CHARLOTTE V. CHURAMAN

Financing of College Education by Minority and White Families

Characteristics of students, their families, and their college enroll-
ment were compared for Native Americans, Asians, blacks, His-
panics, and whites, using data from the 1987 National Postsecondary
Student Aid Study. Analysis of the factors explaining the differences
in parental contributions accounted for 21 percent of the variance and
showed minority or white status to be a significant predictor after con-
trolling for differences in schools, family types, financial aid, and stu-
dent contribution to their expenses.

"Higher education can be seen as investment as well as a simple consumer good" (Olson 1982, 2). Financing a college education requires strong consumer skills such as ability to calculate costs, knowledge of necessary budget for the coming years, and ability to obtain information about specific programs. Unique characteristics of the purchase of higher education are that the consumer often makes the decision without the knowledge of price (Willett 1976, quoted in Olson 1982) and that most people spend a substantial fraction of their lives paying for somebody's college education—whether their own, their children's, or (as taxpayers) the public at large (McPherson and Skinner 1986). There are many patterns of decision-making besides student as decisionmaker and family as resource provider (Olson 1982).

Increases in tuition costs have outpaced inflation for ten years (Evangelauf 1990). Because families have borne the brunt of these increases, the wide income and wealth disparities between white families and black and Hispanic families have placed an undue

Charlotte V. Churaman is Assistant Professor, Department of Family and Community Development, College of Human Ecology, University of Maryland at College Park.

burden on many of these minority families. Education has boosted the wealth of blacks but their enrollment in college has stagnated (Updegrave 1989).

"Perhaps the most pervasive problem of the American education system remains the insufficient educational preparation of minority students, especially those who are economically deprived" (Black 1989, 3). Some minority youth have chosen not to enroll in higher education at all; others have chosen lower quality institutions. A high percentage of federal student aid has been used to support students at proprietary schools (Lee 1985). Students attending these schools were more likely to receive financial aid than were students at colleges (Korb *et al.* 1988), but these same schools have accounted for most of the defaults in student loans (U.S. General Accounting Office 1988) because many of those graduating have not been able to secure jobs. While highly selective institutions have been enrolling a larger proportion of high income students or have sought out minority "superstars," a higher proportion of low income or minority students have been attending community colleges. Black, Hispanic, and Native American students have been less likely than white or Asian students to transfer in order to complete a full college degree (Rotberg 1990).

PURPOSE

The purpose of this research was, first, to describe the family and financial characteristics of college students on the basis of minority/ white status and then to examine factors affecting parental financial support. The dependent variable was the dollar amount of financial support provided by parents. The independent variables were race, parents' net worth, parents' income, control of school, type of school, students' residence during the school year, parents' saving behavior, whether the family was single-parent or two-parent, age of student, whether the student was married or single, whether the student received $500 or more in financial aid, and whether students contributed $500 or more to their own expenses. (See Appendix for operational definitions.) Parents' contribution was expected to be positively related to parents' net worth and income and negatively related to age of student.

BACKGROUND

Demographics by Racial Groups

This section deals primarily with the relative growth of minority groups, their financial status, and the college enrollment statistics as reported in government documents. The Census Bureau has reported that the Hispanic population has grown five times faster than the rest of the United States and was also much more likely to live in poverty, to be employed in low wage occupations, and to lag behind educationally (U.S. Department of Commerce 1990). They were more likely than non-Hispanics to be made up of families, but those families were less likely to own their homes or have telephones. Using 1988 income, nearly 24 percent of Hispanic families were below the poverty line. Sixty percent of young Hispanic adults said they had completed high school, compared to 89 percent of non-Hispanics.

Early reports of the 1988 Census (Rich 1991) revealed that white households had ten times the median net wealth of black households and eight times that of Hispanic households ($43,280, $4,170, and $5,520, respectively). Wilkerson (1990) suggested that one implication of the difference in wealth was that black middle class families started from scratch and often faced children's college expenses as well as being called upon to help other family members. There was also an income gap, but this was not as extreme as the wealth gap. An average of three-quarters of family wealth was home equity. The median monthly income of white households of $2,064 contrasted with that of blacks ($1,305) and Hispanics ($1,582). Differences by race in parents' contribution to college education were reported to be a function of income (Olson 1982).

The Center for Education Statistics, in releasing highlights from a decade summary of college enrollment, found 1986 to be a record year (U.S. Department of Education 1988a). Twelve and one-half million students were enrolled in colleges and universities across the United States. Minority student enrollment was at an all time high. Black enrollment had not decreased since 1984. Hispanic enrollment had risen steadily since 1976 and Asian and Pacific Islander enrollment had more than doubled since 1976. White male enrollment had declined, continuing a trend that began in 1982, and black male enrollment had declined about seven percent since 1976. These decreases were offset by the dramatic rise in enrollment of Hispanic

and Asian males. Enrollment of Native Americans was relatively stable.

Enrollment of women, regardless of race/ethnicity, had continued to increase with women accounting for 53 percent of total enrollment. About one-third of the nation's 18-24 year old high school graduates were enrolled in college in 1986. Two-year institutions accounted for 37 percent of total enrollment and 47 percent of minority enrollment.

Family Financing of Education

Studies conducted in 1985 by the American Council on Education concluded that middle income families relied on their own resources to pay for college, whether through savings, work, or later repayment of loans (Miller and Hexter 1985a). While federal student aid provided a foundation of support for low income families, other federal aid programs filled in the gap for only half of low income students attending private colleges. Seventeen percent of families with incomes under $10,000 had not been able to save at all. Families with incomes less than $20,000 ranked saving for college well below the need to save for emergencies and better housing. Even with funds from several sources, the amount of money available still fell short of meeting college costs; low income families had to come up with at least half of the cost of college. It was concluded that low income families needed additional help in paying for college. The family's ability to marshall the resources necessary to pay for college was perhaps the most important factor determining whether or not a student attended college (Miller and Hexter 1985b).

