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ABSTRACT

Since 1980, the gap in college participation rates between low-income and high-income students and between minorities and whites has widened substantially, creating new inequality in college access. During this period, the National Center for Education Statistics (NCES) conducted numerous studies of the impact of academic participation on access to higher education, but the NCES overlooked the impact of reductions in federal need-based grants on the widening gap in postsecondary opportunity. This paper reviews trends related to financial access, develops a conceptual model that incorporates both the academic and economic explanations for access, and uses the model to reexamine the NCES analyses of enrollment behavior by college-qualified students in the high school class of 1992. The reexamination reveals that finances exerted a much more substantial influence on creating the new inequality. NCES ignored the effects of finances when analyzing the cause of disparity in college access. More than one million college-qualified, low-income students were denied financial access in the 1990s. Restoring federal need-based grants to their 1980 level is a necessary first step toward equalizing the opportunity for college-qualified high school graduates. (Contains 4 tables, 8 figures, and 69 references.) (Author/SLD)

The Access Challenge: Rethinking the Causes of the New Inequality

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POLICY ISSUE REPORT

The Access Challenge:
Rethinking the Causes of the New Inequality

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The Access Challenge: Rethinking the Causes of the New Inequality

Since 1980 the gap in college participation rates between low-income and high-income students and between minorities and Whites has widened substantially, creating new inequality in college access. During this period, the National Center for Education Statistics (NCES) conducted numerous studies of the impact of academic preparation on access to higher education, but overlooked the impact of reductions in federal need-based grants on the widening gap in postsecondary opportunity. This paper reviews trends related to financial access, develops a conceptual model that incorporates both the academic and economic explanations for access, and uses the model to reexamine NCES' analyses of enrollment behavior by college-qualified students in the high school class of 1992. The reexamination reveals that finances exerted a much more substantial influence on creating the new inequality. NCES ignored the effects of finances when analyzing the cause of disparity in college access. More than one million college-qualified, low-income students were denied financial access in the 1990s. Restoring federal need-based grants to their 1980 level is a necessary first step toward equalizing the opportunity for college-qualified high school graduates.

While the federal student aid programs, initiated in 1965 and expanded through 1978, were designed to equalize the opportunity to enroll and persist in college, the focus of policy research on access shifted away from the role of finances after 1980. Numerous federally-funded studies have concluded that disparities in academic preparation, especially differences in high school math courses and college entrance exams, were the primary causes of the access gap between minorities and Whites (e.g., National Center for Education Statistics,[1] 1996, 1997a, 1997b, 1998a, 2000b, 2001a, 2001b; Pelavin & Kane, 1988). During this same period, economists have pointed to the fact that the decline in federal grants caused the gap in opportunity (e.g., Kane, 1994, 1999; McPherson & Schapiro, 1991, 1998), but their research has done little to restore the federal investment in need-based grants. Throughout this period the purchasing power of federal grants declined and tuition charges grew much faster than inflation (College Board, 2001a, 2001b), increasing the net price of attending college much more substantially for low-income students than for middle- and upper-income students.

During the 1990s national groups began the process of redefining access, but the task remains incomplete. For example, the National Postsecondary Education Cooperative (NPEC) and the American Council on Education convened a panel to reconceptualize access (NPEC, 1998). The NPEC focused on the fact that greater numbers of women and minorities were attending, but recognized there was a gap in opportunity for minorities (Ruppert, 1998). However, the NPEC largely overlooked the fact that this opportunity gap had increased for minorities compared to Whites after 1980 (Kane, 1994; St. John, 1994, in press). The NPEC pointed to "inadequacies of current

1. The National Center for Education Statistics (NCES) is cited as the author of reports when recommended by NCES as the preferred method. For these reports individual authors are noted in the reference list.

concepts of access" (Ruppert, 1998, p. 9), but did not suggest a definition that distinguished between the roles of academic preparation and financial resources in promoting equal opportunity.

More recently, a few groups have begun to focus on the opportunity gap as an increasingly critical social and economic problem. The National Advisory Committee on Student Financial Assistance (2001a), in their report *Access Denied*, focused attention on a crucial aspect of access that is too frequently overlooked:

> Three decades ago, there was a unanimous agreement on the nation's access goal: low-income students who were academically prepared must have the same educational opportunity as their middle- and upper-income peers. Today, that opportunity—to pursue a bachelor's degree whether through full-time enrollment at a four-year institution directly upon graduation from high school or as a transfer from a two-year institution—is all but ruled out for increasing numbers of low-income students by record levels of unmet need. The rate at which academically qualified, low-income students attend four-year institutions provides one of the most sobering views of America's educational and economic future. (Advisory Committee on Student Financial Assistance, 2001a, p. vi)

Given the conflicted terrain of policy studies on college access, it is not only crucial to reexamine the evidence that is used to make these arguments, but to do so in a way that integrates and tests the newer claims about academic preparation and the older claims about equal opportunity. This paper reexamines the access challenge. First it reviews trends, documenting growth in the opportunity gap and decline in the purchasing power of Pell Grants[2] since 1980. Then it proposes a refined conceptual framework for assessing the impact of academic preparation and finances on college enrollment and uses the new framework to reexamine analyses of college enrollment by 1992 high school graduates previously reported by the National Center for Education Statistics (NCES).

The New Inequality

Three critical trends provide evidence that the decline in the purchasing power of federal grants corresponds with the widening of the postsecondary opportunity gap between low-income students and high-income students.

Trend 1: The purchasing power of Pell Grants, the primary federal need-based aid program, declined substantially after 1975. Since 1990 the college expenses remaining after Pell Grants increased substantially at public four-year colleges.

Trends of college costs and the maximum Pell Grant award (Table 1) reveal a growing net cost for students with the maximum financial need at public four-year colleges. Between 1980-81 and 2000-01, the costs of attending a public four-year college rose from $4,944 to $8,286 (in constant 2000-01 dollars). Between 1975-76 and 1995-96, the maximum Pell Grant award fell from $4,238 to $2,543. The Pell Grant maximum did increase by 36% after 1995, but not as substantially as the cost of attendance at public four-year colleges. The net

2. This paper presents trends for the Pell Grant Program because it is the largest federal need-based grant program. Other federal need-based grants programs were cut more substantially than Pell Grants after 1980 (College Board, 2001b; St. John, in press).

Table 1: Declining Value of Pell Grant Maximnm for the Lowest-Income Students at Public 4-Year Institntions				
Year	Pell Grant Maximum Award		Average Cost of Attendance at Public 4-Year Institutions (Constant Dollars)	Net Cost After Pell Grant Maximum* (Constant Dollars)
	Current Dollars	Constant Dollars		
1975-76	1,400	4,238	5,044	2,522
1980-81	1,750	3,392	4,944	2,472
1985-86	2,100	3,240	5,732	2,866
1990-91	2,300	2,884	6,231	3,347
1995-96	2,340	2,543	7,415	4,872
2000-01	3,300	3,252	8,286	5,034

Constant dollars figures assume 1999-2000 academic year as base year. College costs and CPI estimated for 2000-01.

*Note: Until 1986 the Higher Education Act limited the Pell Grant award to no more than 50% of a student's *actual* cost of attendance. The 50% limit was increased to 60% between 1986 to 1992. After 1992, the cost limitation was removed altogether.

Data Source: Data from the Washington Office of The College Board. Table prepared by the Advisory Committee on Student Financial Assistance.

cost after the Pell maximum at the average public four-year college rose from $2,472 in 1980-81 to $5,034 in 2000-01.

The cuts in Pell did not have a substantial impact on the costs of attending public four-year colleges until the early 1990s. Before 1986 the *Higher Education Act* (as amended) limited Pell Grant awards to no more than 50% of a student's *actual* cost of attendance. For the lowest-income students, Pell awards did exceed 50% of the *average* public four-year cost of attendance. The 50% limit on awards was increased to 60% after 1986, but the maximum Pell Grants no longer covered 60% of the average cost of a public college (Table 1).

