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ABSTRACT

The Commission on the Higher Education of Minorities was set up by the Ford Foundation, in conjunction with the Higher Education Research Institute (HERI), to examine the past gains, current status and future prospects of Blacks, Mexican Americans, Puerto Ricans, and American Indians in higher education, as well as to formulate recommendations aimed at furthering the educational development of these groups. The main areas of focus in this final report are: (1) a description of the current and recent situation with respect to minorities' access to higher education, choice of institutions and fields of study, and degree attainment; (2) an analysis of factors that influence the access and attainment of minority groups; and (3) an analysis of controversial issues relating to the higher education of minorities. Recommendations for improving minority access to and experience in higher education are offered in the following areas: (1) assessment procedures of minority students; (2) precollegiate education; (3) community colleges; (4) academic and personal support services; (5) recruitment and admissions procedures; (6) financial aid; (7) bilingualism; (8) graduate and professional education; (9) minority faculty and administrator recruitment; (10) government programs; (11) minority women; and (12) program evaluation and further research. (WAM)

Final Report of the Commission on the Higher Education of Minorities

Higher Education Research Institute, Inc.
Los Angeles, California

FINAL REPORT OF THE COMMISSION ON THE
HIGHER EDUCATION OF MINORITIES

Manufactured in the United States of America

This report is part of an overall study titled
Minorities in American Higher Education by
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Foreword

The Commission on the Higher Education of Minorities was created under the following circumstances. The Ford Foundation, which had invested a great deal of time and money in efforts to improve the educational opportunities of minorities, was eager to learn the effect of its efforts. The foundation contracted with the Higher Education Research Institute (HERI) to search the data and provide an evaluation. It was jointly determined that the study should instead try to measure the overall educational progress of minorities during the past fifteen years, whether the support came from federal, state, or private sources.

Once the scope of the inquiry was determined, the foundation, through its officers Harold Howe II and Fred Crossland, and HERI, through its president, Alexander W. Astin, agreed that the research would profit from the attention of a watchdog commission. They asked me to chair such a commission. We agreed that the commission should be small; that it should include knowledgeable members of the concerned minorities; and that there should be one or more members of the commission who could provide critical guidance in the conceptualization and design of the investigation and who were practiced in the collection and evaluation of data.

When the commission was finally assembled, its members were:

- O. Meredith Wilson—historian and educational administrator; president emeritus of the University of Oregon and of the University of Minnesota; president and director emeritus of the Center for Advanced Study in the Behavioral Sciences.
- Alexander W. Astin—president, Higher Education Research Institute; professor of higher education, Graduate School of Education, University of California, Los Angeles.
- Frank Bonilla—professor of the City University of New York's Ph.D. programs in sociology and political science and director of CUNY's Centro de Estudios Puertorriqueños.
- Cecilia Preciado Burciaga—assistant provost for faculty affairs and director of summer session at Stanford University; formerly a research analyst with the U.S. Commission on Civil Rights in Washington, D.C.; presently serves on various boards concerned with Chicanos, women, and higher education.
- Yvonne Brathwaite Burke—partner in the law firm of Kutak, Rock, and Huie; a former member of the U.S. Congress, the California State Legislature and the Los Angeles Board of Supervisors; has served as a regent of the University of California and a member of the Board of Trustees of the University of Southern California.

- Albert H. Hastorf—professor of psychology and Benjamin Scott Crocker Professor of Human Biology at Stanford University; currently serves as vice president and provost of Stanford University.
- Calvin B. T. Lee—vice president, Educational Planning of Prudential Insurance Company of America. Formerly chancellor of the University of Maryland Baltimore County; acting president, executive vice president, and dean of Boston University; assistant director of Title III, Developing Institutions Program, in the U.S. Bureau of Higher Education; and chairman of the board of the Community College of Baltimore.
- Alfonso A. Ortiz—professor of anthropology at the University of New Mexico; president, Association on American Indian Affairs; and chairman, National Advisory Council, Center for the History of American Indians, The Newberry Library.
- Stephen J. Wright—former president of Fisk University and vice president of the College Board; former dean of faculty at Hampton Institute and president of Bluefield State College; currently consultant in higher education.

These commissioners were not detached overseers. They met eight times, always with staff present. They raised serious questions about the data banks already in existence; requested heroic efforts to increase the response rates when the numbers were so few as to be regarded as suspect; and supported the research efforts to assemble consistent data from census reports that did not consistently define the populations of American Indians and of Spanish-speaking minorities.

Each representative of a minority remained dissatisfied, to some extent, with the data available on his or her people; but when the HERI staff had done its best, they all joined together to derive a summary statement of the situation confronting minorities in higher education after fifteen years of effort by federal, state, and private agencies. Then they added their individual recommendations. The whole commission worked through the materials available and together they prepared, line by line, the report that follows. The commissioners are conscious of the fact that some of the recommendations speak to the obvious, but sometimes what seems to be obvious must be stated. All the recommendations are consistent with and follow from the data.

As chairman, I learned to have great respect for Dr. Astin. He was resilient when commissioners challenged his data and inventive when requested to develop better response rates. When the larger reports are completed, I expect his work will provide a significant addition to the literature.

Albert Hastorf knows the mysteries of social science research and the values and dangers of data. He worked with particular minority groups to

help reconcile issues without violating scholarly precepts. Frank Bonilla, already deeply involved in the study of his own Puerto Rican people, was invaluable in forcing an articulate statement of value premises and tireless in pushing the staff and the commission to extra effort. We were particularly fortunate to have Stephen Wright as a member. He is an elder statesman who has immersed himself in the problems of education and his race. I doubt that anything has been written about Blacks and education which he has not read. At every step he has been wise and constructive. Calvin B. T. Lee, once president of a public college serving a heavily Black constituency, is now a vice president of education for Prudential Insurance Company. Mr. Lee, a Chinese American, added a background to our deliberations that was not WASP or affected by the interests of the minorities we studied. Cecilia Burciaga never permitted us to forget the problems of Chicanos and informed us frequently of new data and literature relating to Hispanics in higher education. Alfonso Ortiz alerted us to the many languages of and cultural differences between the various groups of American Indians, as well as emphasizing their common needs. Yvonne Brathwaite Burke, a lawyer and former member of the U.S. House of Representatives, gave invaluable assistance, especially on the legal problems of affirmative action; in this regard, she helped with both minorities and women.

It is satisfying to remember the amazing devotion to their task these commissioners showed. In eight meetings of the commission, covering eighteen days, there were only three absences, and these were the result of unreconcilable schedule conflicts. During the meetings members were interested, excited, demanding, and apparently determined to exhaust the chairman. I cannot thank them too much!

Commission meetings were also attended by Fred Crossland of the Ford Foundation. Although he served primarily as an interested observer and succeeded admirably in his determination not to interfere, he became a genuine and constructive participant in many of our deliberations and was responsive to our needs.

This report summarizes the principal findings from a larger report by Alexander W. Astin, which is to be released in Spring 1982 by Jossey-Bass, Inc. The larger report contains not only a much more detailed account of the design, methodology, and findings of our project, but also a much fuller discussion of issues relating to standardized testing, equality of access, the so-called overeducated American, and the role of meritocratic values in higher education. This book will be available from the publishers, Jossey-Bass, Inc., 433 California Street, San Francisco, California 94104.

Readers may also wish to consult four HERI reports that deal with the same issues touched on here: Melanie Reeves Williams on Blacks; Helen S. Astin and Cecilia Preciado Burciaga on Chicanos; Laura Kent on Puerto Ricans; and Patricia McNamara on American Indians. These reports are

available at cost from the Higher Education Research Institute, 924 Westwood Boulevard, Suite 835, Los Angeles, California 90024. Another relevant report, on federal programs, by Kenneth C. Green, is available from the American Association for Higher Education, One Dupont Circle, Washington, D.C. 20036.

At the Higher Education Research Institute major contributions to the conceptualization and execution of the overall project were made by Helen S. Astin, Ernesto Ballesteros, Kenneth C. Green, Patricia McNamara, Lewis C. Solmon, Rita A. Scherrei, Russell Stockard, and Melanie Reeves Williams. Laura Kent's editing greatly improved the readability of the manuscript. Margo R. King aided in manuscript preparation and was responsible for the logistics of commission meetings and communications between the project staff and the commissioners.

A number of outside persons and agencies also rendered valuable assistance in our work. Janice Petrovich prepared a special report, "Puerto Rican College Student Population in the United States." Unpublished data and other materials pertaining to our work were kindly provided by Robert Crain, James McPartland, and Gail Thomas of the Center for Social Organization of Schools, at Johns Hopkins University, and by Carol J. Smith and Linda J. Lambert of the National Advisory Committee on Black Higher Education and Black Colleges and Universities. The College Entrance Examination Board kindly gave us permission to use national data from its Scholastic Aptitude Test.

As chairman, I feel disposed to add a few comments that I hope will meet with the approval of my fellow commissioners:

No set of data can properly set out the full range of problems that minorities face in America. Our malaise runs deep and is not easily described statistically. Since the Declaration of Independence was first written, we have lived a life unworthy of our stated ideals, and we are now paying a heavy price for our ambiguity—perhaps even our hypocrisy. We pass laws to protect minority rights and to increase minority opportunities, but too often we are satisfied with appearances. Our major educational energies have been invested elsewhere. After Sputnik, we identified national security with excellence and with full utilization of our best talents. We produced testing procedures and used test criteria for admission to college without asking whether all our citizens had been equally provided with the opportunity to achieve. Higher education has continued to use tests to skim as thin a layer of cream as their clientele would permit. Graduates of our best universities were drawn from student bodies so carefully screened that academic failure was virtually impossible. Even criteria for measuring the success of the Comprehensive Employment Training Act (CETA) programs tempted CETA directors to select those clients most likely to succeed. In public and private programs there has been very little offered to the troubled and the disad-

vantaged, a large number of whom are to be found among minority populations.