The federal financial aid program presumes that students and parents together act as "joint consumers" (Olson 1982) but some parents can be of little help to their children. Detailed financial statements are required from both students and parents in the case of dependent students. Olson found that parents' level of knowledge about financial aid was associated with parents' education, having another child in college, language generally spoken in the home, and marginally with parents' income.

The financial aid program, which includes grants, loans, and work-study, has changed radically since 1980 (Andrew and Russo 1989). The trend has been to make more aid in the form of loans. Loans, when translated into constant dollars, make up a greater per-

centage of the total cost of education and grants a lesser percentage than in 1980. Debt burdens had the greatest impact on those with lowest expected earnings and wealth. This means that debt burdens have had a greater impact on minorities because of the continued discrepancies between minorities and whites in expected earnings. These trends which affect educational choices for low and middle income students have had unintended consequences for groups whose real after-tax income declined or failed to keep pace with gains posted by those in higher income groups (Mohrman 1987). Financial pressures can affect the educational experience by forcing students to work more hours, shun courses with extra charges, forego extracurricular activities, or even turn to courses of study simply to ensure high paying jobs upon graduation.

A study of four-year colleges conducted by the National Association of Independent Colleges and Universities revealed that only 15 percent of all students entering college graduated in four years (Wilson 1990). The proportion for blacks, however, was 24 percent and for Hispanics 20 percent. Among the contributing factors were high dropout rates after the first year and the fact that many students were working to pay bills. Fewer than half of the students had graduated after six years. Students at private colleges were more likely to graduate than those at public colleges (55 percent versus 43 percent).

METHOD

The study utilized secondary data from the National Postsecondary Student Aid Study conducted by the U.S. Department of Education (1988b, 1989). The sample included both aided and unaided students and consisted of survey data from students, college record offices, and parents of a subsample of the students. An SPSSX subfile was created to include only those under 25 years of age for whom both student and parent data were available. The sample was limited to students enrolled for six or more credit hours during the fall of 1986 at public or private colleges and community colleges. This resulted in a sample of 7,259. The characteristics of the students and their families were first described on the basis of racial identity. Nominal variables were analyzed by frequencies and percentages and chi-squared tests calculated. The percentages of respondents of each racial group who reported positive amounts for the major financial variables were calculated and the mean amounts examined by analy-

sis of variance. Multivariate analysis using the MANOVA program (SPSS 1988) was chosen for examination of the extent to which the proposed model explained the amounts of parental contributions to their children's college expenses by minority and white families and particularly the extent to which race contributed to the explanation.

FINDINGS

This section describes characteristics of students on the basis of their racial/ethnic identity, followed by separate descriptions of parent and student financial status and contributions to college expenditures. Then the costs and contributions at public and private schools are shown by racial groups. Finally, the test of the model of factors contributing to an explanation of the amount of parental contribution is reported.

Characteristics of Students and Their Families

The average age of students was slightly over 20 years and average age of the responding parent was slightly over 50 years. Table 1 shows highly significant differences among the student and family characteristics of college students of different races. While 61 percent of the black students and 56 percent of the Hispanic students were female, other racial groups were more evenly divided on the basis of sex ($p < .0001$). Though the number of married students was relatively small, white students had the highest (six percent) and Asians and blacks the lowest (both two percent) ($p < .001$). Asians included the highest percentage of foreign students (22 percent) followed by Hispanics (nine percent) ($p < .0001$). Aspiration for graduate work was highest among blacks and Asians (58 percent) followed by whites (51 percent), Hispanics (48 percent), and Native Americans (27 percent) ($p < .0001$).

The percentage of students from single-parent families differed by race ($p < .0001$), being highest for blacks (44 percent) and lowest for whites (11 percent). The education level was higher for white and Asian parents ($p < .001$). Over 45 percent of Native American and black students came from families in which neither parent finished college, while the percentages of students having both parents who had finished college were 45 for white students and 46 percent for Asian students. Parents or step-parents responded for over 95 per-

TABLE 1
Characteristics of Undergraduate College Students by Race (N = 7,259)

Characteristics	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		Chi-squared (d.f.)
	n	%	n	%	n	%	n	%	n	%	
Student											
Sex											
Male	18	48.6	144	51.1	177	39.5	131	44.4	3,117	50.3	22.8*** (4)
Female	19	51.4	138	48.9	271	60.5	164	55.6	3,080	49.7	
Marital Status											
Married	2	5.4	6	2.1	10	2.2	16	5.4	337	6.1	18.6*** (4)
Single	35	94.6	276	97.9	438	97.8	279	94.6	5,820	93.9	
Citizenship											
U.S. Citizen	37	100.0	219	77.7	435	97.1	269	91.2	6,167	99.5	838.8***** (4)
Resident Alien	—	—	53	18.8	7	1.6	22	7.5	21	0.3	
Nonresident Alien	—	—	10	3.5	6	1.3	4	1.4	—	—	
Highest Level of Education Expect to Complete											
High School	4	10.8	24	8.6	30	6.8	24	8.4	372	6.1	33.0**** (4)
College	23	62.2	94	33.7	30	34.9	124	43.2	2,642	43.3	
Graduate School	10	27.0	161	57.7	153	58.3	139	48.4	3,094	50.7	
Family											
Type											
Single-parent	9	25.0	37	13.7	184	43.9	53	18.7	687	11.4	359.3**** (4)
Two-parent	27	75.0	233	86.3	235	56.1	230	81.3	5,349	88.6	
Respondent											
Parent	35	94.6	271	98.9	416	96.1	287	99.3	6,074	99.5	74.7**** (4)
Guardian or Grandparent	2	5.4	3	1.1	17	3.9	2	0.7	30	0.5	