Two crucial issues are evident from these trends. First, there was a steady decline in the purchasing power of Pell Grants, a trend that corresponds with the growth in the college participation gap for minorities compared to Whites after 1980 and for low-income students compared to high-income students (see Trend 2 below). Second, public four-year colleges were buffered from the worst effects of the decline in Pell Grants until 1990 because of the program's half cost provisions. However, after 1990 opportunities to attend four-year colleges declined relative to other sectors (see Trend 3, below).

Trend 2: College participation rates for high school graduates increased after 1980. However, a substantial gap emerged between participation rates for Black and Hispanic high school graduates compared to White high school graduates, and for low-income students compared to upper-income students after 1980.

Trends in college participation rates (Table 2) reveal seemingly contradictory patterns in the last two decades of the 20th century. College participation rates by high school graduates increased substantially after 1980, growing from 33% to 44% in 1999. During the same period, a gap appeared in the participation rates for Black and Hispanic high school graduates compared to Whites. College participation rates actually declined for both Blacks and Hispanics from 1975 to 1985, a period during which the Pell Grant maximum declined. In contrast, during the last two decades of the 20th century Whites realized substantial gains in the opportunity to attend college. The opportunity gap had essentially been eliminated in the 1970s but once again became substantial after 1980.

The new gap in enrollment opportunity also widened for low-income students compared to high-income students after 1980 (Table 3). The percentage of high school students in the highest income quartile who attended four-year colleges increased from 55% for the high school classes of 1980 and 1982, to 66% for the high school class of 1992. In contrast, the percentage of students in the lowest income quartile attending four-year colleges dropped from 29% for the high school classes of 1980 and 1982 to 28% for the class of 1992. The percentage of low-income students attending lower cost two-year colleges increased slightly during the period (from 16% to 22%) while this rate remained stable for students in the highest quartile. The overall gap in enrollment rates increased from 23 percentage points for the classes of 1980 and 1982 (the difference between 80% for the highest quartile and 57% for the lowest quartile) to 30 percentage points for the high school class of 1992 (the difference between 90% for the highest quartile and 60% for the lowest quartile). However, not only did the gap in opportunity to attend widen, but the gap in the opportunity to attend four-year colleges widened even more substantially.

What could explain these apparently contradictory trends? Since NCES argues that academic preparation (1997a, 1997b) and parents' education

Table 2: Trends in Participation Rates as a Percentage of 18- to 24-Year-Old High School Graduates by Race/Ethnicity (With Opportunity Gaps)

	1970	1975	1980	1985	1990	1995	1999
White	33.2%	32.3%	32.1%	34.9%	40.4%	44.0%	45.3%
Black	. 26.0%	31.5%	27.6%	26.0%	32.7%	35.4%	39.2%
(GAP)	(7.2)	(0.8)	(4.5)	(8.9)	(7.7)	(8.6)	(6.1)
Hispanic		35.5%	29.9%	26.8%	28.7%	35.2%	31.6%
(GAP)		+3.2%	(2.2)	(8.1)	(11.7)	(8.8)	(13.7)
TOTAL	32.6%	32.5%	31.8%	33.7%	39.1%	42.3%	43.7%

Source: NCES, *Digest of Education Statistics* 2000a. NCES 2001-034, Table 187, p. 216.

Table 3: Proportion of Students from Families in Each Income Quartile Who Enroll in Postsecondary Schools Within 20 Months of High School Graduation

Parental Income Quartile	Any Postsecondary Schooling:				
	Total	Vocational, Technical	2-Year College	4-Year College	
Bottom	0.57	0.12	0.16	0.29	
3rd	0.63	0.11	0.19	0.33	Class of 1980/82
2nd	0.71	0.10	0.22	0.39	
Top	0.80	0.06	0.19	0.55	
Total:	**0.68**	**0.10**	**0.19**	**0.39**	
Bottom	0.60	0.10	0.22	0.28	
3rd	0.70	0.07	0.25	0.38	Class of 1992
2nd	0.79	0.06	0.25	0.48	
Top	0.90	0.05	0.19	0.66	
Total:	**0.75**	**0.07**	**0.23**	**0.45**	

Note: Table from Kane (2001), based on figures reported in Ellwood and Kane (2000).

(2001b[3]) explain the opportunity gap, we need to ask whether school reforms caused the gap to emerge after 1980. The U. S. Department of Education promoted curriculum reforms that were aligned with new and higher educational standards and measured by standardized tests. Education policy researchers have found that the most extreme version of these strategies—high-stakes tests for graduation—was associated with increased dropout by low-income (Jacob, 2001) and by special-needs students (Manset & Washburn, in press). However, these policies are not related to the disparities in participation rates for high school graduates (Tables 2 & 3). Instead, these new K-12 policies could help explain improvement in overall rates of enrollment by high school graduates and the rise in participation rates of all groups after 1985.

The most plausible explanation is that the reduction in federal grants caused the new inequality that emerged after 1980. The decline in federal grants, especially the decline in the value of Pell Grants (Table 1), could have decreased educational opportunities for low-income students compared to upper-income students, a pattern that is well documented (Kane, 2001). Far higher percentages of Hispanic and Black high school graduates were from low-income families (NCES, 1997a). Economists have confirmed the linkage between the decline in student aid and the oppor-

3. In a very recent NCES report, NCES (2001b) argued that differences in parent education explained the opportunity gap. This report also ignored the role of student financial aid.

tunity gap for Blacks (e.g., Kane, 1994; McPherson & Schapiro, 1991), but NCES failed to consider this possibility in their analyses of the National Education Longitudinal Study of 1988 (NELS:88) (NCES, 1996, 1997a, 1997b, 2001b), the most recent longitudinal database. Therefore it is necessary to reexamine these reports.

Trend 3: Enrollment in public four-year colleges declined in the early 1990s, a period when total higher education enrollment increased.

In the early 1990s, after decades of increases, enrollment in public four-year colleges dropped (NCES, 2000c). Indeed, enrollment in public colleges grew in the 1980s in spite of predictions to the contrary (NCES, 1980). The decline in public sector enrollment came at a time when total enrollment-along with enrollment in private four-year colleges and public two-year colleges-increased (Table 4). Given that enrollment did not decline in four-year colleges in the 1980s, which had been predicted (NCES, 1980), this decline in public four-year enrollment in the early 1990s was unanticipated given NCES predictions of growth in this sector (NCES, 1993).

The most plausible explanation for the decline in enrollment in public four-year colleges in the early 1990s is the decline in the purchasing power of Pell Grants and other federal grant aid, coupled with the increase in tuition charges by public colleges. As noted above, by 1990 the Pell Grant maximum had eroded below the protection afforded by the cost provisions in the program. It is unlikely that school reform explains most of the gap in opportunity that emerged after 1980.[4] The erosion in Pell, coupled with the increases in the costs of attending public colleges (noted above), provides a plausible explanation.

Table 4: Trends in FTE Undergraduate Enrollments (in thousands)

	1970	1975	1980	1985	1990	1995	1996	1997
Public 4 Year	3053	3428	3524	3601	4015	3976	3984	4025
Private 4 Year	1407	1486	1585	1603	1729	1822	1856	1892
Public 2 Year	1413	2465	2484	2428	2819	2995	3008	3026
Private 2 Year	105	114	173	221	197	168	163	138
Total	**5978**	**7493**	**7766**	**7853**	**8760**	**8961**	**9011**	**9081**

Sources: 1970 enrollments from NCES 1980, Table 12A (p. 44) and 12B (p. 45); 1980 and 1985 enrollments from NCES 1989, Table 24 (p. 49) and Table 25 (p. 50); 1990, 1995, and 1996 enrollments from NCES 1999, Table 24 (p. 48) and Table 25 (p. 49); 1997 enrollments from NCES 2000c, Tables 31 and 32.