Our intellectual awareness of the problems of minorities is too seldom accompanied by a strong commitment to serve their needs. It would help if some important educational agency were developed to measure institutional value, not just by the academic quality of graduates, but rather by the "value added"—that is, the difference made in quality of mind and self-respect of the students an institution had guided through four years. If value added were to become one of the measures used in assigning status to institutions, it is likely that an ambitious admissions officer would find more potential in a bright but neglected member of a minority; and with this change in our national value premise, we might get commitment instead of lip service to minority opportunities in higher education.

Los Angeles, California
October 12, 1981

O. MEREDITH WILSON
Chairman,
The Commission
on the Higher Education
of Minorities

Introduction

The recommendations presented here are based on findings from a study of the higher education status of four of the principal disadvantaged racial and ethnic minorities in the United States—Blacks, Chicanos, Puerto Ricans, and American Indians. During the fall of 1978, when the project was in the planning stage, HERI and the Ford Foundation jointly selected a national commission, structured to include at least one member of each of the four minority groups, to serve as advisory board and policy arm for the project.

The commissioners bring to their task a set of shared value premises that they wish to make explicit to the reader. We believe that these premises are widely held among the four peoples who are the main concern of this report, and that the principles they embody are consistent with ideals of social equity that have an enduring appeal for people of all conditions and nationalities. By stating these premises forthrightly, the commission hopes to aid the reader in understanding the way in which our inquiry has been structured, the significance of the findings and of our interpretations, and the validity of the recommended actions.

Our value premises can be stated as follows:

- Education is a value and a right that is unequally distributed in U.S. society.
- Blacks, Chicanos, Puerto Ricans, and American Indians are major groups with longstanding unmet claims on U.S. education. These claims concern not only the amount of schooling received, but also its quality, scope, and content.
- Redressing inequality in higher education is not only an essential component of any significant effort to guarantee to these groups full participation in U.S. society, but also a goal worth pursuing in its own right.
- The attainment of full participation in higher education for these groups may in the short run require that financial and other resources be allocated in a manner governed more by considerations of the magnitude of existing inequality than by considerations of the proportions these groups represent in the total U.S. population.
- U.S. society as a whole has practical and moral interests in the achievement of this goal.

None of these premises, it should be emphasized, assumes that any of the four groups need give up its cultural distinctiveness, languages, or

values in the process of gaining full access to higher education and full social and economic participation in American life.

The principal purposes of the project were to examine the recent progress, current status, and future prospects of Blacks, Chicanos, Puerto Ricans, and American Indians in higher education and to formulate recommendations aimed at furthering the educational development of these groups. Although other racial and ethnic minorities can also be viewed as having unmet claims on U.S. higher education, these four groups were chosen for study because of their size, the gravity of their economic and educational disadvantagement, and their original experience of forced incorporation into U.S. society.

The major functions of the commission were to advise the HERI staff on proposed and completed studies, to give guidance in the interpretation of findings and the formulation of recommendations, and to assist with the dissemination of both findings and recommendations to policy makers, practitioners, and the general public. Subcommittees comprising both commissioners and staff members were formed to deal with specific issues such as governmental programs, the quality of the data used in the project, and minority women. A major outcome of the commission's involvement in the project was the decision to produce, in addition to the present document, five reports—an overall summary report on the entire project and four separate reports on each of the minority groups. It was felt that these four "subreports" would provide an opportunity to discuss in detail the history and special problems of each minority group.

The full commission met eight times during the project period: on February 25–26, 1979, June 1–2, 1979, and October 5–6, 1979, at Los Angeles; on January 12–13, 1980, at San Antonio; on March 21–22, 1980, in New York; on November 7–8, 1980 at Los Angeles; on April 10–12, 1981, at Ramona (California); and on July 19–21, 1981, again at Los Angeles. These meetings gave commissioners and staff members an opportunity to debate and discuss the issues, to review and revise the study design, to assess the quality of available data, to suggest interpretations of empirical findings, and to draft recommendations. At the San Antonio and New York meetings, which focused on the special problems of Chicanos and Puerto Ricans, respectively, the commissioners met with local people involved with programs targeted for these two groups. The April and July meetings in 1981 were designed to review draft sections of the reports.

Context of the Study

When this project was initiated in late 1978, concern for the plight of disadvantaged minorities—which had its genesis in the civil rights move-

ment of the 1950s and which had been strong in the 1960s and early 1970s—was on the wane. National attention was being absorbed instead by such issues as inflation, unemployment, the energy crisis, and the defense budget. In addition, an increasing number of socially and economically disadvantaged groups, including the elderly, women workers, and the handicapped, had begun to assert their claims to equitable treatment, financial resources, and compensatory services.

More recent developments on the political scene have not been reassuring. As this statement is being drafted, the Reagan Administration is recommending—and Congress has accepted—major cuts in the federal budget, the impact of which will fall heavily on education and on minority-oriented programs.

This mood shift has been as apparent in higher education as in other sectors of American society. During the 1960s and early 1970s, partly as a result of racial protests on the campus and in the community, many colleges and universities accepted changes—open admissions, recruitment of minorities, establishment of ethnic studies programs—that acknowledged the unmet claims of minorities in the United States and the inequitable treatment they had received from the educational system. However, concern over rising costs, along with the fear that projected declines in the college-age population during the 1980s and 1990s would severely erode institutional revenues, led to cost-consciousness and calls for retrenchment. These newer programs, many of which had been initiated on an experimental basis or supported by special outside funding from foundations or the federal government, were especially vulnerable to funding reductions or to elimination. Adding to the budgetary anxiety was apparent public skepticism about the value of higher education, particularly its relative costs and benefits.

A recent report of the National Forum on Learning in the American Future makes it clear that higher education has begun to subordinate minority issues to other concerns.* Respondents to this survey—including 1,556 "policy decision makers, educators, and scholars"—were asked to indicate the relative importance of a number of issues both as present and as future goals. Although minority issues were generally given high priority as present goals, they were rated very low among future goals; this was especially true for such matters as promoting affirmative action for minority advancement, recruiting and training minority-group members for managerial and professional positions, providing compensatory educational op-

* R. Glover and B. Gross, *Report on the National Forum on Learning in the American Future: Future Needs and Goals for Adult Learning, 1980–2000* (New York: Future Directions for a Learning Society, The College Board, 1979).

portunities to the disadvantaged, and enabling bilingual minorities to study their own cultures and languages.

If the current attitude of some educators toward minority issues is one of benign neglect or indifference, the attitudes expressed by some litigants through the federal courts may be characterized as overtly hostile. The U.S. Supreme Court's *DeFunis* (1974) and *Bakke* (1978) cases, for example, reflect a growing public view that higher education institutions have "gone too far" in their attempts to accommodate the special needs of minorities. Similar attitude changes are evidenced by increased resistance to court-ordered busing as a means of ending racial segregation in the public schools.

The prevailing political climate regarding minority issues is illustrated in a recent column by British journalist Christopher Hitchens, writing for the predominantly American audience of *The Nation* (June 13, 1981):

> The status of Black Americans seems hardly to be an issue any more. A depressing series in *The New York Times* reveals what a low priority the question has become, and sees Blacks bracing themselves for a period of neglect and isolation. I well remember, last autumn, during your election campaign, attending a liberal fund-raising party in New York City. Moving around the glittering apartment, I noticed two things. First, there were no Black guests. Second, all those handing round drinks and canapés were black. On a liberal occasion, it seemed to me that you could have one or the other, but not both, of those phenomena. I asked the host about it. He looked puzzled for a moment and then said, "Oh, *that*. Out of style."

As previously stated, the principal purposes of this project were to examine the past gains, current status, and future prospects of Blacks, Chicanos, Puerto Ricans, and American Indians in higher education and to formulate recommendations aimed at furthering the educational development of these groups. To provide a strong empirical basis for policy recommendations, the study was originally designed to concentrate on two areas: first, on a description of the current and recent situation of the four minority groups with respect to their access to higher education, choice of institutions and of fields of study, and degree attainment; and second, on an analysis of the factors that influence the access and attainment of these minority groups. During the course of the study, the commission overseeing the project added a third major area of activity: an analysis of controversial issues relating to the higher education of minorities.

The specific questions addressed under each of these three major categories of research activity are listed below:

Educational Access, Choice, and Attainment

- To what extent are Blacks, Chicanos, Puerto Ricans, and American Indians represented at various points in the educational pipeline between secondary school and completion of advanced training? Where are the major leakage points in this pipeline?
- What is the representation of each of these four minority groups by field of study and type of institution?
- How has the representation of each minority group changed since the mid-1960s?

Factors Influencing Educational Development

- How are the educational access and attainment of minority students influenced by family background, socioeconomic status, and personal characteristics?
- What features or characteristics of educational institutions and programs (for example, type of high school, type of higher education institution, student peer groups, faculty attitudes, special institutional programs) are most critical in affecting the progress of minority students?
- How is the progress of minority students affected by the type of financial aid they receive during undergraduate and graduate training?
- Which governmental programs seem to be the most effective and which the least effective in facilitating minority progress in higher education?

Controversial Issues

- To what extent are minorities afforded equal access to higher education? Is "equality of access" more a myth than a reality?
- How valid is the current popular stereotype of the "overeducated American"? What implications for minority progress in higher education does acceptance of this stereotype have?
- In what way does standardized testing, as currently used, impede the educational development of minorities? How can standardized testing be employed to contribute to educational development?
- How do the meritocratic aspects of the U.S. higher education system affect minority progress?

The first two categories of research activities—"educational access, choice, and attainment" and "factors influencing educational development"—were approached by means of a series of analyses of empirical data. While

considerable use was made of existing data sources, a substantial amount of new data was also collected. The third major category of project activity—"controversial issues"—was accomplished by means of a series of essays drawing upon the existing literature and, in some instances, upon relevant empirical data.

Data Sources

Empirical studies performed by the commission staff involved the use of several resources, including data from public documents; unpublished data from outside agencies; and data collected especially for the project and, in most cases, involving questionnaire surveys. Data pertaining to the educational access and attainment of minorities were obtained from several public and private sources, including the U.S. Bureau of the Census, the Commission on Civil Rights, the Office for Civil Rights, the National Center for Education Statistics, the National Science Foundation, the National Academy of Sciences (National Research Council), the College Entrance Examination Board (Educational Testing Service), the American College Testing Program, and the Cooperative Institutional Research Program of the American Council on Education and the University of California, Los Angeles. These data provided the principal basis for the commission's analysis of the educational pipeline for minorities (from the high school years through completion of advanced training), the representation of minorities in different fields, and recent trends in minority representation both by level and by field.