TABLE 1 (continued)

Characteristics	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		Chi-squared (d.f.)
	n	%	n	%	n	%	n	%	n	%	
Parent's Education											104.0*** (8)
Neither Finished College	15	48.4	79	30.3	171	45.7	108	42.2	1,635	27.4	
One Finished College	7	22.6	61	23.4	104	27.8	73	28.5	1,649	27.7	
Both Finished College	9	29.0	121	46.4	99	26.5	75	29.3	2,678	44.0	
School Enrollment											
Type of School											29.4*** (8)
Two-year	12	32.4	40	14.2	79	17.6	65	22.0	983	15.9	
Four-year	11	29.7	86	30.5	184	41.1	107	36.3	2,295	37.0	
Four-year-plus	14	37.8	156	55.5	185	41.3	123	41.7	2,919	47.1	
Control of School											3.6 (4)
Public	23	62.2	179	63.5	276	61.6	190	64.4	3,725	60.1	
Private	14	37.8	103	36.5	172	38.4	105	35.6	2,472	39.9	
Residency Status											105.8**** (8)
School-owned	9	24.3	99	35.1	203	45.3	72	24.4	2,607	42.1	
Off Campus	14	37.8	69	24.5	89	19.9	81	27.5	1,876	30.3	
With Parents	14	37.8	114	40.4	156	34.8	142	48.1	1,714	27.7	
In Jurisdiction?											1.95 (4)
Yes	27	93.1	183	89.7	331	89.9	208	92.0	4,270	91.5	
No	2	6.9	21	10.3	37	10.1	18	8.0	398	8.5	
Transfer?											4.95 (4)
Yes	6	17.1	54	21.4	80	19.5	68	25.5	1,150	20.2	
No	29	82.9	198	78.6	331	80.5	199	74.5	4,539	79.0	
Part- or Full-time?											25.0**** (4)
Full-time	29	78.4	243	86.2	390	87.1	252	85.4	5,620	90.7	
Part-time	8	21.6	39	13.8	58	12.9	43	14.6	575	9.3	

TABLE 1 (continued)

Characteristics	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		Chi-squared (d.f.)
	n	%	n	%	n	%	n	%	n	%	
Financial											
Working (Fall 1986)?											
Yes	22	59.5	145	51.4	227	50.7	169	53.9	3,082	49.7	3.6
No	15	40.5	137	48.6	221	49.3	136	46.1	3,115	50.3	(4)
Applied for Financial Aid in 1987?											
Yes	19	51.4	150	53.2	347	77.5	171	58.0	2,967	47.9	154.6****
No	18	48.6	132	46.8	101	22.5	124	42.0	3,230	52.1	(4)
Received Financial Aid?											
Yes	17	89.5	118	78.8	314	90.5	145	84.8	2,412	81.3	20.8****
No	2	10.5	32	21.3	33	9.5	26	15.2	555	18.7	(4)
Dependency Status											
Dependent	29	78.4	245	86.9	362	80.8	255	86.4	5,485	88.5	27.3****
Independent	8	21.6	37	13.1	86	19.2	40	13.6	712	11.5	(4)
Student's Contribution over $500?											
Yes	20	54.1	129	45.7	203	45.3	154	52.2	3,728	60.2	63.0***
No	17	45.9	153	54.3	245	54.7	141	47.8	2,469	39.8	(4)
Parents Saved?											
No	23	63.9	127	45.7	333	74.8	182	63.2	2,927	47.8	151.41****
General Saving	9	25.0	121	43.5	78	17.5	75	26.0	2,353	38.4	(8)
Saving for College	4	11.1	30	10.8	34	7.6	31	10.8	848	13.8	

TABLE 1 (continued)

Characteristics	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		Chi-squared (d.f.)
	n	%	n	%	n	%	n	%	n	%	
Parents/Spouse Contribute/Lend Money											
Yes	23	62.2	210	74.5	257	57.4	193	65.4	4,855	78.3	127.0****
No	14	37.8	72	25.5	191	42.6	102	34.6	1,342	21.7	(4)
Course of Study Affected by Finances?											
Yes	21	56.8	118	45.0	276	66.7	155	57.6	2,637	44.6	91.5****
No	16	43.2	144	55.0	138	33.3	114	42.4	3,276	55.4	(4)

***p < .001.
****p < .0001.

cent of families in all racial groups, but five percent of the Native Americans and four percent of the blacks were guardians or grandparents (p < .0001).

There was no significant racial difference in the selection of public versus private schools; over 60 percent of each group attended public schools. However, a different pattern was seen in the selection of two-year, four-year, and four-year-plus schools (p < .001). A significantly larger percentage of Native American (32 percent) and Hispanic (22 percent) students enrolled in two-year schools. Slightly under 20 percent of black students were enrolled in two-year schools; the remainder equally distributed between four-year and four-year-plus schools. The majority of Asian students (56 percent) were enrolled in four-year-plus schools compared to 47 percent of white.

There were different residence patterns based on race (p < .0001). Residence in school-owned housing was 45 percent for blacks, 42 percent for whites, 35 percent for Asians, 24 percent for both Hispanics and Native Americans. Hispanic and Asian students were more likely to live with parents (48 percent and 40 percent, respectively) and white students least likely to do so (28 percent). Black students were the least likely to live off campus (20 percent) and Native Americans the most likely to do so (38 percent). The groups did not differ significantly in terms of being in or out of jurisdiction (seven to ten percent), in terms of being transfer students (17 to 26 percent), and in terms of working during the school term (about half). White students showed the highest rate of full-time school enrollment (91 percent) and Native Americans the lowest (78 percent) with the other groups averaging around 86 percent (p < .0001). All students in the sample were carrying at least six credit hours.