4. While there is evidence that high-stakes tests influence high school dropout by low-income students (Jacob, 2001), there is also evidence of increasing college participation rates by high school graduates (Table 2).

Reframing the Access Challenge

Two conceptual models have been widely used to examine the ways public policy influences access to higher education. The older model focused on financial access, but did not adequately consider the role of academic preparation. The new model focuses on the role of academic preparation in promoting academic access, but totally overlooks the role of finances.

Evolution of Access Models

In the 1960s and 1970s, economists frequently examined the impact of net prices (tuition charges minus grants) on enrollment (Jackson & Weathersby, 1975; Leslie & Brinkman, 1988; McPherson, 1978). The early econometric analyses were given credit for influencing the development of Pell Grants, now Basic Educational Opportunity Grants, in the 1972 reauthorization of the *Higher Education Act* (Gladieux & Wolanin, 1976). These studies examined the changes in enrollment attributable to a $100 differential in net price (Heller, 1997; Leslie & Brinkman, 1988). While this approach continues to be widely used by economists (e.g., Kane, 1999; McPherson & Schapiro, 1998), these studies did not deter cuts in Pell Grants after 1980.

The Reagan administration shifted the emphasis in federal student aid programs from grants to loans in the 1980s (McPherson & Schapiro, 1991; St. John & Noell, 1987). Since that time, there have been two contradictory strands of inquiry. Economic researchers consistently have found a linkage between student aid and college enrollment (Heller, 1997; Kane, 1994, 1999; McPherson & Schapiro, 1991, 1998), a finding that had little apparent influence on policy. Analysts working for the U. S. Department of Education focused on the influence of academic preparation on college enrollment and overlooked the role of financial aid (e.g., Chaikind, 1987; NCES, 1996, 1997a, 1997b; Pelavin & Kane, 1988). The government-funded studies initially identified high school math courses as being correlated with college enrollment (Pelavin & Kane, 1990) and eventually developed elaborate indicators of academic course preparation (NCES, 1997a, 1997b).

The National Education Longitudinal Study: 1988-1994 (NELS:88) provides a database that tracks a national cohort of students from 8th grade into college, an appropriate database for studying access to higher education (NCES, 1996). NCES has made substantial use of the database to study the role of academic preparation in college enrollment. The NCES (1997b) model, the pipeline to college, defines the following steps:

- Step 1: Aspirations
- Step 2: Academic preparation
- Step 3: Entrance exams
- Step 4: College application
- Step 5: Enrollment

The analyses using this logical model (NCES, 1997a, 1997b, 2000, 2001a, 2001b) systematically overlooked the influence of finances on enrollment behavior, even when they reported statistics on financial aid (e.g., NCES, 1997a). The following conclusion illustrates the interpretive position typically taken in these federal reports:

> Although there are differences by income and race-ethnicity in the four-year college enrollment rates of college-qualified high school graduates, the difference between college-qualified low-income and middle-income students, as well as differences among college-qualified black, Hispanic, Asian, and white students, are eliminated among those students who have taken the college entrance examinations and completed an

> application for admission, the two steps necessary to attend a four-year college. (NCES, 1997a, p. iii)

This statement clearly argues that by taking college entrance tests and applying in advance to four-year colleges,[5] minority students could gain access to four-year colleges. Ironically, this report presented information related to the role of finances, controlling for academic preparation, but failed to even consider the possibility that financial aid influenced college enrollment.[6] Like most of NCES' other studies (NCES, 1996, 1997b, 2001b) that have analyzed NELS:88, this report ignored the possibility that the decline in federal student aid after 1980 could have influenced the opportunity gap. The extreme nature of these claims about academic access necessitates a rethinking of the logical models used in federal access studies.

When assessing the impact of family finances on college access for low-income students, it is illogical to arbitrarily exclude the impact of finances at any stage of the access pipeline from middle school through degree completion. By focusing only on those low-income high school graduates who are college-qualified and both test and apply, the impact of finances on expectations, plans, timing of college entry, choice of college, test-taking, and application are eliminated from consideration. This constitutes a fundamental modeling misspecification: It conceals the true impact of finances on access and serves only to guarantee the false finding that finances largely do not matter. It is especially egregious when in fact the study data themselves (below) clearly show strong, income-related effects of finances at each of these stages, including testing and applying.

A few recent studies help inform a broader view of access that considers these indirect effects of financial aid. Recently researchers have identified a financial nexus between college choice and persistence in studies using the National Postsecondary Student Aid Survey (Paulsen & St. John, 1997, 2002; St. John, Paulsen, & Starkey, 1996). These researchers tested the hypothesis that the financial reasons for choosing a college had an influence on the experience in college and subsequent persistence decisions (St. John, Paulsen, & Starkey, 1996). They confirmed that students who enrolled in public colleges were more likely to have considered living costs and employment when making their college choices, while student aid was a more important reason for choosing a private college (Paulsen & St. John, 1997). Another of these nexus studies found that social class differences influenced the role of finances in college choice and persistence (Paulsen & St. John, 2002). Students from the lowest-income quartile most frequently chose colleges because of student aid. However, choosing a college because of financial aid was negatively associated with persistence by low-income students before the direct effects of student aid were considered. Further, grants were inadequate to promote persistence for low-income students. *These findings indicate that inadequate financial aid could*

5. The NELS:88 questions about college applications were asked during the senior year, which means that students answering affirmatively on these questions had applied to a college that required an advanced application. Many less selective institutions do not require students to make applications in advance.
6. A subsequent section of this paper presents a reexamination of analyses reported by NCES (1997a) to illustrate that because of the interpretive assumptions, NCES has systematically overlooked the role of finances in promoting equal educational opportunity in the United States. This is both sad and ironic, given that the goal of promoting equal opportunity remains an intent of federal student financial aid, the primary form of federal investment in higher education.

constrain initial and continuous enrollment for low-income students, thus limiting financial access.

This research reveals that finances have both direct and indirect effects on academic choices: perceptions of finances influence the early college choice process, while financial variables (i.e., tuition and grants or net prices) have a direct influence on both enrollment and persistence. Given these understandings, it is possible to conceptualize a reconstructed access model that considers the direct and indirect roles of finances, along with the effects of academic preparation. Given the substantial influence that family finances have on college choice and persistence, policy researchers should also reconsider the role of family finances in the academic preparation and enrollment process, referred to by NCES as the pipeline to college.

The Balanced Access Model

The dual nature of access should be considered in efforts to untangle the relative effects of finances and academic preparation. Two types of access—academic and financial (St. John & Musoba, in press; St. John, Simmons, & Musoba, 2002)—should be considered in studies that examine the causes and cures of the opportunity gap:

- *Financial access* refers to the ability to afford initial and continuous enrollment and can be influenced by government and institutional aid subsidies, college costs, and family incomes and savings.
- *Academic access* refers to meeting standards for admission to a four-year college; it is related to academic qualifications, and can be influenced by efforts to improve K-12 education.

This distinction helps clarify the role of family finances and student aid in the academic pipeline to college. The Balanced Access Model (Figure 1) provides a balanced way of viewing financial and academic access that is consistent with the two main streams of prior research.