Factors influencing the educational development of minority students were assessed primarily through longitudinal data from the Cooperative Institutional Research Program. The principal source for these analyses was a nine-year follow-up of 1971 entering freshmen, conducted especially for this project during the spring of 1980. In order to obtain an accurate picture of the persistence rates of minorities during this nine-year interval, a number of follow-up procedures were used to improve response rates.

Another source of student data involved a national sample of minority students who had received graduate fellowships for doctoral study from the Ford Foundation between 1969 and 1976. To estimate the impact of this fellowship award itself, a "natural experiment" was conducted whereby the same follow-up questionnaire sent to the 1971 freshmen was sent to all Ford Fellows who began their undergraduate studies in 1971 and to a control group of applicants for the Ford graduate awards who had not received the award and who had also entered college in 1971.

Data on faculty and staff were also collected via a national survey of

academic personnel working in the same institutions attended by the 1971 sample and a survey designed to tap the experiences and perceptions of minority educators.

These data on students and faculty were supplemented by additional data on the institutions' finances, enrollments, physical plants, and admissions policies, and other environmental information obtained from public and private sources.

Data Analyses

Descriptive studies of the educational access and attainment of minority undergraduates were obtained from published tabulations of several of the data sources described above as well as through special tabulations of these same data sources conducted by the project staff. Analyses of factors influencing minority students' educational development generally involved a two-stage procedure. In the first stage, an attempt was made to adjust for the fact that students entering different types of institutions and different types of programs frequently have dissimilar entering characteristics. Thus in the first stage an attempt was made to control statistically for initial differences in entering student characteristics such as demographic factors (sex, race and ethnicity, age), socioeconomic background (parental education, income, and occupation), high school activities and achievements, plans and aspirations, and values and attitudes. Once these characteristics had been controlled, the second stage in the analysis was performed to estimate the impact of institutional type, financial aid, and other college environmental factors.

Limitations of the Data

It should be emphasized that conclusions based on the commission's analyses of empirical data must be tempered with the recognition that most of the data sources suffered in varying degrees from technical limitations. Among the most frequently encountered types of limitations were inadequate racial and ethnic definitions, small sample sizes, nonrepresentativeness, and low survey response rates. The best data currently available pertain to Black students, whereas the most serious deficiencies occur in data on Puerto Ricans and American Indians.

The Limits of Higher Education

Higher education was chosen as the focus of this study because the Ford Foundation and the persons associated with the project believe that it

contributes to the social and economic well-being of individuals and to the political resources and strength of groups within U.S. society. Blacks, Chicanos, Puerto Ricans, and American Indians all suffer from powerlessness, and higher education is clearly one of the main routes whereby individuals can attain positions of economic and political power. Further, the quality of life in general can be improved through higher education, which expands employment options and contributes to greater geographic mobility. Finally, higher education can enrich leisure by exposing the individual to a wide range of experiences in the arts, music, literature, history, science, and technology.

But higher education is by no means a panacea for all the problems that confront disadvantaged minorities in the United States. Vestiges of prejudice may persist in the minds of many Americans for years to come, no matter how many minority students complete higher education programs. Perhaps more significant is the fact that many of the educational problems facing these groups occur prior to higher education, at the elementary and secondary levels. Indeed, the results of this study dramatize the need for a much more concerted national effort to upgrade the quality of elementary and secondary education for minorities. Although it is true that higher education can play some role in this process through the selection and training of administrators and teachers in the lower schools, many of the problems of minority education are probably beyond the control of higher education. While the commission believes that this reality does not relieve the higher education system of the responsibility for doing the best job possible with those minority students who manage to enter academic institutions, it also recognizes that solving the problems of precollegiate education for minorities will require the sustained efforts of federal, state, and local governments.

The Educational Pipeline

Much of the technical effort of the project was directed at gathering and synthesizing the best available data on the representation of minorities in higher education. As was pointed out in the discussion of data limitations, several problems arose in connection with this effort. For instance, some of the sources used report data for the general category "Hispanic," rather than separately for different Hispanic subgroups. Therefore, many of the figures for Chicanos and Puerto Ricans reported here are estimates based on the known fact that the former constitute 60 percent of the Hispanic population in the United States, and the latter 15 percent. Another problem is the paucity of data on American Indians; thus, estimates for this minority group may not be accurate and should be treated with caution.

Given these strictures, the following sections give the best estimates possible of the representation of the four racial and ethnic minority groups by level in the educational system, their representation by field of study, and recent trends in the representation of minorities.

By Level

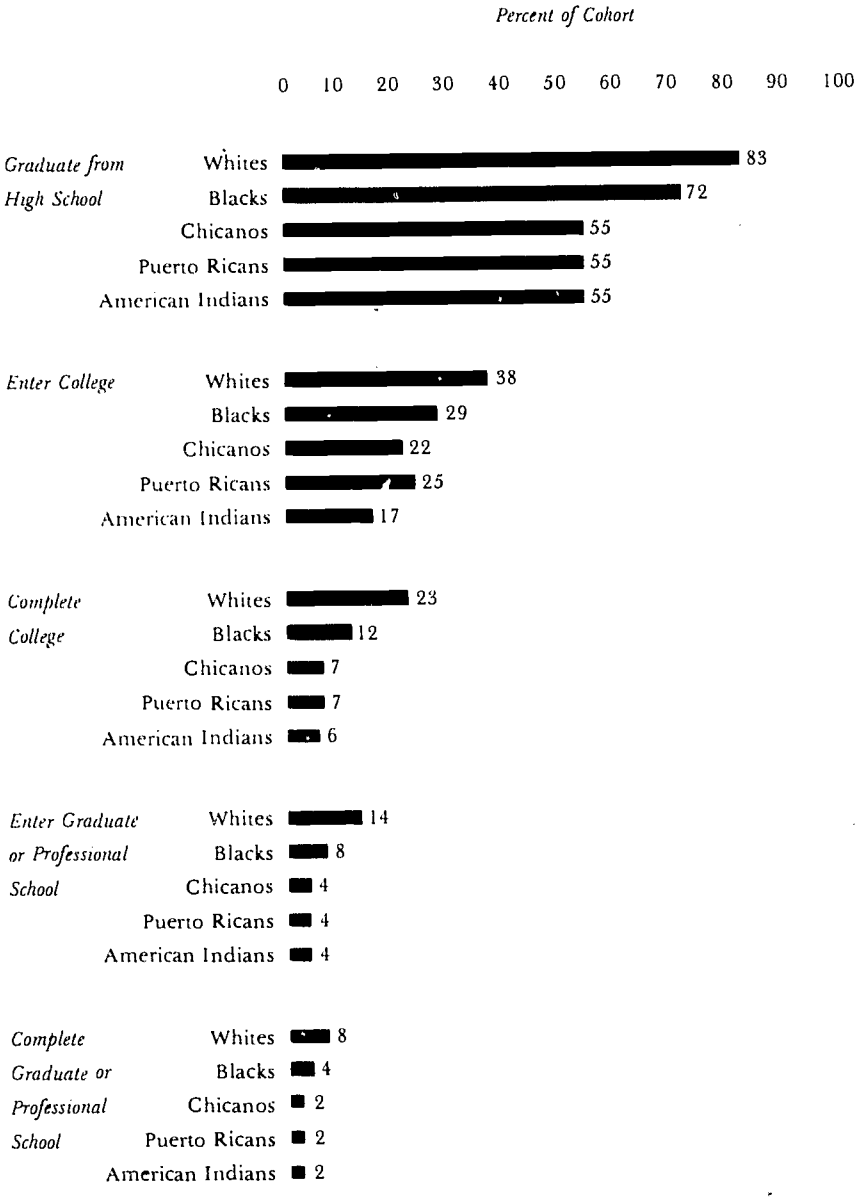
If one views the educational system as a kind of pipeline leading ultimately to positions of leadership and influence in our society, it is possible to identify five major "leakage" points at which disproportionately large numbers of minority group members drop out of the pipeline: completion of high school, entry to college, completion of college, entry to graduate or professional school, and completion of graduate or professional school. The loss of minorities at these five transition points accounts for their substantial underrepresentation in high-level positions. Figure 1 gives an overview of the educational pipeline for all four minority groups under study and for Whites.

High School Graduation. A substantial proportion of minority students leave the educational system before they even complete secondary school, thus severely handicapping their efforts to attain higher levels of education and to avail themselves of a greater range of career options. For instance, the high school dropout rate for Blacks is approximately 28 percent (compared with a rate of about 17 percent for Whites), and this attrition occurs throughout the high school years. Close to half (45 percent) of Chicanos and Puerto Ricans never finish high school, and this attrition begins in the junior high school years and continues through the high school years. Finally, although data are sparse, it appears that approximately 45 percent of American Indian students leave high school before graduation.

College Entry. With the exception of American Indians, those students who manage to complete high school enter college at about the same rate as Whites. Among high school graduates of each racial and ethnic group, approximately 45 percent of Whites and Puerto Ricans, 40 percent of Blacks and Chicanos, and 31 percent of American Indians enroll in college. (The figure for Puerto Ricans may be inflated, because it is based on data from the years when the City University of New York had a more open admissions policy. Since a majority of the Puerto Ricans who are residents of the continental United States live in New York City, they benefited particularly from this policy, which has since been modified.)

Baccalaureate Attainment. Of those who enter college, Whites are much more likely to complete the baccalaureate within the traditional four-year period than are minority students. According to the National Longitudinal Study, 34 percent of the Whites, 24 percent of the Blacks, 16 percent of the

Figure 1. The Educational Pipeline for minorities.



