measures as reconstitution and

reopening with a new staff, or in some cases as a charter school (Ziebarth 2004). Yet existing research suggests that sanctions, or the threat of sanctions, whether directed at the school, the staff, or both, have also had limited success in improving outcomes in persistently under-performing schools. The heightened pressure from sanctions strategies, Mintrop (2003a, 2003b) argues, exacerbates teacher attrition and morale problems in many of these schools. Many persistently under-performing schools are not attractive workplaces, and schools in jurisdictions with high concentrations of such schools are often staffed with large numbers of new, often insufficiently trained teachers with little commitment to stay. Likewise, principal turnover is high. Principals under the pressure of an accountability process often are conduits of pressure, which contributes to unsupportive working relationships between teachers and administrators. Too much pressure can lead to greater dissatisfaction and additional turnover and potential staff replacements of lower quality than the original teaching staff (Malen et al. 2002; Mazzeo and Berman 2003; Mintrop 2003b).

As a result, the consensus among researchers is that the most effective accountability systems are those that link negative and positive sanctions—pressure and support—to help schools improve (Debray et al. 2003; Fullan 2000; O’Day 2002; Schneider 1997a). Initial pressure, through the threat of sanctions, creates urgency and often the initial test score gains necessary to challenge low expectations for minority and low-income students. Sanctions work best, however, when accompanied in later stages by sustained efforts to build expertise and capacity in lower-performing schools.⁷

⁷ The threat of school reconstitution in Baltimore, for example, was complemented with the hiring of highly qualified instructional specialists to assist teachers within schools. Extensive professional development is provided on site by these specialists and through other sources, which encourages teacher dialogue on instruction and student learning and greater internal accountability in the schools (O’Day 2002).

In sum, while school accountability measures with strong sanctions are likely to increase academic press, such efforts are not, by themselves, likely to increase school capacity and the quality of decision-making around instructional improvement sufficiently to make a significant difference in longer-term student outcomes. Research on state and districts technical assistance further challenges the premise of NCLB-style accountability by illustrating the difficulty in building school capacity through accountability policies. This research does show that state and district accountability approaches that deftly balance sanctions with capacity building have shown some promising results, though research on this type of accountability is still limited. As noted earlier, NCLB itself leans more towards sanctions than capacity building, although the states implementing the law's provisions likely vary considerably in how much emphasis they put on one versus the other. Further research on the implementation of sanctions under NCLB will help illuminate the success of these various approaches, particularly with regard to persistently under-performing schools.

The twin challenges of building school capacity while enforcing sanctions for poor performance also illustrate the importance of developing educational policies in a more systematic manner. Efforts to increase academic press in high schools would be most effectively supplemented by pressure and expectations from the higher education system itself; the recipient of k-12 graduates. Moreover, the higher education system could provide needed support, helping to build school capacity through improved teacher and administrator training and professional development and through the direct involvement of faculty in school improvement at the local level. That these commonsense forms of integration between secondary and postsecondary systems do not

currently exist suggests that NCLB will struggle in meeting its goal of creating significant improvement in the academic climate and performance of K-12 schools.

Longer Term Implications of High-Stakes Testing

Will tying school accountability to the testing of students lead to greater college participation and/or will it help to close gaps in college participation? Since the widespread implementation of school level accountability is a recent phenomenon, it is difficult to know for certain. Some states have implemented accountability systems by ending “social promotion” and requiring that students pass competency examinations before progressing to the next grade, while others have implemented high school graduation exams. But those policies are examples of student-level—not school-level—accountability, since schools themselves are rarely penalized for high failure rates.⁸ As noted earlier, there is still limited research on the impact of state and district school accountability policies. In this section, we review those studies and in particular make a distinction between policies that require schools to produce gains in student performance, and those that require both schools *and* students to make gains.

While school level accountability policies have been in place in some states and districts for a decade or more, very few evaluations of their effects on student outcomes have been undertaken. Much more common are studies that look at the response of schools and teachers to such policies (e.g. DeBray et al. 2003; Sunderman and Kim 2001). The exceptions are studies using data from the National Educational Longitudinal Study of 1988 and the National Longitudinal Study of Schools. In one such study Muller and Schiller (2005) examined the relationship between school-level accountability

⁸ These forms of accountability are also more representative of what is typically referred to as ‘high stakes testing.’ Testing under NCLB is not truly ‘high stakes’ since no consequences flow to any individual student on the basis of their achievement scores.

programs implemented in states prior to 1993 (including the extensiveness of the testing)⁹, and students' mathematics course-taking. Numerous studies have demonstrated that advanced mathematic coursework is a significant predictor of both college access and success (e.g. Adelman 1999; Goldrick-Rab and Han No Date; Schneider et al. 1998) and thus if accountability were to increase math course-taking it might well affect college participation. Muller and Schiller (2005) did find that "increasing school accountability for student test performance was the only strategy that seemed to increase all students' opportunities for learning mathematics in high schools" (the comparison was to states with only student-level or no accountability program) (p. 278). In other words, students in schools that were held accountable for student performance were more likely to take advanced level math courses that would better prepare them for college and help them gain admission. These findings largely confirmed earlier work by Stevenson and Schiller (1999), who found that schools in states with some form of school level accountability (even if only the requirement to disseminate student test scores) have fewer students in the general track and more students engaged in the higher-level academic track.