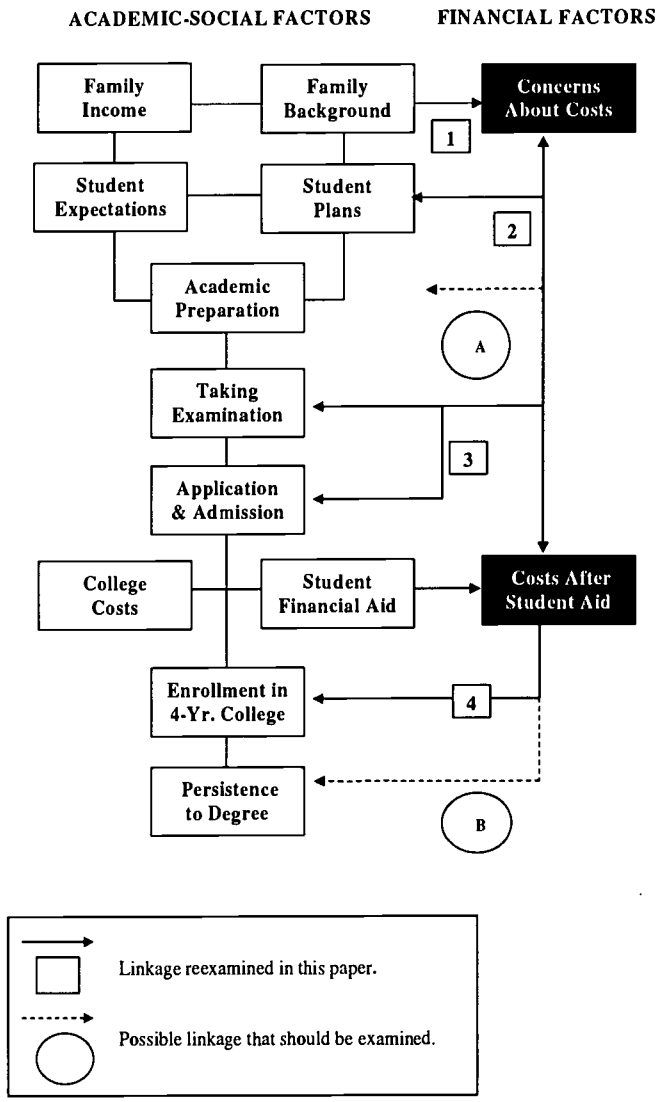
First, the definition of academic access is conceptually aligned with the criteria NCES uses to determine qualification. NCES' pipeline model is integrated into the logic of the Balanced Access Model. The shaded portion of the figure illustrates the logical model used in analyses. It adapts the NCES pipeline, but recognizes that family finances and their concerns about college costs have an influence on academic preparation. The reconstructed pipeline is:

- Family background and income influence student expectations and plans;
- Student expectations and plans influence course taking in high school;
- Taking college preparatory courses in high school influences students to take college entrance exams and to apply for college;
- Planning for college, taking preparatory courses in high school, and applying for college influence college enrollment (and destination).

This reconstructed pipeline is consistent with other, more balanced research on the college enrollment process (e.g., Hossler, Schmit, & Vesper, 1999). In addition to acknowledging the role of this academic pipeline process, the Balanced Access Model expands the logic of the NCES model to include the role of family finances, consistent with the definition of financial access above.

Second, the Balanced Access Model recognizes that tuition and financial aid have both direct and indirect influences on enrollment decisions, consonant with the new definition of financial access. Consistent with more recent research on the role of finances (St. John, Cabrera, Nora, & Asker, 2000), the Balanced Access Model

FIGURE 1: A BALANCED ACCESS MODEL



specifically recognizes the following linkages between family finances, financial aid, and college enrollment:

- Family income influences their concern about college costs and their ability to pay for college (Linkage 1).
- Family concerns about finances-including their concerns about their costs after student grants (i.e., perceptions of unmet need)-can influence college plans (Linkage 2).
- Family concerns and students' postsecondary plans and expectations can influence course taking in high school (academic preparation) (Possible Linkage A).
- Family perceptions of financial problems can also influence students' decisions to apply for college and to take entrance exams (Linkage 3). Students who have prepared for college might not apply for college if they think they cannot afford to maintain continuous enrollment.
- Educational costs after student grants can influence students' decisions to enroll (or not to enroll) in four-year colleges after they have applied for and received aid offers (Linkage 4).
- Family perceptions of financial problems and student financial stress while in college (caused by inadequate aid) can influence continuous enrollment (persistence or dropout) by undergraduates (Possible Linkage B).

Thus, the Balanced Access Model offers a more complete way of viewing the influence of policy on academic access and financial access. This way of conceptualizing the role of finances is consistent with economic research on human capital, which shows that students consider their potential earnings, potential debt, and foregone earnings when they make educational choices (Becker, 1964; Paulsen, 2001). By examining these linkages, it is possible to untangle how finances influence academic preparation, college enrollment, and persistence.

Reexamination Approach

The Balanced Access Model identifies linkages between family finances and enrollment—parents' and students' perceptions of need and how these perceptions relate to the academic preparation process, as well as how aid might have a direct effect on student enrollment. In the next section, we reexamine a recent NCES report (1997a) on college access by the high school class of 1992. Using the analyses actually reported by NCES makes it possible to illustrate how their method—and the conclusions cited above—overlook evidence related to the role of finances that was present in their own analyses. The analyses are presented in two parts.

First, this reexamination carries forward NCES' method of defining college qualification, an approach consonant with the concept of academic access used above. Since this reexamination focuses on students who met the commonly accepted criteria for access to four-year colleges, as defined by NCES, we did not examine the influence of perceptions of finances on academic preparation (Possible Linkage A in Figure 1).[7] Instead, this reexamination focused on *the influences of perceptions of finances on the academic pipeline for students who took the steps necessary to prepare for college.*

7. It is possible that family concerns about finances discouraged some low-income students from preparing for college. It is possible that fewer low-income students took college preparatory courses because they were informed about the inadequacy of student financial aid and that they could not afford to attend a public four-year college in their state.

Second, it was not possible to examine the influence of family finances on persistence using these reports (Possible Linkage B in Figure 1). Data on enrollment after the first two years had not been collected at the time these earlier analyses were reported (nor is the five-year follow-up generally available). Thus only four of the linkages noted in the Balanced Access Model were examined due to constraints in prior analyses.

This paper reexamines statistics reported by NCES, but does not reanalyze the impact of parental and student concerns about finances on academic preparation in high school, nor does it assess the impact of financial aid on access, controlling for academic preparation (as measured by NCES). A further reanalysis of NELS:88 would be needed to provide a more complete analysis of the impact of student aid.

Reexamination of NCES Analyses

NCES provided a thorough descriptive analysis of NELS:88 using their academic pipeline model to analyze the sequence of educational choices made by students in the high school class of 1992 (NCES, 1997a) in *Access to Postsecondary Education for the 1992 High School Class.* The reexamination starts with a review of NCES' analyses that defined the populations of college-qualified students from high-, middle-, and low-income families. Then it reviews NCES' analyses of the three populations of college-qualified students using the logic of the Balanced Access Model. Finally, a few observations are reached about the status of academic and financial access for the high school class of 1992.

The Boundaries of Academic Access

In their comparisons of students in the high school class of 1992, NCES broke the population down into three income groups and differentiated for the academic qualifications within each group (NCES, 1997a). Their analyses treated students from families with incomes below $25,000 as low income and students from families with incomes above $75,000 as high income. The group in between the two extremes, the middle half of the high school population in 1992, was treated as middle income. NCES also developed a "college qualification index" (adapted from Adelman, 1995) computed from five sources: combined SAT score, class rank (percentile), GPA from academic courses, percentile on NELS test (administered by the survey contractor), and the ACT composite score (NCES, 1997a).[8] They divided the population into groups that are classified as not college qualified, minimally/ somewhat qualified, and highly/very highly qualified. This reanalysis uses these basic population breakdowns.