American Indians, and 13 percent of the Hispanics who entered college in 1972 had completed the baccalaureate by 1976. In all likelihood, these differences are attributable in part to the high concentration of both Hispanics and American Indians in community colleges. Although three-fourths of community college entrants indicate as freshmen that they intend to get at least a bachelor's degree,* their chances of actually transferring to a senior institution and completing the baccalaureate are slim. Even after taking into account their generally poorer academic preparation, one finds that regardless of race and ethnicity community college students are substantially less likely than are four-year-college entrants to complete four undergraduate years.**

Looking at baccalaureate completion rates beyond the four-year span, one finds that approximately 56 percent of White freshmen, 51 percent of Black freshmen, 42 percent of Puerto Rican freshmen, 40 percent of Chicano freshmen, and 39 percent of American Indian freshmen eventually receive the bachelor's degree. Again, the high concentration of American Indians, Chicanos, and Puerto Ricans in community colleges during the early undergraduate years contributes significantly to their higher baccalaureate attrition rates.

Graduate and Professional School Entry. According to recent data from the U.S. Office for Civil Rights, the transition from undergraduate college to graduate or professional school does not seem to be a major leakage point for minorities; the ratio of the number of first-year graduate students to the number of baccalaureate recipients during the same year was roughly similar for all groups. It should be emphasized, however, that the first-year graduate enrollment figures for minorities may be inflated by delayed entrants (that is, those who do not enroll for advanced training directly after completing the baccalaureate but delay their entry for some period) and the very large proportion of minority students who pursue master's degrees in education.

Advanced Degree Attainment. Although minority students who manage to complete the baccalaureate may not be at a disadvantage when it comes to enrolling in graduate or professional school, they are less likely than White students to complete their advanced training. Approximately 45 percent of Blacks, 52 percent of Chicanos and Puerto Ricans and 48 percent of American Indians drop out before completing their graduate or professional degrees. The comparable figure for Whites is 41 percent.

Summary. The following conclusions can be drawn about the educational pipeline for minorities:

*A. W. Astin, M. R. King, and G. T. Richardson, *The American Freshman: National Norms for Fall 1980* (Los Angeles: UCLA, 1980).

**A. W. Astin, *Preventing Students from Dropping Out* (San Francisco: Jossey-Bass, 1975).

- All four of the minority groups under consideration in this study are increasingly underrepresented at each higher level of degree attainment: high school completion, baccalaureate attainment, and advanced degree attainment.
- Minority underrepresentation is attributable not only to greater than average attrition rates from secondary school, undergraduate college, and graduate and professional school, but also to disproportionately high losses in the transition from high school to college.
- Blacks fall midway between Whites and the three other minority groups in terms of their ability to survive to the end of the educational pipeline.
- The single most important factor contributing to the severe underrepresentation of Chicanos, Puerto Ricans, and American Indians is their extremely high rate of attrition from secondary school. The second most important factor is their greater than average attrition from undergraduate colleges (particularly community colleges).

By Field

To examine the representation of the four minorities in various fields of study at successive degree levels, the project staff defined ten categories of major fields. Each category was selected either because it is a prerequisite for a high-level career, because it is chosen by a large proportion of students, or because it fulfills both these criteria. The ten categories, which together accounted for about 90 percent of the baccalaureates awarded in the United States in 1978–79, were: allied health; arts and humanities; biological science; business; education; engineering; prelaw; premedicine and predentistry; physical sciences and mathematics, and the social sciences.

It should be pointed out that all four minority groups will tend to be underrepresented in all fields at all levels, because the total proportion who survive to each level is low; and that the underrepresentation in a given field will be even greater if relatively few survivors choose that field.

Among entering freshmen, minorities are underrepresented in all ten categories of fields except the social sciences and education. In addition, Black freshmen are only slightly underrepresented among those naming allied health as a probable major, and are overrepresented among those naming business as a probable major. Moreover, the underrepresentation of minorities increases at each higher level of the educational pipeline. Thus all four minority groups are substantially underrepresented among both baccalaureate recipients and doctorate recipients in all fields. (The only possible exceptions to this generalization are education and the social sciences, where

Blacks seem to be only slightly underrepresented, and American Indians do not seem to be underrepresented.)

The field categories in which the four minorities are most severely underrepresented are engineering, biological science, and physical science and mathematics. To achieve proportionate representation in these fields at the doctorate level, the number of minority doctorates would have to increase from four- to sevenfold. The field categories in which minorities are least severely underrepresented (other than education) are the social sciences, law, and medicine. Proportionate representation in these fields could be achieved by doubling the number of minority degree-recipients.

Generally speaking, the factor that best explains minority underrepresentation in various fields—especially the natural sciences, engineering, and the social sciences—is the poor academic preparation that minority students receive at the precollegiate level.

Recent Trends

Although minority underrepresentation increases at each higher level of the educational pipeline and is especially severe in the sciences and engineering, the last two decades have witnessed dramatic increases in minority representation at all levels of the educational pipeline and in virtually all fields. These increases are attributable in large part to the civil rights movement of the late 1950s and the 1960s, to the Civil Rights Act of 1964, and to the initiation during the 1960s of a number of social programs aimed directly at increasing minority enrollments. The trend data on minority enrollments, although sparse (especially for Chicanos, Puerto Ricans, and American Indians), warrant the following conclusions:

- Between 1970 and 1977, Blacks were much less likely to drop out of high school than previously, while Whites, especially 16- and 17-year-olds, were more likely to drop out. Nonetheless, attrition prior to completion of secondary school is still about a third higher among Blacks than among Whites.
- Both the absolute numbers of the four minority groups entering two-year and four-year colleges and their proportions among entering freshmen increased between the mid 1960s and the mid 1970s; the proportions have since stabilized at about 12–13 percent.
- The proportion of Blacks in the 25–29 age group who had completed four or more years of college increased from 10 percent in 1970 to 15 percent in 1975. Between 1976 and 1979, the proportion of Blacks, Chicanos, and Puerto Ricans among baccalaureate recipients increased

slightly, while the proportion of American Indians remained relatively stable.

- Between 1973 and 1977, the share of doctorates awarded to members of all four minority groups increased substantially, from 3.8 percent to 6.3 percent. Since 1977, however, the share has declined slightly.
- In the late 1960s, students from the four minority groups constituted only about 3 percent of first-year medical school enrollments; by the 1974–75 academic year, they constituted 10 percent. Since that time, the minority proportion of enrollments stabilized at 9 percent.
- The proportions of the four minorities among total law school enrollments increased from about 3.8 percent in the late 1960s to 6.4 percent in the 1976–77 academic year. Since that time, the proportions of Blacks, Chicanos, Puerto Ricans, and American Indians among law students have changed very little.

In summary, minority representation at all levels of higher education increased substantially between the mid 1960s and the mid 1970s. In more recent years, however, their proportions have stabilized, and few gains have been made since the mid 1970s.

Factors Influencing Educational Progress

Analyses of the two-year (1975–1977) and nine-year (1971–1980) longitudinal samples yielded a wealth of findings, which are summarized here. For simplicity, the results are presented under two major headings: *entering student characteristics* and *college environmental characteristics.*

Entering Student Characteristics

The quality of academic preparation in secondary school is a major factor in the student's academic performance in college and baccalaureate attainment. Academic performance in secondary school, as measured by the student's grade average or class rank, was a much more important predictor of undergraduate grades and persistence than were standardized test scores, although in the case of Blacks, such scores did contribute to the prediction of college grades and persistence.

Study habits and type of high school curriculum were also closely associated with undergraduate grades and persistence. Those students who took a college preparatory curriculum in high school and who entered college with well-developed study skills were more likely to do well academically and to attain the baccalaureate than were those students who took

some other type of program (for example, vocational or secretarial) and whose study habits were poor.

As expected, certain family background characteristics indicative of socioeconomic status proved to be related to college grades and persistence. Minority students whose parents were better educated and had higher incomes were likely to perform more successfully than were those whose parents were relatively poor and uneducated. Parental income alone predicts persistence and achievement for all four minority groups but is unrelated to the college performance of Whites. This finding implies that although financial aid (especially grants) has a positive impact on both access and persistence, it cannot compensate for all the negative effects of poverty on the minority student's academic achievement.

In addition, those minority students who gave themselves high self-ratings on academic ability and who were relatively young at the time they entered college tended to make good grades in college and to persist to baccalaureate completion. Among Blacks, scoring high on standardized college admissions tests, feeling well prepared in mathematics, and taking a relatively large number of secondary school courses in science and foreign languages predicted achievement and persistence; among Blacks and Chicanos, attending an integrated high school had positive effects on these outcomes.

College Environmental Factors

The longitudinal analyses examined four general categories of college environmental factors: institutional characteristics, field of study, financial aid, and place of residence.

Institutional Characteristics. Initial enrollment in a community college substantially reduced the student's chances of persisting to baccalaureate completion. This finding, which replicates findings from earlier longitudinal studies, suggests that in those states with hierarchical systems of public higher education—where high school graduates with the best academic records can choose from the full range of postsecondary options, while those with relatively poor academic records are consigned to community colleges—many minority students are in effect being denied an equal educational opportunity.

The quality of the undergraduate college (as measured by such indexes as the institution's prestige, per-student expenditures, and admissions selectivity) was consistently related not only to baccalaureate completion but also to attainment of a doctorate or an advanced professional degree. In short, the higher the quality of the undergraduate institution attended, the

greater the minority student's chances of persisting to the baccalaureate and of enrolling in a program of study for the doctorate, medical degree, or law degree. The only exception to this generalization occurred in the case of American Indians, where the effects of quality measures were mixed.) These findings suggest that one way to increase the number of minority students who successfully complete advanced training is to increase the number who enter the more prestigious and elite institutions as freshmen. Such institutions apparently serve as conduits for students who will eventually go on to graduate and professional schools. These findings have at least two policy implications: first, prestigious institutions should intensify their efforts to recruit more minority students; and second, those institutions in which minority students are now concentrated should be strengthened so that they will be more effective in encouraging their minority undergraduates to enter graduate and professional training.

Field of Study. The student's undergraduate grades are significantly affected by the course of study pursued. Those students, both minority and White, who major in natural science, engineering, and premedical curricula get lower grades than would be expected from their entering characteristics; those who major in the arts and humanities, the social sciences, and education get higher grades than expected. Apparently academic standards in the sciences and engineering are more stringent than those in the other major fields.