The percentage of black students who had applied for financial aid was 78 percent; the other extreme was white students (48 percent). Over half of the other groups did so (p < .0001). Of those who applied for financial aid, 91 percent of black students received aid, followed by 90 percent of Native Americans, 85 percent of Hispanics, 81 percent of whites, and 79 percent of Asians (p < .001). The Department of Education classifies students on the basis of their being dependent or independent, because this classification determines whether parents' or student's income and net worth are the primary considerations in calculating the expected family contribution to the student's education costs should the student apply for financial aid. The highest rate of dependency (89 percent) was among

white students, followed by Asians (87 percent), Hispanics (86 percent), blacks (81 percent), and Native Americans (78 percent) (p < .0001). The percentage of students who contributed $500 or more to their own costs was highest for whites (60 percent), followed by 54 percent for Native Americans, 52 percent for Hispanics, 46 percent for Asians, and 45 percent for blacks (p < .001).

Parents had been asked whether or not they had saved, and, if so, whether savings was specifically for college or general saving. Asians had the highest percentage of parents who had saved (54 percent) followed by whites (52 percent), Hispanics (37 percent), Native Americans (36 percent), and blacks (25 percent). Saving specifically for college was less frequent than general saving and was reported by 14 percent of white parents, followed by 11 percent of Native Americans, Asians, and Hispanics and eight percent of blacks (p < .0001). Despite the relatively low percentage who had saved, a much higher percentage of parents in each group reported that they had contributed and/or loaned money: 78 percent of whites, 75 percent of Asians, 65 percent of Hispanics, 62 percent of Native Americans, and 58 percent of blacks (p < .0001). Churaman (1991) had found that most families relied heavily on current income for financing college. A high percentage of parents reported that finances had affected student's course of study: 67 percent of blacks, 57 percent of Native Americans, 58 percent of Hispanics, and 45 percent of both Asians and whites.

Financial Status and Contributions to College Costs

The financial status of parents and their contributions to students' costs are found in Table 2 and similar data for students are found in Table 3. Many parents did not report all the details of financial data. Shown are the number of parents reporting positive amounts for each item and mean amounts reported.

White families reported the highest mean net worth, $161,221, followed by Asians, $145,114; Native Americans, $123,529; Hispanics, $104,886; and blacks, $38,326 (p < .0001). Average parent income was highest for whites, $52,492, followed by that of Asians, $47,542; Hispanics, $35,436; Native Americans, $32,577; and blacks, $23,210. Average family per capita income, which is considered a more meaningful measurement, ranked the same: $12,971 for whites, $11,383 for Asians, $8,686 for Hispanics, $8,447 for Native Americans, and

TABLE 2
Parents' Financial Status and Mean Dollar Amounts of Contributions to Student Cost by Race (standard deviation in parenthesis)

Characteristic	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		F-Ratio
	n	M	n	M	n	M	n	M	n	M	
Parents' Net Worth ($)	24	123,529 (290,718)	204	145,114 (204,857)	253	38,326 (65,827)	200	104,886 (134,921)	4,862	161,221 (229,613)	21.2****
Parents' Income ($)	27	32,577 (18,304)	222	47,542 (44,560)	278	23,210 (21,597)	212	35,436 (29,030)	4,606	52,492 (48,860)	32.1****
Family's per Capita Income ($)	27	8,447 (4,941)	221	11,383 (11,737)	293	6,149 (5,724)	205	8,686 (7,950)	4,583	12,971 (11,259)	32.7****
Parents' Money Contribution ($)	21	3,603 (4,736)	200	6,868 (6,772)	224	3,507 (4,181)	181	4,742 (4,859)	4,577	6,109 (5,946)	14.9****
Gave to Student ($)	20	3,669 (4,858)	188	5,942 (5,380)	218	3,060 (3,737)	178	4,118 (4,085)	4,495	5,625 (5,221)	17.1****
Loaned to Student ($)	3	767 (252)	62	4,136 (4,555)	53	3,235 (2,289)	44	2,847 (3,010)	680	3,946 (4,539)	2.9*
Other Support ($)	31	2,330 (1,919)	227	3,818 (5,174)	321	2,759 (3,856)	231	3,430 (3,597)	5,155	3,189 (3,390)	3.9**
Parents' Total Contribution ($)	33	4,482 (5,027)	246	9,106 (9,105)	344	4,858 (5,763)	245	6,737 (6,422)	5,517	7,983 (7,171)	20.6****
Age of Responding Parent (years)	37	50.84 (7.32)	268	52.38 (7.05)	427	49.27 (8.45)	288	49.95 (7.55)	6,081	50.07 (6.46)	9.63****

*p < .05.
**p < .01.
****p < .0001.

TABLE 3
Student's Financial Status and Mean Dollar Amounts of Student Cost and Contributions by Race
(standard deviation in parenthesis)