The fact that NCES combined the middle two quartiles of the population into a single group artificially limits the analyses in some important ways. Analyses of prior NCES surveys reveal substantial differences between the lower-middle-income students and upper-middle-income students (Paulsen & St. John, 2002; St. John, 1990a; St. John & Starkey, 1995). Students from lower-middle-income families made choices in what can be characterized as a working class model—they were more likely to choose work

8. NCES (1997a) provides a great deal of detail about methods they used to calculate the index, including how they treated missing data. This reexamination implicitly accepts NCES' index. While there may be reason to reexamine this index, it is important to report analyses using this index as a means of building an understanding of the role of finances, controlling for academic preparation as defined by NCES.

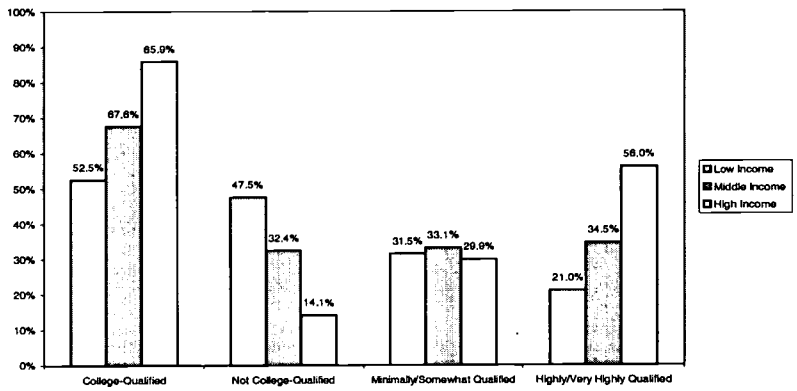
rather than loans as a means of paying for college. Consequently they were disproportionately represented in community colleges, given the modest Pell Grants after 1980 (Paulsen & St. John, 2002). In contrast, the upper-middle-income group was more substantially influenced by loans (Paulsen & St. John, 2002; St. John & Starkey, 1995). By combining the two 'middle' income groups, the NCES (1997a) report obfuscates the substantial difference in educational opportunities for working class families compared to upper-middle-income families. When the three income groups were compared on the college qualification index (Figure 2), there were differences in qualification by income group, as would be expected. About 86% of the high-income group was college qualified, compared to 68% of the middle-income group and 53% of the low-income group. Conversely, about half of the low-income group was not qualified for college (48%), compared to about a third of the middle-income group (32%), and fewer upper-income students (14%). This means that nearly half of the low-income population was not considered in the analyses of financial linkages below since we are trying to control for the influence of academic preparation. It is entirely possible that concerns about finances influenced many of these students to prepare for work (i.e., to take vocational courses) rather than to prepare for college while in high school.

There were also differences in the extent of college qualifications across the three income groups. Most of the high-income students who were qualified were actually highly qualified (56% of the entire income group), while nearly equal portions of those in the middle-income group were minimally/somewhat qualified and highly/very highly qualified. In contrast, more of the low-income group who were college qualified were minimally/somewhat qualified (32%) than highly/very highly qualified (21%). However, since college entrance exams were included within this index, it is possible that failure to take entrance exams explains why some low-income students were grouped in the minimally prepared group rather than in highly or very highly prepared groups.[9] In the analyses below we explore whether these decisions were related to family concerns about college costs, an explanation overlooked in the NCES analyses.

For students who have prepared to go to college, the extent of college qualification should influence destination, and especially the selectivity of colleges students attend, but not whether they attend. Indeed, as the trend analysis above reveals, there was once near equal opportunity for college participation by high school graduates across racial/ethnic groups. However, for college-qualified students in the high school class of 1992, race/ethnicity played a major role in determining college destination (Figure 3). About half of the low-income college-qualified students attended four-year colleges (52%) compared to over four-fifths (83%) of the high-income group. There were even greater disparities across ethnic groups. The percentage of college-qualified African Americans who enrolled in four-year colleges (64%) was slightly higher than the percentages for Whites (63%) and substantially higher than the percentages for Hispanics (49%) and low-income students (52%). In spite of having lower incomes on average, African Americans were more likely to take advantage of opportunities for college. The opportunity gap for college-qualified students appears to be directly related to income and

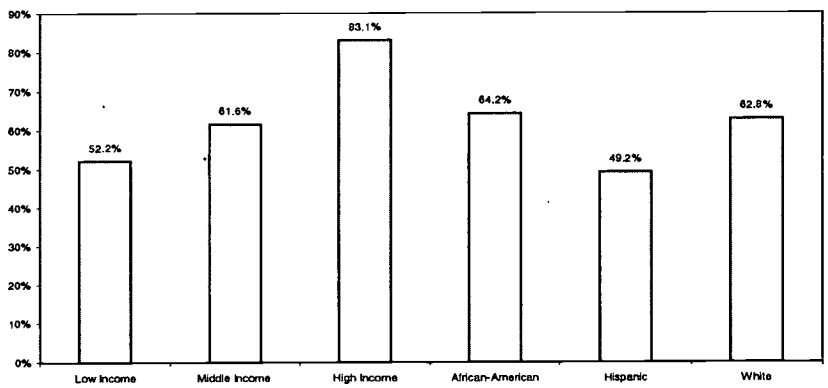
9. Further, if some low-income students who were otherwise prepared did not take entrance exams because of concerns about finances, then there were still further logical problems with the analyses and interpretations reported by NCES.

FIGURE 2: COLLEGE QUALIFICATIONS BY INCOME



NCES 1997a, Table 15, p.29

FIGURE 3: COLLEGE-QUALIFIED STUDENTS THAT ENROLLED IN A FOUR-YEAR COLLEGE



NCES 1997a, Table 20, p.37

unrelated to race/ethnicity. However, since larger percentages of African Americans and Hispanics than Whites are from families with low incomes, they are disproportionately affected by the decline in student aid.

It is appropriate to limit this analysis to college-qualified students if our purpose is to estimate the impact of family finances on the pipeline to college. Therefore, the remainder of this section considers college-qualified students broken down by income group. It is also appropriate to compare college-qualified students from low-income families to college-qualified students from high-income families because low-income students have substantially higher unmet need than do high-income students. While the figures below represent the three income groups, we are most concerned about the disparity in opportunity between low- and high-income students,[10] because the middle-income group includes some students with unmet financial need (i.e., lower-middle-income students) and the high-income group includes very few students with unmet need. This approach-comparing high- and low-income students-provides visibility into the effects of family finances, perceptions of college finance, and student aid on enrollment by students who meet generally accepted criteria for academic access.

NCES did not consider the possibility that perceptions of financial problems could have an influence on any decision a family might make about academic preparation or college enrollment. Instead they considered the steps in the academic pipeline process, observing that there was only slight erosion in the percentages of students who took the exams and applied who actually attended college, from 91% to 83% of the high income group and from 62% to 52% of the low-income group. They concluded that to expand access, more students should be encouraged to take the right courses in high school and to take the entrance exams and apply for college (NCES, 1997a).

The Role of Finances for College-Qualified Students

From the information reported by NCES (1997a), it is possible to reexamine the role of parents' concerns about college costs, as an indicator of family perceptions of unmet need. First, we examine the relationship between income and concerns about finances for low-income students, then try to untangle the effects of these concerns on subsequent steps in the academic pipeline for college-qualified students in the three income groups. This provides insight into the limits of financial access for some students who have achieved the generally accepted standards for academic access. Evidence related to the five specific linkages is reexamined below.

Linkage 1: Family Finances and Concerns about Financing College. Other researchers using NELS:88 found that family resources had a substantial influence on who took responsibility for saving for college (Steelman & Powell, 1993) and subsequent educational outcomes in high school (Downey, 1995). Similar findings are evident from studies using state databases (Hossler, Schmit, & Vesper, 1999). This linkage

10. Low-income students have a high average amount of unmet financial need after grant aid, while high-income students have little or no unmet need, on average. Middle-income students also have unmet need after grants, but can use loans to pay for these costs. NCES (1997a) did not report the unmet need for the three groups. However, they did report that low-income college students had substantial costs after grants and loans, a compelling indication of financial problems also overlooked as a possible cause for the disparity in access.

between family financial means and concerns about finances is central to the logic of the Balanced Access Model, but was completely overlooked by the NCES model of academic access. If concerns about financing college are stronger among parents of low-income families, then these concerns may affect preparation for college.