During the undergraduate years, there is a substantial loss of minority students who aspire to become physicians, engineers, or lawyers and a concomitant increase in the number who aspire to careers in business and in college teaching. With certain exceptions, these shifts in career plans tend to exacerbate the underrepresentation of minorities in natural sciences and engineering. (It should be noted, however, that White students show similar changes in interests during the undergraduate years.)

Financial Aid. Perhaps the most consistent finding with respect to financial factors is that holding a full-time outside job while in college has unfavorable effects. Minority students who enter college expecting to work full time at an outside job are much less likely to persist to baccalaureate completion than those who enter college with no such expectation. On the other hand, part-time work seems to facilitate persistence, especially if the job is located on campus.

The type of financial aid received is also important. The effects of grants or scholarships are generally positive, but the effects of loans are mixed.

Place of Residence. Students who live away from home while attending college are more likely to persist to baccalaureate completion than those who

live at home with their parents; this is especially true for Blacks and Chicanos. The positive effects of the residential experience are consistent with a body of earlier research.*

Views of Minority Educators

The commission's survey of 311 minority educators, whose past experiences and current positions make them a rich resource of information, also contributed to our understanding of factors influencing the educational progress of minorities. Participants in the survey first completed an open-ended instrument asking them to respond freely to questions about facilitators of and barriers to the educational attainment of people from their racial and ethnic backgrounds. Their responses were compiled and categorized to produce a second questionnaire in a forced-choice format. The findings from this second instrument can be summarized as follows:

Asked about factors that facilitated their completion of the baccalaureate, respondents were most likely to mention the encouragement and support of their families and their own educational goals and interests. These factors also motivated their enrollment in graduate or professional school, as did career-related or economic goals and the receipt of financial aid. The chief barriers at both the undergraduate and graduate levels were financial concerns (including problems connected with having to work while in college) and faculty composition and attitudes. In addition, respondents indicated that institutional indifference to minority students was a barrier to their completion of college, and that family responsibilities were often a burden during graduate school.

Despite their high academic attainment (66 percent of the sample of 311 respondents had earned a doctorate, and 26 percent held a master's degree), minority educators feel that they face special problems as professionals. Among the most serious of these problems are the lack of institutional commitment to minorities, difficulty in gaining the acceptance and respect of their colleagues, institutional ethnocentrism that ignores the perspectives and values of other cultures, and being stereotyped and exploited as "minority experts" in ways that limit opportunities for professional advancement. Generally, Blacks were least likely to cite these problems, probably because many of them are employed at historically Black institutions.

Another section of the questionnaire asked respondents for their

*Astin, 1975; A. W. Astin, *Four Critical Years: Effects of College on Beliefs, Attitudes and Knowledge* (San Francisco: Jossey-Bass, 1977); A. W. Chickering, *Commuting Versus Resident Students: Overcoming Educational Inequities of Living Off Campus* (San Francisco: Jossey-Bass, 1974).

views about obstacles to the educational attainment of young people of their racial and ethnic background. Close to two-thirds cited poor educational preparation. Financial problems were also seen as constituting an obstacle, especially for Chicano and Puerto Rican males. American Indian respondents said that young people of their racial and ethnic background are particularly subject to self-concept and identity problems. In addition, some respondents believed that minority women face problems not encountered by their male counterparts: namely, sex-role stereotypes and conflicts engendered by multiple-role demands.

According to respondents, the barriers encountered by minority students differ somewhat by educational level. Poor teaching and poor educational preparation are major problems at both the elementary and secondary levels. In addition, elementary school children (especially American Indians and Blacks) face barriers related to the home environment (lack of resources in the home, poor health and nutrition, parents who are not able to help their children with schoolwork or who do not become involved in their children's schooling), the lack of effective instructional programs designed to promote cultural awareness and identity and to develop bilingual skills (mentioned most often by Chicano, Puerto Rican, and American Indian respondents), and the lack of transitional instructional programs for students with limited English-language skills (mentioned most often by Puerto Rican respondents). Inadequate academic and career counseling was identified as a particularly serious barrier for minority high school students.

At the undergraduate and graduate levels, financial difficulties loom large, especially for Puerto Ricans. Moreover, poor educational preparation is an obstacle for minority undergraduates, whereas minority students in graduate and professional schools are hindered by the lack of minority faculty, mentors, and role models.

Chicano, American Indian, and Puerto Rican respondents believe that the greatest strength of their young people is strong cultural identity. In addition, Chicanos and American Indians mention strong family and communities as strengths, while Puerto Ricans cite bilingual skills. Blacks, on the other hand, feel that their young people are distinguished most by intelligence, curiosity, resilience, and flexibility.

Asked to indicate what higher education institutions could do to better serve minorities, respondents tended to emphasize these areas of action: the hiring, promotion, and tenuring of minority faculty, counselors, and administrators; the encouragement of college attendance through outreach and recruitment programs to inform students and parents about college benefits, opportunities, and choices; the provision of access through conditional or open admissions; and the improvement of articulation between community and four-year colleges.

Recommendations

Given the current pressure for fiscal stringency, the commission was faced with a critical decision. Would it be more judicious to exercise restraint by selecting and concentrating on just a few recommendations for action, with the hope that cost-conscious government and institutional policy makers would thereby be more willing to consider these recommendations? Or should a broader-based approach be taken?

Several considerations prompted us to choose the second alternative. First, while recognizing that indifference and even hostility to minority concerns has been growing in certain quarters, the commission is strong in its belief that redressing inequality in higher education must become a first-ranked national priority, for both practical and moral reasons. Second, while large financial outlays might be required to implement some of these recommendations, others call for a reexamination of current policies and practices and a restructuring of certain components of the educational system—painful, perhaps, but not expensive. Finally, we welcome the opportunity to address a number of issues that have surfaced in the course of the project and to speak to a number of audiences that have some responsibility for and some interest in making changes. It should be emphasized that many of these suggested changes would benefit not only students from the four minority groups under consideration but all college students, U.S. higher education as a whole, and, ultimately, society at large.

Implementation of the Value-Added Model

The commission recommends:

- That educational institutions revise their testing and grading procedures to reflect and enhance the value-added mission. Such a revision requires, first, that current normative or relativistic measures be replaced by measures that assess the learning and growth of the individual student and, second, that these measures be administered periodically to assess the individual's growth over time. Results from both local and national tests should be routinely fed back to individual students and teachers on an item-by-item basis. Such revised testing and grading procedures will better serve the educational process by providing students, teachers, institutions, and policy makers with feedback on the nature and extent of student learning and growth over time. This feedback will be useful not only in evaluating the effectiveness of educational programs but also in diagnosing the educational progress and needs of individual students.

- That educational institutions use standardized tests for course placement, evaluation, and counseling rather than just for the selection and screening of students.
- That educational institutions enlarge their concept of competency measures to include the assessment of growth in the noncognitive realm: personal development, interpersonal skills, and self-esteem.

Rationale. The principal function of all educational institutions should be to change people: to increase the competence of students, to enhance their personal development, and to help them lead more productive and fulfilling lives. Ideally, testing and grading procedures should be designed to facilitate this value-added mission of institutions.

Typically, testing and grading procedures in higher education are used not to measure student growth or change but to rank students in relation to each other. Because current practices emphasize the screening and certification of students, tests and grades not only fail to contribute to the learning process, but also pose special obstacles to the development of minority students.

Precollegiate Education

The commission recommends:

- That school counselors and teachers make special efforts to assist minority students in understanding the relationship between their education and their future careers and other life options.
- That secondary school counselors and teachers encourage minority students to enroll in college preparatory curricula and to take courses in mathematics, languages, natural science, and social science.
- That schools routinely test new and continuing students, as a basis for undertaking any remedial efforts that may be required to correct for the effects of earlier educational deficiencies.
- That secondary school teachers and administrators, working in close collaboration with faculty from nearby colleges and universities, define those intellectual competencies that are crucial to effective performance in college and develop tests to measure such competencies.
- That such tests be administered on a repeated before-and-after basis to assess student progress and program effectiveness, in accordance with the value-added model.
- That the results of such periodic testing and retesting be a major element in the accountability of school teachers and administrators, and that

those who are demonstrably effective in assisting minority students should be more adequately compensated.

- That the school leadership make greater efforts to ascertain and respond to the concerns of minority parents, to involve them in the operation of the schools, and to assist them in understanding the objectives, procedures, and practices of the schools.
- That the per-student formula now used to allocate resources among public elementary and secondary schools within a school district be revised so that predominantly minority schools receive a greater share of these resources, some of which should be used to develop rigorous academic programs and associated support services for their students.
- That higher education institutions, schools, and departments concerned with the training of elementary and secondary school teachers develop stronger academic programs designed, among other things, to increase the prospective teacher's awareness of and sensitivity to minority cultures and values.

Rationale. A body of research shows that the quality of precollegiate education is critical in determining whether young people go on to college, what kinds of higher education institutions they attend, how they perform in college, and whether they are able to complete their college education. While disagreeing on the causes, most observers agree that in recent years the quality of public schooling at both the elementary and secondary levels has deteriorated, and that the weaknesses of the public education system are borne most heavily by minority students, especially those attending predominantly minority schools located in the inner city and in isolated rural areas. Such schools typically have fewer resources (finances, facilities, high-quality teaching, administrative leadership, community involvement and support) than do middle-class White schools. Moreover, whereas middle-class White students usually have resources and support systems outside the school to compensate for deficiencies in the system, many low-income minority students have no such resources to fall back on.

The consequences of this situation are clear. As data from the project show, high school dropout rates are much higher among minority youth (especially Chicanos, Puerto Ricans, and American Indians) than among White youth. Largely because of their poorer secondary school preparation those minority students who do go on to college are less likely to complete the baccalaureate than are White undergraduates. Moreover, minority students tend to major in education and the social sciences; relatively few choose engineering or the natural sciences as major fields of study.