In short, the research suggests that school accountability works most effectively when it is explicitly consequential for schools—when sanctions are attached. In one study, Hanushek and Raymond (2005) found that states with "consequential accountability systems" (providing scores for schools and attaching sanctions and rewards) had NAEP 4th grade test scores that were on average 0.22 standard deviations higher compared to states without such systems (for comparison's sake, note that the black/white test score gap is about one standard deviation). Similarly, Carnoy and Loeb's

⁹ At that time, less than one-third of states linked students' high school test scores to any consequences for schools.

(2004) analysis of 1995-1996 NAEP data, revealed a significant positive relationship between the strength of states' accountability systems and 8th grade students' math achievement gains, and Grissmer and his colleagues observed similar outcomes in Texas and North Carolina schools (2000).

Florida was an early implementer of an NCLB-style system, allowing students to obtain a voucher to switch schools if their school was deemed 'failing.' Findings from one highly contested evaluation of the Florida A+ program (which is in many ways tougher than the federal law) found that test scores among students at schools that were labeled as low-performing by the state increased slightly during the year following sanctioning (West and Peterson 2005). This finding has received some support from previous research (e.g. Greene and Winters 2003) while others claim that such studies misattribute the effects of 'test gaming' to real effects of accountability. In other words it is difficult to know for certain if these gains are due to something 'value-added' about accountability itself or whether they are due other factors beyond schools' control, such as the influence of family and peers (Hanushek and Raymond 2003).

Some (e.g. John Bishop, Eric Hanushek) further argue that only when school accountability policies also provide incentives for student success—such as failure to be promoted or graduate—do they produce the kinds of achievement gains accountability proponents seek, especially among older students who have a greater capacity to control their own effort and motivation in school. Implementation of high-stakes testing in Chicago public schools has yielded some evidence supporting this idea. Beginning in 1996, students in Chicago who failed to meet the test score thresholds were required to participate in summer school and retake the test again at the end of the summer. These

student accountability measures were implemented in tandem with a set of complementary accountability measures in underperforming schools in CPS. Under this policy, schools with fewer than 15 percent of students meeting national norms in reading were placed on “probation” by the district. Schools on probation were required to develop improvement plans under the supervision of the central office and were also given extra resources to use towards professional development and capacity-building.

Using hierarchical linear modeling, Roderick, Jacobs and Bryk (2002) estimated the achievement value added in so called “gates grades”—grades 3, 6 and 8—where students were required to meet minimum test score cutoffs in reading and mathematics in order to be promoted. They estimated both aggregate effects for the district policies and variation across schools. At the district level, the authors found significant student performance gains in all three gates grade levels in both reading and mathematics—approximately one third to one half a year’s learning gains. Effects were particularly strong for 6th and 8th graders in the second and third years of policy implementation—suggesting both implementation learning effects and the greater influence of student accountability on the behavior of older students. Strong gains were also evident in 5th grade suggesting an impact on instructional practice among teachers in anticipation of the testing in 6th grade. Gains were also stronger for low-achieving students in reading than in mathematics, where the authors found evidence that accountability policies widened the gap between high and low achieving students.

The authors also found greater impacts among students in schools with the highest concentration of at-risk students—i.e. those schools likely to be under or near probation. In 8th grade reading and mathematics the policy impacts on high risk students were

nearly two to three times higher in low-performing schools—with a predominately African-American student body—than in higher performing schools. Strong policy effects were found both in schools under probation and those just above the cutoff point. One interpretation of this finding is that the cumulative pressure of school and student level accountability lead to changes in school practices and organization that ultimately lead to achievement gains, even in those schools with weak initial capacity. Such an interpretation runs counter to O’Day’s (2002) and others (Carnoy, Elmore and Siskin 2003) argument that accountability policies will have only limited impact on schools with weak capacity to improve. The stronger gains for low-achieving students in reading when compared to mathematics, however, suggest that internal accountability and school capacity may still matter and may produce variable impacts of accountability policies across subject matter. These interactions between accountability policies, school capacity and student performance outcomes are likely a fruitful area for further research.

In another Chicago study, Miller, Allensworth and Kochanek (2002) found improvements in array of secondary school performance since 1996 (when the accountability policies were first implemented) including increases in the percentage of students completing a college coursetaking sequence and the percentage graduating from high school. The authors attribute these gains to improvements in the academic preparation of 9th grade students, thus suggesting a direct link between Chicago-style accountability policies (i.e. those that link school and student accountability) and important predictors of college attendance. Similarly, Massell et al. (2005) found that those states that linked strong consequences for students and schools, obtained greater academic press and response to reform, particularly, in states like North Carolina where

reforms had been in place a number of years. Even though none of its states with strong accountability had direct consequences for teacher employment or compensation,¹⁰ the authors found that teachers were sufficiently motivated by "their professional identity (and) care and concern for students" among other factors to strongly embrace accountability and respond effectively to improve student outcomes (p. 34).

While by no means definitive, this evidence suggests that researchers need to look more closely at the Chicago case—and other places that have combined student and school accountability—to examine whether complementary policies produce greater student performance effects than those focusing exclusively on school-level accountability. This is an important area for new research as NCLB implementation data becomes more readily available and comparisons can be made across different state and district accountability systems.

Of course college participation will not be increased if, as many fear, school-level accountability serves to increase high school dropout rates (the reverse is also posited—that by increasing high school dropout rates, college attendance among those who remain will be increased). But a shortage of studies on the effects of school-level accountability leaves us with little evidence on this point. Student-level accountability has not been found to increase dropout significantly, a point we expand upon further in the next section.