NCES (1997a) reported analyses of parental concerns about finances, but failed to even consider whether parental concern could have influenced any subsequent educational outcomes. Parental and family concerns about college costs varied substantially across the three groups (Figure 4). Most parents of college-qualified children from low-income families were very concerned about college costs and financial aid (79%), but only a small percentage of parents of children with high incomes (16%) shared these concerns. Similarly, most children from low-income families were also concerned about financing college (69%), but only a few of their peers with low financial need shared these concerns (20%). These results indicated that concerns about college costs were shared between parents and children in low-income families. NCES (1997a) attributed these concerns to poor information, in spite of reporting information of substantial net cost after student aid for low-income students (reviewed as part of Linkage 4 below).

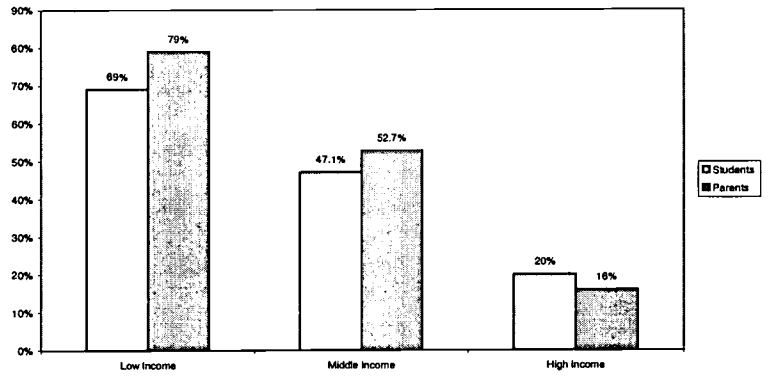
More than half (52.7%) of the middle-income parents of college-qualified high school students were also concerned about finances, as were about half of their children (47.1%). Prior research (e.g., Paulsen & St. John, 2002) suggests there would also be substantial differences in parental concern for lower-middle-income families compared to upper-middle-income families, but it is not possible to test this proposition because the NCES (1997a) analyses aggregated these groups.

While the low-income students in the high school class of 1992 were seniors, they shared concerns with their parents about financing college, given constraints of government student aid. Given recent research on the impact of perceptions of finances (Cabrera, Nora, & Castenada, 1992; Paulsen & St. John, 1997, 2002; St. John, Cabrera, Nora, & Asker, 2001), there is reason to expect that parents' concerns about finances would influence students' plans and expectations in 8th and 12th grades.

Linkage 2: The Relationship between Family Concerns about College Cost and Postsecondary Expectations/Plans. One of the ways that concerns about finances influence the opportunity gap is that some children reduce their aspirations because of these concerns. There is little doubt from prior analyses of longitudinal databases that there is a relationship between expectations and college enrollment by minorities (Carter, 1999; St. John, 1991). It is also clear that high school students from low-income families fall short of their aspirations compared to students from wealthier families (Hanson, 1994; Hearn, 2001; Hossler, Schmit, & Vesper, 1999). The reexamination of college expectations in 8th grade and college expectations in 12th grade (Figure 5) reveals a relationship between these intermediate outcomes and family income.

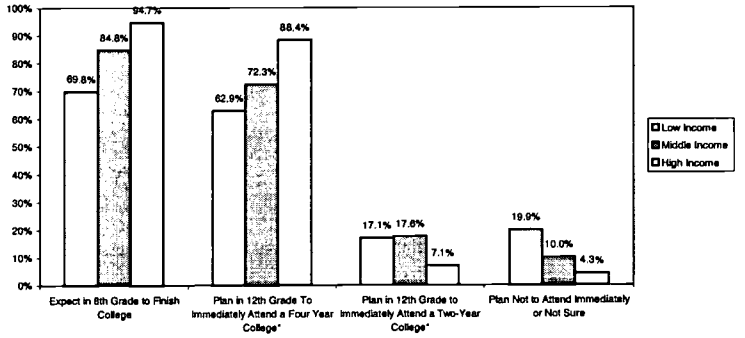
There were differences across groups in the level of postsecondary expectations, especially for students expecting four-year degrees. Nearly equal percentages of middle- and low-income, college-qualified students planned to attend two-year colleges in 12th grade (17.1% and 17.6% respectively), with relatively few high-income college-qualified students making these plans (only 7%). Only slightly fewer low-income students in the college-qualified group planned to attend in the 12th grade than expected to finish college while in the 8th grade. A substantially larger percentage of middle-income students

FIGURE 4: COLLEGE-QUALIFIED STUDENTS THAT ARE CONCERNED ABOUT COLLEGE COSTS AND FINANCIAL AID



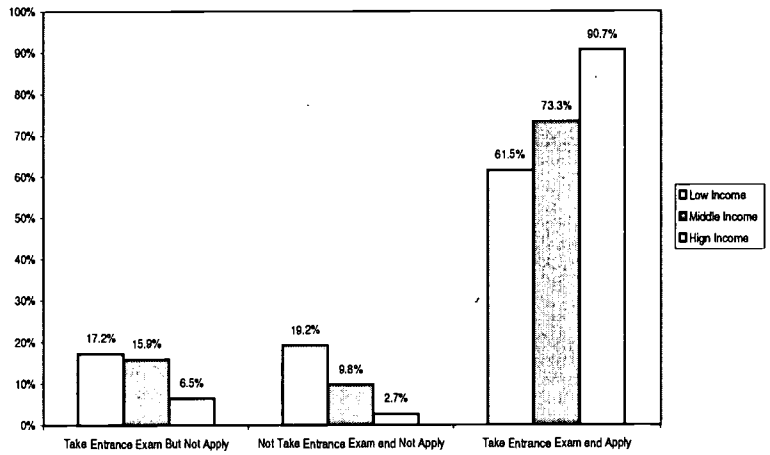
NCES 1997a, Table 27, p.54

FIGURE 5: EXPECTATIONS AND PLANS OF COLLEGE ATTENDANCE FOR COLLEGE-QUALIFIED STUDENTS



*Plan to attend a 'four-year' and 'two-year college' percentages were adjusted from the original percentage in order to recognize the percentage who had not planned to attend immediately after high school

FIGURE 6: VARIABILITY IN TEST-TAKING AND APPLICATION OF COLLEGE-QUALIFIED STUDENTS



NCES 1997a, Table 22, p.42

changed their plans: 84.8% expected to complete college when in 8th grade compared to 72.3% who planned to attend four-year colleges as 12th graders. Thus academic experiences in high school was not a deterrent for low-income children who took college preparatory courses in high school. This suggests that the emphasis on academic preparation that was already in place in the early 1990s had a positive influence on the expectations of low-income students who followed the narrow academic path.

Unfortunately, nearly 20% of the low-income, college-qualified students did not plan to attend college when they were seniors. However, only 69.8% expected to complete four years of college when they were in 8th grade. There was not a drop in expectations for these children. Instead, they took the steps to prepare for college knowing they could not afford to go. Given this situation, it is remarkable that NCES (1997a) suggested that if these students had only paid for expensive applications while in high school and had paid to take entrance exams the access problem would be solved.