Characteristic	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		F-Ratio
	n	M	n	M	n	M	n	M	n	M	
Age of Student (years)	37	20.76 (1.89)	282	20.20 (1.74)	448	20.26 (1.85)	299	20.26 (1.91)	6,197	20.25 (1.72)	0.86
Student's Net Worth ($)	3	1,799 (-7,713)	12	9,215 (-10,610)	22	4,477 (-5,495)	17	2,008 (-10,350)	315	2,335 (-17,140)	0.6
Student's Income ($)	31	5,927 (5,807)	214	3,851 (5,182)	334	3,733 (4,780)	230	4,865 (6,188)	5,519	4,481 (5,938)	2.6*
Student's per Capita Income ($)	31	5,179 (3,786)	214	3,666 (4,878)	334	3,428 (4,095)	230	4,203 (4,367)	5,519	3,937 (4,399)	2.1
Contributions by Friends/Relatives ($)	3	173 (240)	43	1,387 (2,813)	95	416 (69)	44	610 (854)	863	1,078 (2,284)	2.8*
Loans by Friends/Relatives ($)	3	262 (252)	19	1,411 (1,381)	32	577 (786)	12	538 (733)	182	1,197 (1,464)	2.5*
Contributions by Student (spouse if applicable) ($)	25	1,748 (2,652)	174	1,452 (1,600)	324	967 (1,285)	207	1,437 (1,639)	4,679	1,643 (1,829)	11.2****
Student Cost[a] ($)	35	4,795 (3,661)	277	6,270 (4,656)	444	5,630 (3,736)	294	5,625 (4,475)	6,092	5,904 (4,300)	1.8
Grant Aid[a] ($)	13	2,919 (2,005)	108	3,374 (3,193)	311	3,255 (2,757)	134	3,174 (2,605)	1,971	2,630 (2,632)	6.1****
Loan Aid[a] ($)	12	2,587 (1,567)	55	2,768 (1,294)	171	2,035 (1,023)	80	2,742 (2,318)	1,349	2,399 (1,304)	5.1***

TABLE 3 (continued)

Characteristic	Native American (n = 37)		Asian (n = 282)		Black (n = 448)		Hispanic (n = 295)		White (n = 6,197)		F-Ratio
	n	M	n	M	n	M	n	M	n	M	
Work-study[a] ($)	5	760 (610)	25	1,140 (851)	84	1,204 (1,176)	28	869 (626)	389	1,044 (840)	1.1
Total Amount of Financial Aid Received[a] ($)	19	4,163 (2,804)	130	4,504 (4,098)	346	4,404 (3,474)	161	4,432 (3,546)	2,749	3,551 (3,163)	9.6****
Total Amount ever Borrowed for College ($)	16	4,796 (3,690)	102	6,366 (7,960)	269	4,167 (4,200)	146	4,994 (5,946)	2,469	5,445 (5,651)	4.1**
Total Amount still Owed on College Loans ($)	14	4,367 (2,913)	96	5,309 (5,121)	239	4,033 (4,060)	123	5,144 (6,115)	2,180	5,160 (5,050)	2.9*

[a]Calculated by Department of Education from reports of students and college records. Total aid included fellowships and assistance from employer and military, in addition to grants, loans, and work study.

*p < .05.
**p < .01.
****p < .0001.

$6,149 for blacks. The income and net worth means were all significantly different at the .0001 level and had large standard deviations.

Parent contributions included money given and money loaned. Asian and white parents provided the largest gifts ($5,942 and $5,625, respectively) and blacks and Native Americans the smallest ($3,060 and $3,669, respectively) (p < .0001). The size of loans, which were made by far fewer parents than were gifts, differed by race (p < .05); Asian parents made the largest loans ($4,136) in contrast to that of Native Americans ($767). In-kind support was more frequently provided than money by parents in all racial groups, but differences in amount are significant (p < .01). Parent estimates of the value of this support ranged from $3,818 for Asians to $2,330 for Native Americans. When value of total contributions was computed, Asians ranked highest with $9,106, followed by whites, $7,983; Hispanics, $6,737; blacks, $4,858; and Native Americans, $4,482 (p < .0001).

The data presented in Table 3 report financial status and sources of financial support reported by students, along with the student cost and financial aid data calculated by the Department of Education. Note that the differences in financial status of students on the basis of race as indicated by net worth and per capita income do not differ to the extent shown by that of the parents. The observed negative net worth of college students is not uncommon.

Mean incomes ranged from $5,927 for Native Americans to $3,733 for blacks, and the five groups differed at the .05 level. Fourteen percent of the total group reported having received contributions from friends and relatives, and slightly over three percent reported loans from friends and relatives. The size of the contributions ranged from $173 for Native American to $1,387 for Asian students, and the size of the loans ranged from $262 for Native American to $1,411 for Asian students (both p < .05). Contributions by students (and spouses if applicable) ranged from $967 for blacks to $1,748 for Native Americans; differences in the amounts for the five groups were significant (p < .0001).

Student costs and amount and frequency of financial aid had been calculated by the Office of Education based on data from both student surveys and from college record offices. Costs did not differ significantly, but value of total aid received is highly significant (p < .0001) being higher for Asian, black, and Hispanic students. Grant aid was the most frequent form, with white students receiving the

smallest grants, $2,630 (p < .0001). Blacks had taken the smallest size loans, $2,035 (p < .001). Work-study was the least frequent type of financial aid and amounts earned ranged from $760 for Native Americans to $1,204 for blacks. These means were not significantly different. In looking at the cumulative effect of loans, differences existed for total amount ever borrowed (p < .01) and for amounts still owed (p < .05). Over 41 percent of the total group had borrowed, 37 percent still owed, and 23 percent had borrowed for the current school year. For each of these averages, the percentages of students were highest for blacks and lowest for Asians, followed by whites. The debt levels were greater for Asians and whites, however.

Costs and Contributions at Public and Private Schools

Table 1 shows that selection of public versus private school does not differ by race. It has been reported that costs at public schools are much lower than at private schools (Korb et al. 1988); therefore the costs and major contributions are reported for each type of school (Table 4).

Highest average student costs at public schools were reported by black students, $4,216, and lowest by Hispanics, $3,364. Differences in means for the five groups were significant (p < .01). At private schools Asian students had the highest average costs ($10,381) and Native Americans the lowest ($6,741) with differences for the groups significant (p < .0001).