In sum, regardless of whether the data come from a single cohort in a national sample, or multiple cohorts in states or districts, there is limited evidence that school

¹⁰ The four states in this study—California, Florida, New York and North Carolina—that combined accountability for schools and students had a range of potential sanctions for schools, including loss of students to private schools (FL), loss of accreditation (NY), potential state takeover or reconstitution (FL and CA) and potential removal of the principal (NC). None of the four had any direct sanctions targeted to teachers (see Massell et al. 2005 pp. 19-20).

accountability, particularly as practiced under NCLB, will serve to either increase or decrease college participation. It seems far more likely that in its current form, the accountability provisions of NCLB will have little long-term effect on college participation at all—failing to increase odds for those already likely to go, and failing to decrease the odds for those less likely to go. Those in the middle—the students on the margins between college and no-college—are those most likely to be affected, but the outcomes for that group are especially unclear. As Dee reported with regard to effects of the first wave models of accountability, “The absence of any effects on college entrance is plausible because these high school graduation requirements are less likely to be binding for the relatively high-achieving students on the margin for attending college” (2003, p. 225). In other words, bright students unsure of whether they will attend college are unlikely to be affected simply by the presence of these new requirements.

This finding raises serious questions about whether we can expect increases in student test scores to translate into improvements in longer-term college participation outcomes (Carnoy and Loeb 2004). A lack of significant association between the two may be the result of disconnections between the tests themselves and college entry requirements. Currently, there is a significant divide between what students need to know to succeed in college, and what high schools teach them (Conley 2005). Many states do not even require the same number of math and science courses for high school graduation that their public colleges and universities require for admission (Kirst and Venezia 2004). This could change if states used NCLB to set proficiency standards for secondary schools that are aligned with higher education admission demands—and if schools are required to meet those standards. Absent changes of this sort, simply meeting

current NCLB accountability requirements might not mean that college-going rates increase. In a study of Kentucky schools, Price and Reeves (2003) found even those impoverished high schools that do succeed in meeting school accountability requirements still have lower college-going rates than similar affluent schools.¹¹ Where states (and teachers) rely on a single test that is unaligned with both high school graduation and college entrance standards, attention to the test outcome will more likely divert attention from the goal of college access, rather than enhance it.

For all of these reasons, and the sheer youth of the policy itself, we should consider the conclusions of existing research on school-level accountability to be preliminary and tentative when it comes to the college access outcomes of NCLB. But it should be clear from this review that much more research ought to be conducted on whether early impacts of accountability have sustained effects as students move through educational systems.

Where Are We Headed?

As noted earlier, the transition to college is a crucial moment in the lives of young adults, and yet very few educational policies or programs span it. Testing in NCLB is squarely focused on the elementary and middle grades, only one grade at the secondary level is tested, and there is no testing in other subject areas that traditionally make up a college preparatory curriculum. This is not uncommon; historically educational interventions tend to be piecemeal, occurring only in one domain or another, without considering the relationship between the two. But our review suggests that given the

¹¹ Schneider (1997b) provides some insight into this finding, noting that Kentucky's accountability testing takes place quite late in high school (11th or 12th grade), which may be too late to motivate students and change their college decisions.

importance of college participation outcomes, such linkages for young adults should be explored.

NCLB is more likely to have consequences for college participation if its reforms were extended through the secondary level. While prior iterations of ESEA devoted some money to secondary schools, it has always been in far lesser amounts (Nelson 2005a). Recently President Bush has proposed a high school reform bill (funded at \$1.24 billion) squarely built upon the principles of NCLB with expanded testing in reading and mathematics in grades 9 through 11 (Samuels 2005). Bush's plan to expand school accountability to high school was, however, recently rejected by a Congressional subcommittee and the proposal appears to be dead (Robelen 2005). As of now, efforts to extend NCLB-style accountability to high schools are more likely to come from the states. In the spring of 2005, the Gates Foundation announced a \$42 million initiative to help states reform high schools and improve college participation outcomes (Olson 2005). In the first phase of this effort, 10 states received grants of between \$500,000 and \$1 million annually for two years to help them develop comprehensive state plans to improve high school graduation and college-readiness rates (National Governors Association 2005). Many of the proposals promise reforms that can potentially enhance college access, including proposals to mandate a college preparation curriculum for all students, improve mathematics and science instruction in secondary schools and better align high school graduation and college entrance requirements (National Governors Association 2005). This latter reform, as David Conley suggests (2005), "creates the potential for closer connections between high school and college, but only if the exams are aligned with college success standards" (p. 155). Such an alignment would enable the

creation of a “p-16 system” that might be more successful in implementing reforms to promote student success.

While promising, these state reforms are still in their infancy. In the meantime, many states still rely on high school exit exams as their primary tool of high school reform. Currently, 20 states have exit examinations in place, and nearly half of all students in the class of 2005 had to take one in order to graduate from high school (Warren et al. 2005). Yet there is little evidence to support the idea that student-level accountability at the secondary level—in the form of high school exit exams—will result in increases in college participation, nor changes in the high school dropout rate.