The commission recommends:

- That community colleges revitalize their transfer function by establishing as one option a "transfer-college-within-a-college," wherein all students aspiring to a baccalaureate can be brought together and exposed to the same kinds of intensive educational and extracurricular experiences commonly available to students at residential institutions. Funding formulas may have to be revised to strengthen the "college-within-a-college."
- That the transfer program staffs of community colleges work closely with their counterparts at senior institutions to improve articulation.
- That transfer programs within community colleges offer intensive remediation and academic counseling.
- That senior institutions make more effort to facilitate the transfer of community college graduates by setting aside an appropriate amount of financial aid for these students and by offering orientation and counseling to meet their special needs.
- That in areas where senior institutions and community colleges are located close to one another, young people aspiring to a baccalaureate be encouraged to enroll in the senior institution, without prejudice to the continuing opportunity of students in two-year colleges who may wish to transfer to the senior institution.

Rationale. Because they are geographically accessible, relatively inexpensive, and flexible in admissions policies and scheduling, community colleges have opened postsecondary access to many people who otherwise might not have gone beyond high school. Community colleges have succeeded in providing vocational training and adult education for many Americans. The relatively recent American Indian community college movement demonstrates how effective these institutions can be in responding to the immediate needs of that community by offering career associate-degree programs in such areas as range management, animal husbandry, and practical nursing.

Community colleges have been less successful, however, in performing their transfer function. Our data indicate that whereas three in four community college freshmen intend to get the baccalaureate, only one in four actually does so. What makes the attrition problem especially severe is the heavy concentration of minority students in community colleges, particularly in states like California and Texas that have a hierarchical, three-tier

system of public higher education Because many minority students do not meet the admissions requirements of four-year institutions, they are forced to enroll in community colleges. For some of these students, the community college's open door leads to a dead end. Moreover, many of those community college entrants who succeed in transferring to a senior institution find themselves as students with advanced standing but without the resources and services that are ordinarily available to entering freshmen—for example, financial aid and orientation.

Academic and Personal Support Services

The commission recommends:

- That colleges and universities strengthen their efforts to help underprepared minority students improve their study habits and develop their basic skills, by offering tutoring, developmental courses, and academic counseling. Such efforts will not only benefit the individual student but will also help institutions financially by reducing student attrition rates.
- That colleges and universities provide resources to establish centers where minority students can meet together for social and educational exchanges. Such centers can promote a sense of community, can help new students learn about the system, and can foster cultural identity, pride, and strength in such a way that minority students will be able to challenge as well as to enrich and broaden the traditional values of the institution.
- That minority students themselves, as well as local minority communities, be used as a resource in providing leadership and initiatives for the organization of such academic and personal support services, and that they be given a responsible role in decisions concerning the operation and management of minority services.
- That the trustees, administrators, and faculties of colleges and universities give strong and visible support for the development of ethnic studies programs, so that the perspectives added by such programs will be available for the benefit of all students, minority and majority.

Rationale. Data indicate that minority freshmen represent the entire spectrum of academic ability and preparation, but that a substantial proportion enter college lacking good study habits and feeling poorly prepared in reading, writing, and computational skills. Moreover, longitudinal data show that students who lack these skills are less likely to persist in higher education. Both these points are confirmed by respondents to the commission's survey of minority educators, many of whom cited lack of preparation

in basic academic skills as a major barrier to educational attainment. Other barriers mentioned frequently were social isolation and loneliness, "culture shock," and institutional ethnocentricity and lack of commitment to minority students.

In recent years, some slight gains have been made through the establishment of ethnic studies—including Afro-American studies, Black studies, Hispanic studies, Chicano studies, Puerto Rican studies, Asian American studies, and Native American studies—on some of the nation's college campuses. Ethnic studies were born out of the campus unrest of the 1960s, when students in general were pressing for more relevant curricula and when minority students in particular were demanding that institutions address their needs. The almost exclusive focus on Western culture and civilization of the traditional liberal arts program was under attack. Minority students complained justifiably that not only was consideration of minority cultures and values absent from the curriculum, but support-service mechanisms were unavailable to them. As a result of these pressures, ethnic studies were introduced in various forms. On some campuses, courses on one or more minority groups are taught under the aegis of existing departments (for example, sociology, anthropology, history, literature). At others, an interdisciplinary major in ethnic studies is offered. At still others, separate departments of ethnic studies have been established. Although the numbers of students graduating with ethnic studies majors is small, these arrangements have the advantage of allowing other students to minor in, or at least sample, such courses and thus to gain some knowledge or awareness of ethnic studies. On some campuses, ethnic studies programs go side by side with an ethnic center, which attempts to address some of the social and personal needs of minority students and faculty in predominantly White institutions. In addition to giving both minority and majority students a new perspective on the total American experience, ethnic studies have contributed to the college community's enriched awareness of minority literature, art, and music. Over the past decade or so, scholarly inquiry into the presence, experience, and contributions of the various minority groups in the United States has produced fruitful results. Nonetheless, ethnic studies still have not gained respectability in the eyes of many academics, and their very survival is now threatened by fiscal exigency and by growing indifference to minority concerns.

The Myth of Equal Access

The commission recommends:

- That educational policy makers and planners revise their traditional

concept of equality of access to take into account the type, quality, and resources of the institution entered.

- That the more selective institutions—including the "flagship" (major) universities in each state—review their recruitment and admissions procedures and where necessary revise them to attract and admit more minority students.
- That these selective institutions make clear their commitment to the goal of increasing minority enrollments by providing support services, presenting minority perspectives in the curriculum, and hiring, promoting, and tenuring more minority faculty and administrators.
- That institutions reexamine the educational rationale underlying traditional selective admissions practices. Ideally, the predictive model of admissions should be replaced with a model that focuses on the institution's value-added mission.
- That those institutions using the predictive model of admissions examine the validity of their formulas separately for minorities, with special attention to the possibility that standardized test scores, which pose a far greater handicap to minorities than high school grades, add little to the prediction of college performance.

Rationale. Aggregate statistics on college enrollments mask the fact that minority students are overrepresented in the less selective institutions and underrepresented in the more selective schools—especially the major public universities of most states. Given that the more selective public and private institutions tend to have greater financial resources, more residential facilities, larger libraries, better physical plants, more varied curricula, and more highly trained faculty, it follows that those students who must attend the less selective institutions are denied equal educational opportunities.

Selective admissions based on high school grades and standardized test scores have been justified on the grounds that grades and tests predict college performance. While this predictive model may be appropriate for businesses, it is inappropriate for public higher education, where institutions exist for the benefit of students. Furthermore, the results of our longitudinal analyses show that test scores add little beyond high school grades in predicting the academic performance and persistence of minority students during the undergraduate years.

Financial Aid

The commission recommends:

- That whenever possible students with significant financial need be given aid in the form of grants rather than loans.

- That students be given enough aid so that they do not need to work more than half time.
- That if students are given financial aid in the form of work-study support, it be packaged in such a way that they work less than half-time and, whenever possible, at on-campus jobs.
- That federal and state legislators and policy makers support expanded grant and work-study programs.

Rationale. Minority students often start college with heavy financial responsibilities. For example, two-fifths of minority freshmen entering college in the mid 1970s said they had major expenses and debts; close to a third of the Chicano and Puerto Rican freshmen contributed to the support of their parents; and 16 percent of Blacks and Chicanos, as well as 10 percent of Puerto Ricans, were single parents or heads of households. Even though large proportions of these freshmen (90 percent of the Blacks, 83 percent of the Chicanos, 84 percent of the Puerto Ricans, and 59 percent of the American Indians) received financial aid, many of them still had to work at outside jobs. Half the American Indians, a third of the Chicanos and Puerto Ricans, and a fifth of the Blacks worked more than half time while in school. The implication of these two sets of figures is that minority freshmen who do not get financial aid must find outside jobs. Research evidence indicates that working more than half time has a negative effect on persistence, whereas working less than half time, particularly at an on-campus job, has a positive effect.*

Our analyses further indicate that receiving a grant not only contributes to the student's persistence but also gives the student a wider range of institutional options. Finally, the findings with respect to the effects of loans were inconsistent, perhaps because loan programs for college students have changed drastically since the early 1970s.

Bilingualism

The commission recommends:

- That federal and state policy makers examine the goals and outcomes associated with current bilingual education policy and practice, recognizing that no child should be forced to choose between educational opportunity and cultural identity.
- That along with pedagogical considerations, the historical and juridical facts supporting group claims to language rights and cultural continuity

* H. S. Astin and P. H. Cross, *Student Financial Aid and Persistence in College* (Los Angeles: Higher Education Research Institute, 1979).

should be kept clearly in view. The right of minorities to establish language and cultural objectives for themselves should be recognized in public policy, and processes should be fostered through which informed and responsible decisions about language and education can be made by the communities concerned.

- That colleges and universities more actively promote the broad-gauged, interdisciplinary, and historically grounded research necessary to inform a more rational, efficacious, and humane national policy concerning language and education.
- That elementary and secondary schools provide the instructional services and resources necessary to maintain and develop the language skills of children who enter school speaking Spanish or an Indian language, if these students or their parents request such services. This recommendation in no way relieves the schools of their responsibility for providing these students with a complete training in English.
- That researchers seek to identify the instructional methods, materials, and programs at both the precollegiate and postsecondary levels that contribute to student performance in school and promote the development of bilingual skills.
- That researchers seek to identify the barriers faced by college students whose command of English is limited as a result of poor instruction in the elementary and secondary schools or of recent migration to this country and to explore ways in which the educational achievement of these students can be facilitated. (The lack of research related to the needs and experiences of bilingual college students frustrated the commission's efforts to understand the dynamics of bilingualism at the postsecondary level.)
- That postsecondary educators recognize their responsibility for and commit themselves to furthering the development of bilingual skills among college students and, through their roles as teacher trainers, support and improve the job training of teachers already working at the elementary and secondary levels.
- That colleges and universities acknowledge and utilize the linguistic talents of bilingual students by providing them with the training and opportunities to work part time on community liaison and on student recruitment and orientation programs; by employing upper-division or graduate students to provide academic tutoring and personal counseling for new bilingual students who need such services; and by hiring and training students as tutors and teaching assistants in foreign language courses and as research assistants on projects concerned with studying language-related issues or with collecting data within bilingual communities. These kinds of opportunities benefit students as well as the

institution by enhancing student involvement in the college experience and by providing on-campus employment that is likely to be of greater interest and value than many other work-study jobs.