Linkage 3: The Relationships Between Family Concerns About College Costs and College Application Process. Much of NCES' misinterpretation of the descriptive data of academic access results

from placing too much emphasis on the final steps in the college application process: taking entrance examinations and making college applications in 12th grade (i.e., applying to college in advance). There are a large number of two-year and four-year colleges that do not require students to make applications in advance. Some do not require college entrance examinations. This limitation of the higher education market was totally overlooked in NCES' analysis. Indeed, in many states, less selective, essentially open-door colleges are located within driving distance of most urban centers. Since these less selective colleges cost less to attend, it is reasonable to consider whether students who are concerned about college costs would decide to attend local colleges that did not require advance applications. Indeed these considerations—location close to home and close to work—are central to the college choices made by many low-income and lower-middle-income students (Paulsen & St. John, 2002). However, since NCES' pipeline criteria treated entrance exams and applying for college as central to access, we need to consider how family finances interacted with these steps in the pipeline to college.

NCES' statistics on the relationship between family finances and test taking and college application by college-qualified students (Figure 6) reveal a substantial differential between low- and high-income students in the percentages who took entrance examinations and applied for college. College-qualified students from high-income families were more likely than were similarly qualified low-income students to take entrance exams and apply (91% compared to 62%). However, the percentage of low-income students who met these criteria was substantially lower than the percentage planning to attend college in 12th grade. Since more high-income, college-qualified students took exams and applied in advance to college (93% planned to attend while 91% took the exams and applied), it might appear that test scores caused some students to reassess their plans. It is essential that readers ask themselves: if low-income college-qualified students paid the advanced application fees required to these colleges, would they have received the financial support they needed to support continuous enrollment? NCES (1997a) essentially assumed that finances were adequate when they argued that inducing more students to apply in advance was the answer to the opportunity gap.

The statistics reviewed thus far seem consistent with a sequential student-choice process that was realistic and aware of college costs, especially for the low-income, college-qualified group. Making an advanced college application is not a sorting criterion for who goes to college, but rather an indicator of which students are willing to pay the extra costs of institutions that require advanced applications after paying for the entrance exams. Not only is there a fee required to take these exams but the more selective colleges require the exams be taken; they also charge higher prices. Thus, students who are concerned about college costs (i.e., most low-income students) would be less likely to go through these steps. This conclusion is further confirmed by the analysis of application and exam taking as distinct behaviors. Fully 17% of low-income students took the exams but did not apply in advance. These students made a realistic assessment, one consistent with the cost information reported below. Moreover 15% of middle-income students took the exams and did not apply in advance. In contrast, only 7% of the high-income students took the exams and did not apply in advance-and they could afford to do so. It appears that college costs could have influenced where students who were concerned about costs actually applied.

In combination, these findings document that family finances were associated with students' decisions to apply to colleges that required applications before enrollment. College-qualified, low-income students were cautious about taking the exams and still more cautious about applying for college after they took exams. It appears these students made prudent decisions, given family finances and expected costs after student aid. These statistics indicate that test taking and especially advanced college applications are constrained by finances. It would be short sighted to encourage low-income students to pay for entrance exams and for applications to four-year colleges when their realistic assessments of college costs lead them to believe they cannot afford to attend in the first place.

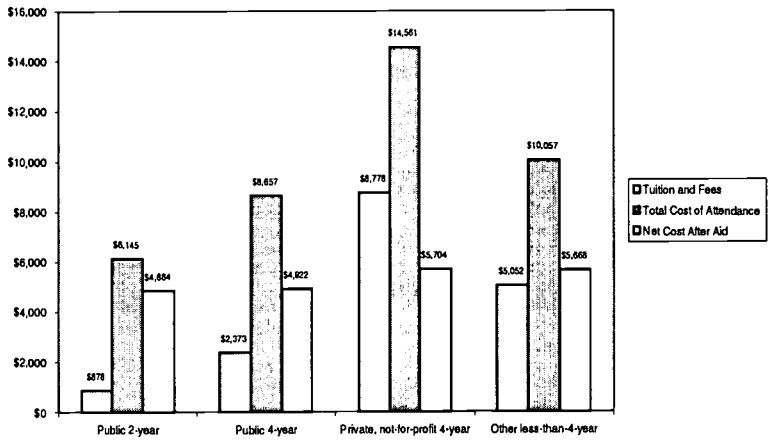
This reexamination of the final two steps in NCES' pipeline raises serious questions about whether making advanced college applications should be viewed as a 'necessary step' for access. Rather, it appears to be a financial barrier related to the costs of attending the more expensive colleges and universities that require advance applications. The reader is reminded that this measure is derived from a question asked of high school seniors. There is good reason to eliminate this measure as a sorting criterion for the measurement of college qualification. This is a huge misconception of college choice that was deeply embedded in NCES' pipeline model. This further illustrates how NCES' analyses obfuscated visibility into the relationship between student aid and college destination, the most appropriate indicators of whether students who are qualified academically can afford to attend four-year colleges.

Linkage 4: The Relationship between Unmet Need and College Destinations. The analyses using the NCES Access Model (NCES, 1997a) overlooked this question: *Did the prospect of high unmet need—of high costs after student aid for low-income students—influence enrollment behavior?* The Balanced Access Model, consistent with economic theory, assumes that prices and subsidies have a direct influence on college enrollment. To test the direct effects of student aid on financial access, using the definition above, it would be necessary to analyze the effects of aid offers on enrollment and the effects of aid on continuous enrollment. However, NCES did provide information that can be used to build an understanding of the direct effects of student aid.

NCES (1997a) did not even consider whether student aid had a direct effect on enrollment when they concluded that not taking entrance exams and not applying to college in advance were the primary reasons for low college attendance for low-income, college-qualified students. However, they did present information on the net costs of attending after student aid for low-income students (Figure 7). The average net cost facing low-income students after grants and loans was $5,156. Further, at public colleges low-income students consistently faced costs after grants and loans that were higher than the tuition charges of the colleges they attended. Parents who were concerned about costs were well informed indeed.

This amount of cost after aid varied from $4,864 in public two-year colleges to $5,704 in private four-year colleges. These costs are extremely high, given that these students were from families with a total income of $25,000 or less, mostly less. Even after borrowing an average of $3,455 (NCES, 1997a), on average these students faced an annual cost that was more than 20% of their families' incomes. Thus, there was a valid reason for the parental concern about college costs noted above. There is also reason to expect that knowledge of net cost could deter enrollment by college applicants and reduce persistence rates by students who did enroll.

FIGURE 7: AVERAGE COLLEGE COSTS FOR LOW-INCOME 1992 HIGH SCHOOL GRADUATES



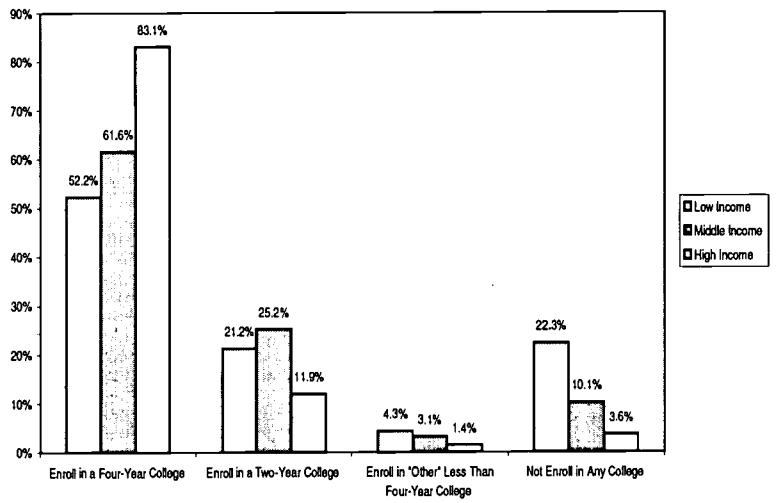
NCES 1997A, Table 6, p.13

NCES (1997a) also provided an analysis of the enrollment rates for students in the three income groups (Figure 8). Substantially more of the qualified high-income students (83%) than either middle- or low-income students enrolled in four-year colleges (62% and 52% respectively). In contrast, college-qualified, middle-income students were substantially more likely than either low- or high-income students to enroll in two-year colleges. One-quarter of the middle-income students (25%) attended two-year colleges compared to 21% of low-income students and only 12% of high-income students.