Examinations of the effects of “first wave” high school accountability models such as minimum competency examinations have not found that they had any consistent effects on the probability of high school dropout or graduation (Bishop and Mane 2001; Dee 2003), analyses of national data have not identified significant effects of exit examinations on high school dropout (Muller 1998; Muller and Schiller 2000), and a recent study by Warren and Jenkins (2005) found no evidence that high school exit examinations in Florida and Texas were independently associated with increases in dropout rates.¹² Indeed, we located only one study that found significant effects of high-stakes exit examinations on college participation—in that study students in states with

¹² Using data from the October Current Population Survey the authors defined high school dropout in various ways, first including and then excluding students who obtained general equivalency diplomas from the definition, in order to obtain robust findings. Moreover, Warren and Jenkins examined not only the effect of requiring a high school exit examination on dropout, but the effects of characteristics of those examinations— whether the exams assessed “minimum competency” (testing skills learned prior to high school) or “higher-competency” (testing skills learned while in high school); the difficulty of the exams (based on the initial failure rate); and the timing of the exams (first given in the 10th or 11th grades). In all cases, those characteristics also had no effect on high school dropout.

such exams were more likely (about 2-4 percentage points) to attend college within one year of high school graduation (Bishop and Mane 2001).¹³

It is plausible that the tendency to find null effects of high-stakes exit exams on later attainment is attributable to the fact that students who fail the exams are themselves already less likely to go on to college. In a test of this hypothesis Martorell (2004) used a longitudinal sample from the Texas Schools Micropanel data and a regression-discontinuity model in order to distinguish between effects for students who barely pass exit exams and those that barely fail. Unsurprisingly, students who barely failed the Texas exit exams were less likely to receive a high school diploma and less likely to attend college. Further, failing the exit exam reduced the likelihood of attending a four-year college in particular, and enrolling full-time. However, an effect of failing the exit exam on later college attainment was not identified, likely because the exam had its strongest effects on students less likely to succeed in college in the first place (Martorell 2004).

Only when states tie curriculum-based external exit exams in high school to core content areas do they appear to raise student achievement, particularly among minorities (Bishop 1998; Bishop, Moriarty, and Mane 2000). In fact, these forms of standards-based reform more consistently demonstrate both increased achievement *and* smaller achievement gaps (Bishop and Mane 2004). But this is an area that merits additional attention from researchers.

With prospects for high school reform in its future, along with amendments to be made during the next reauthorization, there is much that NCLB could mean for college

¹³ Because the authors examined a cohort of 8th graders, the effects of high school dropout and college participation were able to be appropriately disentangled.

access. It may function to increase academic press in school, thus providing more students with the opportunity to engage in college-preparatory coursework, and raising their expectations for college. Of course this will only occur if capacity is significantly improved in many of our weakest schools. It may also increase student test scores, at least in terms of achievement in the early years of schooling. But the research reviewed in this article suggests that by itself, school-level accountability is unlikely to generate significant change in college participation rates, particularly if it is not linked to direct consequences for students themselves. Further, creating improvements in student test scores, while important, is unlikely to have direct impacts on college access until those test scores accurately reflect improved student learning in the core subjects of mathematics and English/language arts and unless they translate into higher grade point averages and higher test scores not only on state assessments but the tests that matter most for college—the SAT and ACT. Thus its impact will depend in large part on how states interpret NCLB. Only by assuring that students take harder classes, learn more, and perform better on tests relevant for college entry, will NCLB affect college participation rates.

As this review clearly demonstrates, we need to know much more about the implications of NCLB for educational achievement and attainment beyond the secondary level. This large-scale federal intervention in American education is likely to create shifts in school practices that will have outcomes reaching beyond the walls of elementary and high schools. While it is not yet common practice to consider the implications of educational policies system-wide, thinking past the boundaries of either k-12 or higher education, NLCB offers an opportunity to develop new ways of thinking.

The rhetoric of leaving “no child behind” will only be translated into reality if the policy signals changes up and down, back and forth, throughout both ends of the educational system. If accountability serves to increase the capacity of elementary school teachers and their schools, but does not similarly drive change in high schools, long-lasting effects will likely not be realized. In the same vein, our review of the research suggests that the failure to carefully construct accountability standards to align with the requirements of higher education may blunt the impact of these policies on overall educational attainment. Thus NLCB will only matter for college access if it is implemented in a new structural context, one that integrates students, teachers, and administrators in a holistic fashion, across systems.

References

Abelmann, Charles, et al. 1999. "When Accountability Knocks, Will Anyone Answer?"

Philadelphia, PA.: Consortium for Policy Research in Education, 1999.

Adelman, Clifford. 1999. *Answers in the Toolbox*. National Center on Education Statistics: Washington, DC.

Adelman, C., Daniel, B., Berkovitz, I., & Owings, J. 2003. *Postsecondary Attainment, Attendance, Curriculum, and Performance*. Washington DC: NCES.

Alexander, Karl, Robert Bozick, Doris Entwisle, Susan Dauber, and Kerri Kerr. 2005. "Framing the Future: The Development and Meaning of Educational Expectations among Urban Youth." Paper presented at the meetings of the American Sociological Association: Philadelphia, PA.

Avery, C., & Kane, T. 2004. Student perception of college opportunities: The Boston COACH program. In Hoxby, C. (Ed.), *College Choices: The Economics of Which College, When College, and How to Pay For It*. Chicago: University of Chicago Press.

Bishop, John H. 1989. "Why the apathy in American high schools?" *Educational Researcher*. 18: 6-10.