Parent contributions at both public and private schools differed significantly by race (both p < .0001). White parents made the largest contribution at public schools ($6,232) followed closely by Asians ($6,082). Asian parents made the larger contributions to student costs at private schools ($14,078) followed by whites ($10,565). Native American parents made the smallest contributions ($3,635 at public and $6,741 at private schools). The size of student contributions was much smaller than those made by parents and was less than $2,000 for all races at both types of schools. Group means were significantly different at both public and private schools (p < .0001 and p < .05, respectively).

The amounts of total financial aid received by the different racial groups during the reporting school year differed at both public and private schools (both at p < .0001), but the dollar amounts at private schools were nearly double that at public schools. The groups did not

TABLE 4
Mean Dollar Amounts of Student Costs and Contributions to Student Costs at Public and Private Schools by Race (standard deviation in parenthesis)

	Native American		Asian		Black		Hispanic		White		F-Ratio
	(n = 23)		(n = 179)		(n = 276)		(n = 190)		(n = 3,725)		
	n	M	n	M	n	M	n	M	n	M	
Public School Students											
Student Cost[a] ($)	22	3,645 (2,938)	174	3,837 (2,527)	273	4,216 (2,540)	189	3,364 (2,427)	3,636	3,767 (2,424)	6.63*
Parents' Contribution ($)	20	3,635 (2,358)	153	6,084 (6,124)	212	4,308 (5,325)	155	5,697 (5,507)	3,287	6,232 (5,066)	8.38****
Student's Contribution ($)	18	1,772 (3,020)	115	1,314 (1,406)	204	838 (957)	139	1,263 (1,691)	2,872	1,493 (1,978)	9.29****
Total Amount of Financial Aid Received[a] ($)	12	3,222 (2,889)	73	2,698 (2,444)	198	3,259 (2,181)	84	2,763 (1,816)	1,358	2,439 (1,979)	7.77****
Total Amount ever Borrowed for College ($)	9	4,679 (3,759)	48	4,736 (6,663)	159	3,218 (2,953)	81	3,535 (4,653)	1,374	4,536 (4,656)	3.71**
Private School Students	(n = 14)		(n = 103)		(n = 172)		(n = 105)		(n = 2,472)		
Student Cost[a] ($)	13	6,741 (4,043)	103	10,381 (4,545)	171	7,886 (4,209)	105	9,695 (4,445)	2,456	9,066 (4,518)	6.53****
Parents' Contribution ($)	13	5,785 (7,453)	93	14,078 (10,891)	132	5,742 (6,325)	90	8,527 (7,748)	2,230	10,565 (8,846)	15.51****
Student's Contribution ($)	7	1,685 (1,509)	59	1,720 (1,910)	120	1,212 (1,682)	68	1,792 (1,475)	1,807	1,882 (2,148)	2.93*
Total Amount of Financial Aid Received[a] ($)	7	5,776 (3,283)	57	6,816 (4,617)	148	5,936 (4,222)	77	6,254 (4,053)	1,391	4,635 (3,684)	10.67****

TABLE 4 (continued)

	Native American		Asian		Black		Hispanic		White		F-Ratio
	n	M	n	M	n	M	n	M	n	M	
Total Amount ever Borrowed for College ($)	7	4,946 (3,893)	54	7,815 (8,766)	110	5,539 (5,245)	65	6,811 (6,857)	1,095	6,586 (6,518)	1.30

aCalculated by Department of Education from reports of students and college records.

*p < .05.
**p < .01.
****p < .0001.

differ significantly in the total dollar amounts they had ever bor-rowed for school.

Factors Affecting Parents' Contribution to College Costs

The MANOVA program was used to examine the extent to which each of the hypothesized variables explain the amounts which parents contribute to college costs. For the MANOVA analyses black and Hispanic students were grouped together as "minority" students; Native American and Asian students were not included, primarily because of the small number of Native Americans and because the financial status of the Asian students differed greatly from the other minority groups. The MANOVA program uses only the cases for which there are complete data, leaving a sample of 617 minority stu-dents to be compared to 5,225 white students. The two groups were first examined separately as there had been significant differences on many of the variables under examination, and then, after minor revi-sions in the entry of variables, examined as a total group to test the proposed model.

Table 5 summarizes the results of the separate sequential MAN-OVA analyses for white and minority students. The sequential method of examining the sum of squares controls for each variable those which have been entered before it. Adjusted R^2 is interpreted as the total percentage of variation in the dependent variable, parents' contribution, which is explained by the model. Control of school (private or public) was entered first, followed by type (two-year, four-year, or four-year-plus) and residence during the school year, because the Department of Education had found these to be impor-tant factors in cost (Korb *et al.* 1988). Family variables, savings behavior of parents, one-parent or two-parent family, and marital status of student, were included next; finally the other major sources of support, financial aid and student contribution, were entered. This model had an R^2 of .234 for white students; all of the factors made significant contributions (p < .0001). The correlations of covariates with parents' contribution are as follows: parents' net worth r = .754, family per capita income r = .651, and age of stu-dent r = −.481.

The results for factors affecting parental contribution to education expenses of minority students accounted for 26 percent of the vari-ance, though residence was not significant after control of school and

TABLE 5

Factors Accounting for Variation in the Amount of Parental Contribution to Their Children's College Costs by White and Minority Families

Sources of Variation	White (n = 5,225) F-Ratio	Minority (n = 617) F-Ratio
Regression	72.23****	4.84**
Control of School	435.30****	16.85****
Type of School	50.61****	3.35****
Student's Residence	14.64****	1.89
Parents' Saving	98.26****	35.53****
One- or Two-Parent Family	39.36****	20.81****
Single or Married Student	100.93****	8.31**
Financial Aid over $500	311.08****	16.11****
Student's Contribution over $500	41.58****	0.53
Model	105.14****	11.33****
R²	.236	.288
Adjusted R²	.234	.262
Correlation Between Covariates and Parents' Contribution		
Parents' Net Worth	.754	.891
Family's per Capita Income	.651	.277
Age of Student	−.481	−.524

**p < .01.
****p < .0001.

type of school had been entered. Student contribution was not significant when entered as the last variable. Marital status of minority students played a less important part in the parental contribution (p < .01) than it did for white families. The correlations between covariates and parents' contribution are as follows: parents' net worth r = .891, family per capita income r = .277, and age of student r = −.524.