In contrast, college-qualified, low-income students were substantially less likely to attend four-year colleges (52% compared to 83% for high-income students). Indeed, fully 22% of the low-income students who took the courses necessary to attend college had not attended two years after high school, compared to only 10% of the middle-income population and 4% of the high-income group.

This reexamination indicates that family finances and financial aid inadequacy both had an influence on college destination. Since a larger percentage of the high-income students were in the most highly qualified group, achievement in high school probably also had an influence. Yet,

FIGURE 8: IMPACT OF FAMILY INCOME ON THE ENROLLMENT BEHAVIOR OF COLLEGE-QUALIFIED STUDENTS



NCES 1997a, Table 20, p.37

the quartiles for college qualification used by NCES were constructed with college entrance exams as a measure included in the index. Given the costs associated with entrance examinations and advanced applications—coupled with the high cost after aid for low-income students attending four-year colleges—these criteria seem biased toward the upper class, toward those who can afford college without student aid.

NCES argued for encouraging more low-income students to take (and pay for) college entrance exams. Many low- and lower-middle-income students attend less expensive colleges that do not fit the analytic model NCES used in its studies of college access using NELS:88. Fully 81% of the college-qualified, low-income group took the exam, but this analysis reveals that 22% of this group did not attend. Further, many low-income students met the qualifications and took the entrance examination, but decided they could not afford to attend any college. The pipeline analysis led to fundamentally misleading conclusions about access, conclusions that totally overlooked the role of finances.

Understanding the Role of Finances

This reexamination reviewed statistical analyses of the NELS:88 cohort previously reported by NCES. Fortunately NCES (1997a) provided statistical analyses of sufficient detail to permit this reexamination. It leaves little doubt about the central role of financial aid in promoting and prohibiting equal opportunity. Finances have both direct and indirect influences on enrollment behavior. The most substantial effects of finances are indirect. Low-income families—parents and children—are concerned about college costs. In 8th grade many of these students expect they will not be able to afford college, yet they take the steps to prepare. In 12th grade, 20% do not expect to go. Those who go face costs that are in excess of 20% of their families' total income. Yet NCES concludes that if more of these students paid to apply to college in advance and to take college entrance exams there would not be access problems. Something is seriously wrong with this narrow interpretation of the data.

There is an obvious correlation between the types of courses taken in high school and college enrollment (e.g., Adelman, 1999; NCES, 1997a, 1997b, 2000; Pelavin & Kane, 1990). However, as this reexamination reveals, this correlation was greater for high-income students than for low-income students. A substantial percentage of low-income, college-qualified students did not attend college. During the 1990s, more than 1,400,000 low-income students who took the right courses in high school were not able to attend college.[11]

If analysts fail to consider the role of finances, as was the case with the NCES analyses reviewed above, they can reach false conclusions about the causes of the opportunity gap and overlook the inequality. In fact NCES (1996, 1997a, 1997b, 1998a, 1998b, 2001b) has consistently focused on the role of academic preparation in college enrollment using a narrowly-conceived pipeline model that overestimates the role of academic preparation and ignores the role of student financial aid. Since the federal government's primary role in higher education is to fund student grant programs that promote equal educational opportunity, it is crucial that policy researchers consider the role of finances. Given the serious deficiencies in the analyses of NELS:88 to date, this database should be reanalyzed,[12] with a focus on the influence of finances and academic preparation.

Rethinking the Cures for the New Inequality

This reexamination provides insight into the growing opportunity gap in higher education. In the 1970s, there was adequate student aid and new equality in participation rates for high school graduates across racial/ethnic groups and income

11. In a reanalysis of NELS:88, John B. Lee (2001) estimated that 140,606 college-qualified, low-income students in the class of 1992 did not attend for financial reasons. Given that the size of high school classes increased during the decade and the purchasing power of Pell grants declined, it is reasonable to assume the annual number of low-income, college qualified students who could not enroll is increasing. Using Lee's estimate as a base, 1.4 million is a conservative estimate of the low-income college-qualified students who did not enroll in the 1990s due to inadequate grant aid.
12. This report reexamined statistics reported by NCES. However NCES did not consider the impact of family concern about finances on academic preparation nor did they examine persistence during the two years of college for which they had data. A more complete reanalysis should use the Balanced Access Model to assess the impact of concerns about finances and financial aid on college destination and persistence.

groups. However, in the 1980s, as the purchasing power of Pell Grants declined, a gap opened between participation rates between Whites and both Blacks and Hispanics. In the early 1990s enrollment in public four-year colleges declined, a period when participation rates and total enrollment increased. The examination of NCES reports on students in the high school class of 1992 revealed that college-qualified, low-income students were more likely to have lower expectations, to constrain early applications to four-year colleges, and to enroll at two-year colleges or delay enrollment. The high cost of attending college after student aid appears to be a reason for the gap in opportunity that emerged during the last two decades of the 20th century. However, more than one million college-qualified, low-income students were left behind in the 1990s and a still more substantial number will be left behind in the 2000s unless there is a substantial change in the direction of student aid policy.

Public policy in education has emphasized improving academic preparation—high standards, curriculum alignment, and high-stakes testing—for more than two decades. These strategies were followed by higher college participation rates by high school graduates, but high school graduation rates did not improve. There is reason to speculate that K-12 reforms enabled more high school graduates to attend college. Further, this reexamination of NCES reports illustrates that low-income students who prepared for college increased their aspirations to attend college, further confirming that academic preparation can have a positive influence on college enrollment. However not all high school graduates benefited from the improved preparation. Indeed, 22% of the college-qualified, low-income students in the high school class of 1992 had not attended any college two years after high school. Given this reexamination of NCES reports, there is also reason to conclude that a continued emphasis on improving academic preparation will influence further improvement in college participation rates, but will also further increase the opportunity gap. Too many college-qualified, low-income students lack the opportunity to attend—increasing the percentage of high school students who are prepared for college will increase the opportunity gap unless there is adequate student grant aid.

Since 1997, the federal government has funded postsecondary encouragement through Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP). GEAR UP-funded projects provide information to students in middle and high schools on the types of courses needed for college enrollment and, more generally, encourage all families to plan for college. These projects could increase the percentage of families who plan for college. However, a reexamination of statistics of the high school class of 1992 revealed that many low-income children who planned to attend college and who took the right courses in high school were forced to attend less expensive two-year colleges or delay their enrollment. These behaviors were not attributable to a lack of information, but to a shortfall in the financial resources necessary to attend four-year colleges. Most parents of low-income students were concerned about college costs, indicating an awareness that it would require more than a quarter of their family income to sustain college enrollment by one of their children, even after student aid. The average costs of attending college after grants and loans averaged more than $5,000 for students from families earning $25,000 or less. Therefore, it is doubtful that providing more information on college opportunities would reduce the opportunity gap for these students. Unless there is a guarantee that adequate grants will be provided for students with the greatest financial need, there will be a substantial percentage of college-qualified, low-income students who do not attend college.

What has been overlooked in NCES reports during the past two decades is the influence of the decline in Pell Grants. The erosion in Pell Grants has been the primary cause of the growing opportunity gap. In this context, a reinvestment in Pell Grants is essential for reducing the opportunity gap. However, given the rising cost of attending public four-year colleges, there is also a need for better coordination of finance strategies within most states. States should make additional investments in need-based grants to equalize the impact of increases in the costs of attending public colleges since 1980. If Pell Grants are restored to their 1980 level and if states make an adequate investment in need-based grants to equalize opportunity to enroll, then there is a greater chance of restoring equal opportunity to a level that existed in the 1970s.

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