Bishop, John H. 1996. "Signaling, incentives, and school organization in France, the Netherlands, Britain, and the United States." In Eric Hanushek and D.W. Jorgenson (Eds), *Improving America's Schools: The Role of Incentives*. Washington, DC: National Academy Press. pp. 111-145.

Bishop, John H. 1998. "The Effect of Curriculum-Based External Exit Exam Systems on Student Achievement." *Journal of Economic Education*. 29(2): 171-182.

Bishop, John H. and Ferran Mane. 2001. "The impacts of minimum competency exam graduation requirements on high school graduation, college attendance and early labor market success." *Labour Economics*. 8: 203-222.

Bishop, John H. and Ferran Mane. 2004. "Educational Reform and Disadvantaged Students: Are they Better Off or Worse Off?" Working Paper Series: 04-13. Cornell University.

Bishop, John H., Joan Y. Moriarty, Ferran Mane. 2000. "Diplomas for learning, not seat time: the impacts of New York Regents examinations." *Economics of Education Review*. 19: 333-349.

Bowen, William G., Martin A. Kurzwell, and Eugene M. Tobin. 2005. *Equity and Excellence in American Higher Education*. University of Virginia Press.

Bozick, Robert and Stefanie DeLuca. Forthcoming. "Better Late Than Never? Delayed Enrollment in the High School to College Transition." *Social Forces*.

Brady, Ronald C. 2003 *Can Failing Schools be Fixed?* Washington, D.C.: Thomas B. Fordham Foundation.

Bryk, A., V. Lee, P. Holland. 1993. *Catholic Schools and the Common Good*. Cambridge: Harvard University Press.

Cabrera, A. F., Burkum, K., & La Nasa, S. M. 2003. "Pathways to a Four-Year Degree: Determinants of Degree Completion among Socioeconomically Disadvantaged Students." Paper presented at the Association for the Study of Higher Education, Portland, OR.

Cabrera, A. F., & La Nasa, S. M. 2001. On the Path to College: Three Critical Tasks Facing America's Disadvantaged. *Research in Higher Education*, 42(2), 119-150.

Cabrera, A. F., & La Nasa, S. M. 2000. Three Critical Tasks America's Disadvantaged Face on Their Path to College. *New Directions for Institutional Research*, 27(3), 23-29.

Carbonaro, William. 2005. "Tracking, Students' Effort, and Academic Achievement." *Sociology of Education*. 23: 27-49.

Carnoy, Martin and Susanna Loeb. 2004. "Does External Accountability Affect Student Outcomes? A Cross-State Analysis. In Furhman, Susan H. and Richard F. Elmore (Eds). *Redesigning Accountability Systems for Education*. Teachers College Press: NY. Pp. 189-219.

Carnoy, Martin, Susanna Loeb, and Tiffany Smith. 2003. "The Impact of Accountability Policies in Texas High Schools." In Martin Carnoy, Richard Elmore, and Leslie Santee Siskin (Eds). *The New Accountability: High Schools and High-Stakes Testing*. RoutledgeFalmer: NY. Pp.147-174.

Conklin, M.E., & Dailey, A.R. (1981). Does consistency of parental educational encouragement matter for secondary students? *Sociology of Education*, 54(4), 254-262.

Conley, David T. 2005. *College Knowledge: What It Really Takes for Students to Succeed and What We Can Do to Get Them Ready*. Jossey-Bass: San Francisco.

Dauber, Susan et al. 1996. "Tracking and Transitions through the Middle Grades: Channeling Educational Trajectories." *Sociology of Education*. 69(4)

DeBray, E., Parson, G., & Avila, S. 2003. Internal alignment and external pressure: High school responses in four state contexts. In M. Carnoy, R. Elmore, & L. S. Siskin (Eds.), *The new accountability: High schools and high-stakes testing* (pp. 55–85). New York: RoutledgeFalmer.

Dee, Thomas S. 2003. "The 'First Wave' of Accountability." In Paul E. Peterson and Martin R. West (Eds) *No Child Left Behind? The Politics and Practice of School Accountability*. Washington, DC: Brookings Institution. Pp.215-241.

Educational Policy Institute. 2005. *The No Child Left Behind Act of 2001 and the Pathways to College Network Framework: Mutually Supportive Visions and Complementary Goals*. June. Pathways to College Network and Pacific Resources for Education and Learning (PREL).

Elmore, Richard. 2003a. "Accountability and Capacity." In Martin Carnoy, Richard Elmore, and Leslie Santee Siskin (Eds). *The New Accountability: High Schools and High-Stakes Testing*. RoutledgeFalmer: NY. Pp. 195-209.

Elmore, Richard. 2003b *Knowing the Right Thing to Do: Low-Performing Schools and Performance-Based Accountability*. Washington, D.C.: National Governors Association, Center for Best Practices.

Entwisle, D, Karl Alexander, and L. Olson. 1997. *Children, Schools, and Inequality*. Westview Press.

Frank, Kenneth, Chandra Muller, Kathryn Schiller. 2005. "Identity, Influence and Social Capital in Adolescent Society: Schools and their Social Milieus." Paper presented at the meetings of the American Sociological Association: Philadelphia, PA.

Fullan, Michael. 2000. The Three Stories of Education Reform. *Phi Delta Kappan* (April 2000), 581–84

Gamoran, Adam. 1992. "The Variable Effects of High School Tracking." *American Sociological Review*, 57, 812-828.

Goertz and Massell 2005 "Summary." In Gross, Bethany and Margaret Goertz (Eds.) 2005. *Holding High Hopes: How High Schools Respond to State Accountability Policies*. CPRE: Philadelphia, PA.