Test of the General Model

For the test of the model, student's residence was dropped. Students living close to two-year community colleges may have chosen these schools for the first part of their education because of proximity; in addition they most likely had the option of living with parents, whereas they may not have had this option in attending four-year schools and schools offering graduate work. (A separate analysis confirmed this.) Also, residence had not been a significant predictor for minority students.

TABLE 6
Test of Model: Factors Accounting for Variation in the Amount of
Parental Contribution to Their Children's College Costs by White and Minority
Families (N = 5,752)

Sources of Variation	F-Ratio
Regression	132.14****
Control of School	42.98****
Financial Aid over $500	585.44****
Type of School	13.72****
Parents' Saving	61.56****
Student's Contribution over $500	55.76****
One- or Two-Parent Family	42.95****
Single or Married Student	54.61****
White or Minority	7.59**
Model	104.89****
R²	.214
Adjusted R²	.212
Correlation Between Covariates and Parents' Contribution	
Parents' Net Worth	.560
Family's per Capita Income	.461
Student's Cost	.781
Age of Student	−.402

**p < .01.
****p < .0001.

Financial aid was entered next because it had been found that greater financial aid for students attending the more expensive private schools may account for the fact that the selection of these schools does not differ by race despite the differences in financial status. This was followed by type of school. Parental savings behavior could be a deciding factor in parents' access to funds for schooling and could also be an indication of intent to support student college costs. It was added next, followed by student contribution. Two factors relating to current family status, whether student was part of a one-parent or two-parent family and whether student was single or married, followed. Minority or white classification, the major concern of the study, was added last to see whether this variable made an important contribution to the explanation, even after other variables had been controlled. Also student cost was added to the list of covariates.

Results of the test of the revised model are reported in Table 6. The number of cases accepted for the analysis was 5,752, and the adjusted R² was .212. Each of the independent variables made a significant

contribution. When all the preceding variables (each significant at the .0001 level) were controlled, minority status was significant at the .006 level. Correlations between covariates and parents' contributions to student college costs were as follows: parents' net worth $r = .56$, family per capita income $r = .46$, student cost $r = .78$, and age of student $r = -.40$.

DISCUSSION

The characteristics of college students from the five different racial groups were examined in the first part of the study. These data support earlier findings with regard to relative income and wealth and tend to distinguish Asians from other minority groups on the basis of their higher levels of income and net worth, as well as the fact that a higher percentage have alien status. Over half of whites and Asians had saved some money as contrasted to 25 percent of blacks; fewer than one-fourth of those who saved had ear-marked funds specifically for the purpose of college education. This was offset to some extent by the fact that from 45 to 60 percent of students had contributed more than $500 to their education. There may be some tendency for parents to be less committed to being the major financiers of college education than in the past, whether because of longer life expectancy themselves or the increasing proportions of single-parent families and blended families who may have unique demands on their incomes.

Generational differences in financial status evident in the parental generation have not yet appeared in the younger generation. Many minority youth represent the first generation of their families to attend college. At the time of the survey they showed little difference from their white counterparts in employment levels, net worth, income, and in choice of public or private colleges. Their college education should in many cases lead to better jobs than their parents have contributing to what Bowen (1979) described as "breaking the intergenerational cycle of poverty."

Traditionally parents have wanted their children to do better than they themselves have done, but unless poor families understand financial aid and can mobilize financial resources from several sources, college does not appear to them to be a realistic option for their children. Results of this study are encouraging in that the general trend reflects the application of the criteria of need which have

been established for federal financial aid: 91 percent of the blacks who had applied had received aid, likewise 90 percent of the Native Americans, 85 percent of the Hispanics, 81 percent of the whites, and 79 percent of the Asians.

As expected, student costs and financial aid are both higher at private colleges than at public colleges, and minority students are more likely to receive financial aid than are white students. Also, choice of school (public or private and two-year, four-year, or four-year-plus) is a significant contributor to the explanation of the amount parents provide for the financing of their children's education. Family factors which add to the explanation are parental savings behavior and current family statuses (whether the student is part of a one-parent or two-parent family and whether the student is married or single).

The two largest minority groups, blacks and Hispanics, were combined for comparison with whites for the final analysis of factors which helps to explain the variation in parental contributions to college students' expenses. There are some differences when factors predicting parental contributions of whites and minorities are examined separately. Even though residence and student contribution do not help explain the size of parental contribution for minority students, the other factors explain 26 percent of the variation in parental contribution, whereas the entire model explains 23 percent of the variance for whites. When student costs are higher, parent contributions are higher. Parents contribute less to their children's costs as children get older and presumably more mature, able to obtain more financial aid or earn more of their own expenses.

The data for the study represent a snapshot of one year's financial status and financing of college education for those who have already entered college. Therefore, the data do not account for the many students who either did not seriously consider college or who were unable to marshall the necessary money to do so. About half of the parents indicated that finances had affected students' courses of study. This reached 67 percent for black students. These factors suggest that many youth are limited in their choices and not able to develop their full potential.

Consumer information dealing with the expected costs of college, ways to save for college, and sources of financial aid needs to be made more widely available. For example, parents who have assets need to understand the effects of putting assets in a child's name versus in their own names. This choice may have different effects on

income tax and on calculating expected family contribution; a major consideration should they apply for financial aid.