Rationale. Language is a vital component of personal identity, cultural continuity, and community cohesion for Chicanos, Puerto Ricans, and American Indians. While the commission recognizes that the acquisition of English-language skills is a prerequisite for full and effective participation in most aspects of U.S. life, including higher education, it fails to see why the acquisition of these skills should preclude a parallel acquisition of competency in the language of one's culture and community. Indeed, the commission would endorse the goal of achieving genuine bilinguality not just for Chicanos, Puerto Ricans, and American Indians, but for all U.S. citizens. The apparently learned disability with languages other than English that affects so many Americans is destructive of cross-cultural and international understanding and relationships.

It is important as well to acknowledge the roots of present language conflicts affecting Indians, Chicanos, and Puerto Ricans. The hostilities with Mexico, Spain, and various American Indian nations generally ended in formal treaties that in almost every case promised to respect these peoples' property, political rights, culture, and language; over the years, however, these peoples have often been exposed to unequal systems of education where English has been imposed as the language of instruction and where native languages have been excluded from the schools. This historical background needs to be kept in view, along with emergent international norms regarding minority language rights, in considering the legal bases for bilingual schooling and other public services in the United States.

Spanish is spoken in and is a vital feature of many U.S. communities and will be for decades to come.* The Hispanics are the fastest growing minority in the country, with an increasing number of dispersed regional concentrations. Substantial migration to the U.S. from Mexico, Puerto Rico, and other Spanish-speaking countries will continue, and the lives of many migrants will be characterized by a complex circulation pattern between the U.S. and their home countries. Survey results indicate very strong support for preserving Spanish and for bilingual education within Chicano and Puerto Rican communities. Knowledge of Spanish provides a concrete link to a rich and creative intellectual and political tradition of worldwide scope

* R. F. Macias, "Choice of Language as Human Right—Public Policy Implications in the United States," in *Ethnoperspectives in Bilingual Education Research: Bilingual Education and Public Policy in the United States* (East Lansing: Bilingual Bicultural Education Programs, Eastern Michigan University, Vol. I, 1979).

and, on a more immediate and practical level, allows people to be active and effective participants in their communities. The demand for young college-trained professionals, business persons, government employees, and service workers with a command of both Spanish and English is steadily growing.

Although an estimated 206 Indian languages and dialects have survived as living languages and a half dozen have 10,000 or more speakers, fifty or so have fewer than ten surviving articulators of the traditions they embody (Medicine, 1979).* Because each Indian language is a product and expression of a distinctive culture, recording and teaching an Indian language represents the preservation and transmission of a whole way of life—a particular mode of viewing and ordering the world and experience. Separated from the living cultures, the languages become essentially meaningless; separated from the languages, the cultures cannot long survive in depth. Thus Indian communities have repeatedly urged that their languages be taught in the schools and that the traditional mechanisms of transmitting these languages be revitalized where they have broken down. Indians in the United States today stand poised before the prospect of a new era in which a recovery of sovereignty and self-determination may be coupled with the command of resources that have the potential to put great wealth in the hands of some tribal governments. The opportunity and need to come to grips creatively with problems of education and language have never been greater.

Federal support for bilingual education dates from the late 1960s and addresses only the most elemental problem of an officially monolingual but linguistically diverse society: how to teach children who enter school with little or no knowledge of English. The Bilingual Education Act (1967) and subsequent state statutes allowed such children to receive instruction in their own language for a transitional period. Thus Spanish and Indian languages are permitted in the schools, but only as a means of facilitating the first steps toward learning English. The child who is proficient in a language other than English, but not in English, is summarily labeled as "language deficient." By 1980 nearly a billion dollars had been spent on remedial and compensatory programs that narrowly define eligibility for bilingual instructional services and seek to return students to regular classrooms as rapidly as possible.

The commission recognizes that government and school provisions for bilingual education, even in their most rudimentary form, are highly controversial, and that there are divisions of opinion about them within the

* B. Medicine, "Bilingual Education and Public Policy: The Cases of the American Indians," in *Ethnoperspectives in Bilingual Education Research: Bilingual Education and Public Policy in the United States* (East Lansing: Bilingual Bicultural Education Programs, Eastern Michigan University, Vol. I, 1979).

Spanish-speaking and Indian communities. It does not pretend to have greater insight into the best resolution of this controversy, nor does it recommend enforced bilinguality for students from these communities. It wishes to affirm its opinion that bilingualism is a strength, and that students who enter the nation's schools speaking some language other than English bring a talent to be developed, not a disability to be overcome. As stated in their value premises, the commission firmly believes that full access to and participation in education and in U.S. social and economic life is an incontestable right of each of these groups, and that exercising this right should under no circumstances require individuals to surrender their cultural distinctiveness, including language.

Graduate and Professional Education

The commission recommends:

- That federal, state, and institutional policy makers increase financial aid for minority students at the graduate and professional levels. In particular, every effort should be made to expand the number of assistantships available to minority graduate students, since this form of aid seems to intensify student involvement in graduate study, promote professional development, and strengthen the bond between student and faculty mentor.
- That federal, state, and private agencies consider implementing challenge grant programs, since such programs seem likely to increase the amount of financial aid available for minority graduate students as well as to strengthen institutional commitment to the goal of increasing minority enrollments.
- That graduate faculties be more sensitive and responsive to the need of minority graduate students to have more freedom and support in selecting research topics, choosing methodologies, analyzing data, and interpreting results, consistent with graduate standards.
- That graduate and professional schools make special efforts to increase their pools of minority graduate students and the presence of minority members on their faculties.
- That federal and state policy makers give increased attention to the nation's long-term needs for highly skilled academic, research, and technical workers. We believe that recent cuts in funding for advanced training programs based on actual or presumed short-term surpluses of personnel in certain fields are short-sighted, and that they disproportionately and unfairly reduce the opportunities of emerging minority scholars to contribute to the general good.

Rationale. Advanced education is an important route to positions of leadership in U.S. society. Despite some gains in the past decade, minority enrollments in graduate and professional schools remain low, lagging behind minority undergraduate enrollments and falling far short of White enrollments at the graduate and professional levels.

Data from the current project contribute to our understanding of the problems confronting minority students who pursue advanced degrees. Five factors were found to affect minority access to, participation in, and satisfaction with graduate and professional education.

First, financial aid is terribly important to minority graduate students and has become a critical issue because of declines in federal and private financial support in recent years. Our analyses revealed that financial aid facilitates entry to and persistence in graduate school. Respondents to the commission's survey of minority educators identified financial concerns as a major obstacle to graduate school attendance. A large proportion of the Ford Fellows said that receiving the fellowship award enabled them to attend the graduate schools of their choice and to stay in school once they had enrolled. The 1980 follow-up of 1971 freshmen indicated that minority respondents who had attended graduate school were far less satisfied with the financial aid counseling they had received than were their White counterparts. Almost as important as the availability of financial aid was its form. Teaching, administrative, and research assistantships that promote professional development are preferable to loans, which do little to encourage students to participate in the apprenticeship that is such an important aspect of the graduate experience.

A second important factor is the type of undergraduate institution attended. Analyses of the 1971–1980 data indicated that the minority student who completes the baccalaureate at a high-quality (that is, selective, prestigious, affluent) college has a much better chance of enrolling in and completing graduate and professional study than the minority student who attends a low-quality college.

Third, the environment of the graduate institution has a major impact on the minority student's participation in and satisfaction with graduate education. Survey respondents indicated that they were often uncomfortable with the cool, somewhat alien, environments of academic departments and research universities. Low minority enrollments and lack of institutional concern for minority students contributed to their sense of isolation and impeded their adjustment. A number of Ford Fellows commented that the inhospitable atmosphere of academic institutions, along with the prospect of taking a low-paying faculty position, contributed to their decision to seek employment in the private sector rather than in academe following degree completion.

Fourth, faculty expectations and attitudes constitute a significant part

of the graduate and professional experience of minority students. A large proportion of the Ford Fellows and of the minority educators said that they entered graduate programs feeling stigmatized by their race and ethnicity; minority respondents felt that faculty members all too often assumed that they had been admitted to satisfy affirmative action requirements and that they were less competent than White graduate students. The continual need to prove themselves angered them and contributed to their dissatisfaction with graduate study.

Finally, survey respondents and Ford Fellows reported that majority faculty often failed to acknowledge, let alone support, minority-oriented research interests and associated cultural values. As graduate students they faced constraints in their choices of research subjects and approaches and in drawing implications from their studies, because of negative attitudes, very specialized concerns, and methodological rigidity on the part of faculty. These sources of conflict contributed to the sense of alienation pervading these accounts of the graduate experience.

Minority Faculty and Administrators

The commission recommends:

- That colleges and universities seek to recruit and hire more minority faculty members, administrators, and student services personnel and make every effort to promote and tenure minority educators. Actions do indeed speak louder than words: no amount of rhetorical commitment to the principles of equal opportunity, affirmative action, and pluralism can compensate for or justify the current degree of minority underrepresentation among faculty, administrators, staff members, and students in higher education.
- That top administrators demonstrate their clear and unequivocal support of efforts to recruit, hire, promote, and tenure minorities. In many respects, the administration establishes the campus atmosphere or "tone." Thus, a visible personal commitment to change on the part of one or two senior officials can be critical in effecting increased minority representation on a campus.
- That colleges and universities make every effort to ensure that minority faculty members, administrators, and student personnel workers are represented in all types of positions at all levels within the institution. An unfortunate side effect of the effort to provide better services to minority students has been the creation of positions that are perceived and labeled as "minority" positions; often, minority staff are hired for part-time, short-term, nontenure-track jobs that are supported by "soft" funds from

outside the institution's line-item budget. Because they are isolated from the institutional mainstream, the incumbents of such jobs have little opportunity to influence institutional policies and practices, limited interaction with majority students, and few prospects for advancement.