Goldrick-Rab, Sara and Seong Won Han. No Date. "The "Class Gap" in the "Gap Year": High School Coursetaking, and the Transition to College." Working Paper. University of Wisconsin-Madison.

Goldrick-Rab, Sara, Deborah Faye Carter, and Rachele Winkle Wagner. Forthcoming. "What Higher Education Has to Say About the Transition to College." *Teachers College Record*.

Greene, Jay P. and Marcus A. Winters. 2003. "When Schools Compete: The Effects of Vouchers on Florida Public School Achievement." Working Paper #2, August 2003. Manhattan Institute for Policy Research.

Grissmer, David W. et al. 2000. *Improving Student Achievement, What NAEP State Test Scores Tell Us*. Santa Monica, CA: Rand Corporation.

Gross, Bethany and Margaret Goertz (Eds.) 2005. *Holding High Hopes: How High Schools Respond to State Accountability Policies*. CPRE: Philadelphia, PA.

Hallinan, Maureen T. (1994). Tracking: from theory to practice. *Sociology of Education* 67(2), 79-91.

Hanushek, Eric A. and Margaret E. Raymond. 2003. "Lessons about the Design of State Accountability Systems." In Paul E. Peterson and Martin R. West (Eds) *No Child Left Behind? The Politics and Practice of School Accountability*. Washington, DC: Brookings Institution. pp.127-151.

Hanushek, Eric A. and Margaret E. Raymond. 2005. "Does School Accountability Lead to Improved Student Performance?" *Journal of Policy Analysis and Management*. Spring.

Haycock, Kati. 2001. "Closing the Achievement Gap." *Educational Leadership*. March. Pp. 6-11.

Hearn, J. C. 1988. Attendance at Higher-Cost Colleges: Ascribed, Socioeconomic, and Academic Influences on Student Enrollment Patterns. *Economics of Education Review*, 7(1), 65-76.

Hearn, J. 1991. Academic and Nonacademic Influences on the College Destinations of 1980 High School Graduates. *Sociology of Education*, 64, 158-171.

Heckman, J. and Krueger, A. B. (2004). *Inequality in America: What Role for Human Capital Policies?* Cambridge, MA: MIT Press.

Herman, Joan L. 2004. "The Effects of Testing on Instruction." In Furhman, Susan H. and Richard F. Elmore (Eds). *Redesigning Accountability Systems for Education*. Teachers College Press: NY. Pp.141-166.

Hersh, Richard H. and John Merrow. 2005. *Declining by Degrees: Higher Education at Risk*. Palgrave Macmillan: NY.

Hoffer, Thomas B. 2000. "Accountability in Education." In Maureen Hallinan (Ed), *Handbook of the Sociology of Education*. Kluwer Academic/Plenum Publishers: New York. Pp. 529-543.

Horn, Laura J., Xianglei Chen, and Chris Chapman. (2003). *Getting Ready to Pay for College: What Students and Their Parents Know About the Cost of College Tuition and*

What They Are Doing to Find Out. National Center for Education Statistics Report No. 2003030. Washington, D.C.: National Center for Education Statistics.

Ingels, S. J., Curtin, T.R., Kaufman, P., Alt, M.N., and Chen, X. 2002. *Coming of Age in the 1990s: The Eighth-Grade Class of 1988 12 Years Later*. Washington DC: NCES.

Jacob, Brian. 2005. "Accountability, Incentives and Behavior: Evidence from School Reform in Chicago." *Journal of Public Economics* 89(5-6).

Jacob, Brian. 2001. "Getting Tough? The Impact of Mandatory High School Graduation Exams on Student Outcomes." *Educational Evaluation and Policy Analysis*. 23(2): 99-122.

Kane, T. J. (1999). Reforming Public Subsidies for Higher Education. In Kusters, M. H. (Ed.), *Financing college tuition: government policies and educational priorities* (pp. 53-75). Washington, DC: The AEI Press.

King, Bruce M. and Fred M. Newmann. 2001. "Building School Capacity through Professional Development," *International Journal of Educational Management*. Pp. 86-93.

Kirst, Michael W. 2005. "Improving Preparation and K-16 Linkages for Broad Access Postsecondary Education." Powerpoint presentation given at "Opening Opportunity or Preserving Privilege: The Ambiguous Potential of Higher Education," forum sponsored

by Macalester College, The Andrew W. Mellon Foundation, and The Spencer Foundation. Oak Brook, IL: June 21-22, 2005.

Kirst, Michael W. and Andrea Venezia (editors). 2004. *From High School to College: Improving Opportunities for Success in Postsecondary Education*. Jossey-Bass: San Francisco.

Kornhaber, Mindy L. 2004. "Appropriate and Inappropriate Forms of Testing, Assessment, and Accountability." *Educational Policy*. 18(1): 45-70.

Lee, Valerie E. and David T. Burkum. 2000. "Dropping Out of High School: The Role of Social Organization and Structure." Harvard Civil Rights Project and Achieve Conference, "Dropouts in America: How Severe Is The Problem?" January 13, 2001.

Lee, V., J. Smith, T. Perry, M. Smylie. 1999. "Social Support, Academic Press, and Student Achievement: A View from the Middle Grades in Chicago." Report on the Chicago Annenberg Research Project. Consortium on Chicago School Research: Chicago.