Little is known about the decision processes families and students carry out with regard to college. This is an area for further study, so that policymakers and educators can know how best to help. The knowledge of college costs is often acquired at the same time the decision is made to attend or not to attend. Recently cutbacks in available public funding have resulted in unexpected tuition rises at mid-year at many schools; posing additional pressure at the same time that many families have experienced loss of jobs or foreclosures on their homes.

The results of the study provide (1) information to help educators and counselors understand the general characteristics of families and youth of different racial/ethnic backgrounds related to planning for and financing college education, and (2) information to help planners, policymakers, and businesses see the importance of financial aid for the well-being of families and future generations as well as the development of the human resources needed for the country's productivity and competitiveness.

APPENDIX

Operational Definitions

Following are the definitions for computed variables.

Family per capita income: parents' income divided by number supported by the income.

Parents' income: adjusted 1985 gross income plus nontaxable income.

Student's contribution: includes spouse's income if applicable. This does not include financial aid or other loans taken out by student.

Student cost: adjusted full-year student reported expenses (tuition, books, fees, room, food, travel, personal expenses, day care, and miscellaneous) which directly relate to attending college. (This was calculated by the U.S. Department of Education (1989).)

Total financial aid: sum of grants, loans, work-study, tuition waivers, and other aid received from federal and state governments, institutions, employers, and other sources. (This was calculated by the U.S. Department of Education (1989).)

REFERENCES

Andrew, Loyd D. and Rocco Russo (1989), "Who Gets What? Impact of Financial Aid Policies," ERIC Document Reproduction Service No. ED 309 717.

Black, Macknight (1989), *Minority Student Issues: Racial/Ethnic Data Collected by the National Center of Education Statistics since 1969,* ERIC Document Reproduction Service No. ED 305 416, Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Bowen, Howard R. (1979), "What College Does for the Family," *AGB Reports,* 21:37-42, ERIC Document Reproduction Service No. ED 293 391.

Churaman, Charlotte V. (1991), "Interfamily Transfers and Timing of Allocation of Funds for College Education," in *A Backward Glance; A Forward Focus,* Catherine Solheim and Rebecca Travnichek (eds.), Proceedings of the 20th Anniversary Conference of the Southeastern Regional Association of Family Economics and Home Management, Auburn, AL: 213-219.

Evangelauf, Jean (1990), "Fees Rise more Slowly this Year, but Surpass Inflation Again," *The Chronicle of Higher Education,* 37(October 3): A1, A26.

Korb, Roslyn, Nancy Chantz, Peter Stowe, and Linda Zimbler (1988), *Undergraduate Financing of Postsecondary Education: A Report of the 1987 National Postsecondary Education Student Aid Study,* ERIC Document Reproduction No. ED 298 819, Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.

Lee, John B. (1985), *The Distribution of Student Financial Aid: Trends Among the Postsecondary Sectors,* ERIC Document Reproduction Service No. ED 260 671, Washington, DC: American Council on Education, Division of Policy Analysis and Research.

McPherson, Michael S. and Mary S. Skinner (1986), "Paying for College: A Lifetime Proposition," *The Brookings Review,* 4(4): 29-36.

Miller, Scott E. and Holly Hexter (1985a), "How Middle Income Families Pay for College," ERIC Document Reproduction Service No. ED 260 670, Washington, DC: American Council on Education.

Miller, Scott E. and Holly Hexter (1985b), "How Low Income Families Pay for College," ERIC Document Reproduction Service No. ED 260 673, Washington, DC: American Council on Education.

Mohrman, Kathryn (1987), "Unintended Consequences of Federal Student Aid Policies," *The Brookings Review,* 5(4): 24-30.

Olson, Lorayne E. (1982), "A Joint Venture: Parents and Students as Consumers of Higher Education," unpublished doctoral dissertation, University of Chicago (University of Chicago Tape 83/374).

Rich, Spencer (1991), "Gap Found in Wealth Among Races," *The Washington Post* (January 11): A3.

Rotberg, Iris S. (1990), "Resources and Reality: The Participation of Minorities in Science and Engineering Education," *Phi Delta Kappan,* 71: 672-677.

SPSS (1988), *SPSSX Users' Guide,* 3rd Edition, Chicago: SPSS Inc.

U.S. Department of Commerce, Bureau of the Census (1990), *The Hispanic Population in the United States,* Current Population Reports P-20, No. 449.

U.S. Department of Education, Office of Educational Research and Improvement (1988a), *Survey Report: Trends in Minority Enrollment in Higher Education, Fall 1976-1986,* Washington, DC: U.S. Department of Education.

U.S. Department of Education, Office of Educational Research and Improvement (1988b), *National Postsecondary Student Aid Study (NPSAS): Parent Survey Data File,* Washington, DC: U.S. Department of Education.

U.S. Department of Education, Office of Educational Research and Improvement (1989), *National Postsecondary Student Aid Study (NPSAS): Student Survey Data File,* Washington, DC: U.S. Department of Education.

U.S. General Accounting Office (1988), "Defaulted Student Loans. Preliminary Analysis of Student Loan Borrowers and Defaulters," briefing report to the Chairman, Subcommittee on Postsecondary Education; Committees on Education and Labor, House of Representatives, Washington, DC.

Updegrave, Walter L. (1989), "Race and Money," *Money Magazine* (December): 152-172.
Wilkerson, Isabel (1990), "Middle Class Blacks Try to Grasp a Ladder While Lending a Hand," *The New York Times* (November 26): B1, B7.
Wilson, Robin (1990), "Only 15% of Students Graduate in 4 Years a New Study Finds," *The Chronicle of Higher Education,* 37(February 21): A1, A42.