Louie, Vivian. Forthcoming. "Who Makes the Transition to College? Why We Should Care, What We Know, and What We Need to Do." *Teachers College Record*.

Lucas, Samuel and Aaron Good. 2001. "Race, Class, and Tournament Track Mobility." *Sociology of Education*. 74(2).

Malen, Betty, Robert Croninger, Donna Muncey, and Donna Redmond-Jones. 2002. "Reconstituting Schools: 'Testing' the 'Theory of Action'," in *Educational Evaluation and Policy Analysis* (summer 2002): 113–32

Massell, Diane. 1998. *State Strategies for Building Capacity: Addressing the Needs of Standards-Based Reform*. Philadelphia, Pa.: Center for Policy Research in Education.

Martorell, Francisco. 2004. "Do High School Graduation Exams Matter? A Regression Discontinuity Approach." Job Market Paper, Department of Economics: University of California, Berkeley.

Mazzeo, Christopher. 2001. "Frameworks of State: Assessment Policy in Historical Perspective." *Teachers College Record*. 103(3): 367-397.

Mazzeo, Christopher. 2000. *Examining examinations: State assessment in historical perspective, 1865– 1935*. Ph.D. diss., Stanford University.

Mazzeo, Christopher and Ilene Berman. 2003. *Reaching New Heights: Turning Around Low-Performing Schools*. National Governors Association: Washington D.C.

McDill, E., G. Natriello, and A. Pallas. 1986. "A Population at Risk: Potential Consequences of Tougher School Standards for School Dropout." *American Journal of Education*. 94: 135-181.

McDonough, P. M. 1997. *Choosing colleges: how social class and schools structure opportunity*. Albany: State University of New York Press.

McLaughlin, M. W. (1987). Learning from experience: Lessons from policy implementation. *Educational Evaluation and Policy Analysis*, 9(2), 171–178.

McNeil, L. 2000. *Contradictions of school reform: Educational costs of standardized testing*. NY: Routledge.

Miller, S. R., Allensworth, E. M., & Kochanek, J. R. (2002). The state of Chicago high schools 1993 to 2000: Student performance, course taking, test scores and outcomes. Chicago, IL: Consortium on Chicago School Research.

Mintrop, Heinrich 2003a. *Schools on Probation How Accountability Works (and Doesn't Work)*. Teachers College Press: New York, NY.

Mintrop, Heinrich. 2003b. "The Limits of Sanctions in Low-Performing Schools: A Study of Maryland and Kentucky Schools on Probation," in *Education Policy Analysis Archives* (January 15, 2003), at <http://epaa.asu.edu/epaa/v11n3.html>

Muller, Chandra. 1998. "The Minimum Competency Exam Requirement, Teachers' and Students' Expectations and Academic Performance." *Social Psychology of Education*. 2: 199-216.

Muller, Chandra and Kathryn S. Schiller. 2000. "Leveling the Playing Field? Students' Educational Attainment and States' Performance Testing." *Sociology of Education*. 73: 196-218.

Muller, Chandra and Kathryn S. Schiller. 2005. "Achievement and Equity." In Larry Hedges and Barbara Schneider (Eds), *The Social Organization of Schooling*. Russell Sage Foundation.

Murphy, Joseph F., Marsha Weil, Phillip Hallinger, and Alexis Mitman. 1982. "Academic Press: Translating High Expectations into School Policies and Classroom Practices." *Educational Leadership* 40: 22-26.

National Center for Education Statistics. 2003. *Digest of Education Statistics*. Department of Education: Washington, DC.

National Governors Association 2005. *A Profile of State Action to Improve America's High Schools*. NGA: Washington DC.

Nelson, Adam R. 2005a. *The Elusive Ideal: Equal Educational Opportunity and the Federal Role in Boston's Public Schools, 1950-1985*. Chicago: University of Chicago Press.

Nelson, Adam R. 2005b. "How Did We Get Here?" *Wisconsin School News*. V60n3: August. pp. 4-9.

Newmann, Fred, et al. 1997. "Accountability and School Performance: Implications from Restructuring Schools," *Harvard Educational Review*, 41-74;

Newmann, Fred M., Anthony S. Bryk, and Jenny K. Nagaoka. 2001. "Authentic Intellectual Work and Standardized Tests: Conflict or Coexistence?" Consortium on Chicago School Research: Chicago Illinois.

Newmann, F. M., King, M. B., & Rigdon, M. (1997). Accountability and school performance: Implications from restructuring schools. *Harvard Educational Review*, 67(1), 41-74.

Newmann, Fred M., Gudelia Lopez, and Anthony S. Bryk. 1998. *The Quality of Intellectual Work in Chicago Schools: A Baseline Report*. Consortium on Chicago School Research: Chicago Illinois.

O'Day, Jennifer A. 2004. "Complexity, Accountability, and School Improvement." In Furhman, Susan H. and Richard F. Elmore (Eds). 2004. *Redesigning Accountability Systems for Education*. Teachers College Press: NY. Pp. 15-43.

O'Day, Jennifer A. 2002. "Complexity, Accountability, and School Improvement." *Harvard Educational Review*, v 72 n3: 293-329.

Oakes, Jeannie. 1985. *Keeping Track: How Schools Structure Inequality*. New Haven: Yale University Press.

Orfield, G. 1992. Money, equity, and college access. *Harvard Educational Review*, 3, 337-371.

Price, Derek V. and Edward B. Reeves. 2003. "Student Poverty, School Accountability, and Postsecondary Enrollment: A Challenge for Educational Reform in Kentucky." *Journal of Poverty*. 7(4): 21-35.

Roderick, M, Jacob B. and Bryk, A. 2002. "The Impact of High-Stakes Testing in Chicago on Student Achievement in Promotional Gate Grades." *Educational Evaluation and Policy Analysis*. 24(4): 333-358.

Roderick, M. and M. Engel. 2001. "The Grasshopper and the Ant: Motivational Responses of Low-Achieving Students to High-Stakes Testing." *Educational Evaluation and Policy Analysis*. 23(3): 197-227.

Schneider, Barbara. 1997a. "Incentives for Reforming Schools." In James S. Coleman, Barbara Schneider, Stephen Plank, Kathryn S. Schiller, Roger Shouse, and Huayin Wang (Eds), *Redesigning American Education*. Westview Press. pp. 1-12.

Schneider, Barbara. 1997b. "Prognosis for Reform: Lessons from an Output-Driven Educational System." In James S. Coleman, Barbara Schneider, Stephen Plank, Kathryn S. Schiller, Roger Shouse, and Huayin Wang (Eds), *Redesigning American Education*. Westview Press. pp. 147-160.

Schneider, Barbara, Christopher Swanson and Catherine Riegle-Crumb. 1998 "Opportunities for Learning: Course Sequences and Positional Advantages." *Social Psychology of Education*. 2:25-53.

Schwartz, J. B. (1986). Wealth neutrality in higher education: The effects of student grants. *Economics of Education Review*, 5(2), 107-117.

Shouse, Roger. 1997. "Academic Press, Sense of Community, and Student Achievement." In James S. Coleman, Barbara Schneider, Stephen Plank, Kathryn S.

Schiller, Roger Shouse, and Huayin Wang (Eds), *Redesigning American Education*. Westview Press. pp. 60-86.

Siskin, Leslie Santee. 2004. "The Challenge of the High Schools." In Furhman, Susan H. and Richard F. Elmore (Eds). *Redesigning Accountability Systems for Education*. Teachers College Press: NY. Pp. 167-188.

Siskin, L. S. (2003). When an irresistible force meets an immovable object: Core lessons about high schools and accountability. In M. Carnoy, R. Elmore, & L. S. Siskin (Eds.), *The new accountability: High schools and high stakes testing* (pp. 175–194). New York: RoutledgeFalmer.

Snipes, J., Doolittle, F., & Herlihy, C. 2002. Foundations for success: Case studies of how urban school systems improve student achievement (pp. 233–267) Washington, DC: Council of Great City Schools.

St. John, E. P. 1990. Price Response in Enrollment Decisions: An Analysis of High School and beyond Sophomore Cohort. *Research in Higher Education*, 31(2), 161-176.

Stage, F.K., & Hossler, D. (1989). Differences in family influences on college attendance plans for male and female ninth graders. *Research in Higher Education*, 30(3), 301-315.

Steelman, L.C., & Powell, B. (1991). Sponsoring the Next Generation: Parental Willingness to Pay for Higher Education. *American Journal of Sociology*, 6, 1501-1529.

Stein, Sandra J. 2004. *The Culture of Education Policy*. NY: Teachers College Press.

Stevenson, David L. and Kathryn S. Schiller. 1999. "State Education Policies and Changing School Practices: Evidence from the National Longitudinal Study of School, 1980-1993." *American Journal of Education*. 107: 261-88.

Sunderman, G. and Kim, J. 2001. "Influence of State Policy on Standards and School Practices: A Comparison of Three Urban Districts." Paper presented at the annual meeting of the American Educational Research Association: Seattle, WA.

Terenzini, P., Cabrera, A. F., & Bernal, E. (2001). *Swimming against the tide: The poor in American higher education*. New York: College Board.

Toenjes, Laurence A., A. Gary Dworkin, Jon Lorence, and Antwanette N. Hill. 2002. "High-stakes Testing, Accountability, and Student Achievement in Texas and Houston." Pp. 109-130 in *Bridging the Achievement Gap*, edited by John E. Chubb and Tom Loveless. Washington DC: Brookings Institution Press.

Warren, John Robert, and Krista N. Jenkins. 2005. "High School Exit Examinations and High School Dropout in Texas and Florida, 1971-2000." *Sociology of Education*. v78n2: 122-143.

Warren, John Robert, Eric Grodsky, Jennifer C. Lee, and Rachael Kulick. 2005. "Should We Expand NCLB Into the High Schools? Evidence from 25 Years of State High School

Exit Examinations.” Paper presented at the meetings of the American Sociological Association, Section on Sociology of Education conference. Philadelphia, PA.

West, Martin R. and Paul E. Peterson. 2005. “The Efficacy of Choice Threats Within School Accountability Systems: Results from Legislatively Induced Experiments.” Working Paper Number: RWP05-033. Cambridge, MA: John F. Kennedy School of Government.

West, Martin R. and Paul E. Peterson. 2003. “The Politics and Practice of Accountability.” In Paul E. Peterson and Martin R. West (Eds) *No Child Left Behind? The Politics and Practice of School Accountability*. Washington, DC: Brookings Institution. Pp.1-22.

Ziebarth, Todd. 2004. “State Policies for School Restructuring.” Education Commission of the States. *State Notes: Accountability*. Denver, CO. Education Commission of the States.