- That colleges and universities revise their hiring and promotion criteria so as to recognize and reward a wider variety of accomplishments and types of service. Although we are certainly not the first to advocate change in the current review and promotion system, continued adherence to narrowly defined criteria tends to penalize minority staff members who, in trying to fulfill the multiple roles demanded of them, often have little time or energy left to devote to scholarly research and other traditional functions. Institutions that emphasize scholarly activity as a major criterion for promotion should consider establishing a junior faculty research leave program for those young faculty members who have taken on special advising and counseling duties.
- That state legislatures and state boards support administrative internship programs (such as the current state-funded program in the University of California and California State University and College systems) to develop and promote minority and women administrators in public colleges and universities.

Rationale. The commission's survey of 311 minority educators asked respondents to indicate what higher education institutions could do to better serve minority students. The most frequently endorsed recommendation was: hire, promote, and tenure minority faculty members, administrators, and counselors. We believe that this response reflects a recognition of the important functions that minority academics serve as role models; as advisors; as student advocates; as monitors of institutional policies and practices; as dedicated educators committed to educational excellence and equity; as scholars approaching traditional subjects and research questions with new perspectives or laying the intellectual foundations in emerging fields of inquiry; as ambassadors to the minority communities; and, in many cases, as newcomers unwilling to accept the status quo at face value. We also believe that their ranks are thin in number and junior in status and that the foothold they have gained in academe is threatened by institutional retrenchment, the "tenuring-in" of academe, union protectionism of seniority, and rising political, social, and economic conservatism.

In 1976, the National Center for Education Statistics reported that 92 percent of all full-time faculty and 95 percent of full-time faculty at the rank of professor were White. Just over a fourth (27 percent) of the White full-time faculty hold positions below the rank of assistant professor (for example, instructor, lecturer), compared with 44 percent of Black and Indian educators and 41 percent of Hispanic educators. According to recent survey results

reported by Florence Ladd, minorities are dramatically underrepresented among college and university presidents, executive vice presidents, and academic deans of predominantly White institutions.*

Government Programs

The commission recommends:

- That the federal government continue to play its leadership role in emphasizing access to higher education for all segments of society. In particular, federal programs in the areas of student aid, institutional support, and special interventions deserve continued support.
- That state and local policy makers, planners, and educators devote more attention to the factors that impede full minority participation in higher education. Federal funding should supplement, not supplant, state and local efforts to support a range of programs and interventions responsive to the needs of minority students.

Rationale. During the past fifteen years, the federal government has assumed major responsibility for the educational equity issues often overlooked by state and local governments. Evidence indicates that federal leadership in this area has contributed to increased minority participation in higher education, and that federal categorical programs—financial aid, institutional aid, and special interventions—have helped to move the higher education system somewhat closer to the goal of equal access.

The success of federal efforts often depends upon the willingness of state and local officials to administer and implement federally funded programs. Unfortunately, state and local performance has not always been consistent with federal priorities, and this discrepancy has had important consequences for minority groups. Local, state, and federal governments have a collective and equal responsibility for minority participation in higher education—a responsibility that does not diminish during times of fiscal stringency.

Minority Women

The commission recommends:

- That colleges and universities provide counseling services and personal support groups to assist minority women in overcoming the barriers that result from double standards and sex-role stereotypes.

* F. C. Ladd, "Getting Minority-Group Membership Top College Jobs," *Chronicle of Higher Education,* May 18, 1981.

- That colleges and universities provide science and mathematics clinics and special courses to help minority women make up for deficiencies in preparation in these subjects, so that these women will be able to consider a wider range of careers. These efforts should be additional to particular interventions at the precollege level.
- That institutions hire and promote more minority women as faculty, administrators, and staff.
- That institutions provide child care services on campus.
- That institutions make an effort to involve those minority women who live at home more fully in campus life—for example, by providing dormitory space or other facilities where these women can spend time interacting with other students.

Rationale. Sex differences in the choice of major field and in career aspirations transcend racial and ethnic differences, but in some instances, are more pronounced among minorities than among Whites. At all degree levels, women are more likely to major in allied health fields, the arts and humanities, and education, whereas men are more likely to major in business, engineering, the physical sciences, and mathematics. Further, although women tend to make better high school grades than men do, more female than male freshmen—and especially minority female freshmen—express a need for special remedial assistance in science and mathematics. Data on earned degrees indicate that minority women are even more poorly represented than White women among those receiving degrees in engineering, physical sciences, and mathematics.

Minority women are heavily concentrated in the field of education. In 1975–76, 8 percent of White women receiving baccalaureates were education majors, in contrast to 24 percent of Hispanic women, 31 percent of Black women, and 32 percent of American Indian women. At the master's level in 1978–79, half of the White women (52 percent) and the Hispanic women (53 percent), 57 percent of the Indian women, and 66 percent of the Black women received their degrees in education. At the doctorate level, about a third of the White and Hispanic women, half of the Indian women, and two-fifths of the Black women earned their degrees in education. Clearly, if minority women are to have access to a wider range of positions and occupations, their current patterns with respect to undergraduate majors must change.

Finally, responses to the survey of minority educators indicate that minority women suffer from sex-role stereotypes and conflicts engendered by multiple-role demands.

Data Pertaining to Minorities

The commission recommends:

- That all federal, state, and other agencies concerned with collecting and reporting data on minorities replace the "Hispanic" category with specific categories that separately identify Chicanos, Puerto Ricans, and other Hispanic groups.
- That, wherever possible, data on Puerto Ricans residing in the United States be reported independently of data on those whose homes are in Puerto Rico.
- That since the designation "American Indian" is ambiguous, and since survey respondents who identify themselves in this way frequently change their response on subsequent surveys, persons who indicate that they are American Indians be asked for further specific information—that is, to specify their tribe or band.
- That all sample surveys strive to oversample minorities, especially the smaller groups—for example, Chicanos, Puerto Ricans, and American Indians.
- That the U.S. Bureau of the Census hire and train more minority census takers and researchers to develop and administer questionnaires and to analyze and interpret the results of Census Bureau surveys.
- That the officials responsible for public higher education in each state institute a comprehensive data system for tracking and monitoring the flows of minority and nonminority students through the community colleges, baccalaureate-granting institutions, and graduate institutions in the state.

Rationale. The success of any attempt to understand the educational problems of minorities or to develop appropriate remedies for these problems is heavily dependent on the quality of the available data. Most sources of data used in this project were seriously flawed; in certain instances, data pertaining to a given issue were simply not available.

Considering the importance of minority issues in our society and the fact that the special educational problems of minorities are far from solved, the costs of improving the quality of existing data and of filling gaps where additional data need to be collected are trivial. With no or very modest funding, the recommendations listed above could be implemented immediately.

Evaluation of Minority-Oriented Programs

The commission recommends:

- That public and private agencies funding minority-oriented programs

require that all proposals for such projects include an evaluation component, and that they earmark a certain fraction of the project funds for such evaluation.

- That funding agencies view the results of evaluation studies as a means of improving and strengthening programs, and that they communicate this view to those involved in operating the programs.

Rationale. Evaluation should be a key component of any minority-oriented program, not only because well-designed evaluative research provides vital feedback to guide both program personnel and funding agencies but also because objective evidence of program efficacy can serve to protect the most effective programs in times of budgetary austerity.

It is an understatement to say that the commission was frequently frustrated by the lack of hard evidence concerning the effectiveness of the many programs that have been undertaken to facilitate the progress of minority students in higher education. While impressionistic and anecdotal evidence supplied by the people responsible for running the programs suggests that many of these programs have been useful, systematic objective evidence on program impact is rarely available.

The commission believes that better data on program outcomes will be helpful to funding agencies as they develop plans for future support of minority-oriented programs. Even more important, it will help program personnel as they strive to improve existing programs and design new ones.

The people responsible for operating minority-oriented programs are often indifferent or resistant to systematic evaluation. These attitudes have some basis in reality. In the first place, program staff generally lack the expertise needed to design and implement evaluative studies. Further, evaluation tends to consume limited resources. And finally, program staff are inclined to view evaluation as a threat because it can generate data that might lead others to conclude that the program is not worthwhile. Considering that program staff are almost by definition committed to the belief that their programs are useful and effective, they see themselves as having little to gain and potentially much to lose from program evaluation.

Unfortunately, these defensive attitudes prevent many funding agencies, as well as program personnel, from viewing evaluation as a potential benefit—a source of information to guide them as they develop and refine their programs and as they strive to develop proposals for new programs. Ongoing evaluations, for example, can be very useful in providing funding agencies with information on such matters as the following: elements of the program that might be expanded or elaborated because they seem to be most effective; elements of the program that seem to be least effective and thus need to be changed or eliminated; types of students who benefit most

from the program; unforeseen or unplanned outcomes of the program; and the effectiveness of the program compared with the effectiveness of traditional or standard programs.

Further Research on Minorities

The commission recommends:

- That officials in private and state agencies, as well as in the federal government, give priority to minority-oriented research in allocating their increasingly limited funds. These funding sources should aim to establish a process whereby a broad-based and sustained consultation about information needs and issues in higher education can take place within minority communities. Scholars from these communities should have a leading role in efforts to combine imaginatively the talents and energies present within these communities for the purposes of generating research agenda and priorities, carrying out research, and implementing the action implications flowing from these studies.
- That the following specific topics be given much more thorough study:
  a. factors affecting attrition from secondary school;
  b. the quality of education received in secondary schools with predominantly minority enrollments;
  c. the effectiveness of programs for improving articulation between secondary schools and higher education institutions;
  d. factors affecting minority students' decisions to pursue careers in natural sciences and engineering;
  e. factors affecting minority access to the more prestigious institutions;
  f. factors affecting minority attrition from undergraduate study;
  g. the impact of alternative financial aid programs on the achievement and persistence of minority students;
  h. factors affecting the success of community college students who aspire to the baccalaureate;
  i. the importance of sex differences within minority groups;
  j. ways to develop the talents and skills of adults living in minority communities who have not had prior access to educational opportunities.
- That public and private funding agencies give serious consideration to providing relatively long-term support for programmatic research on minorities. Given the importance of longitudinal research in furthering our understanding of issues related to the higher education of minorities, what is specifically needed is a periodic longitudinal study that will make it possible to monitor the flows of minorities through the educational

system and into the workforce, to evaluate the impact of special minority-oriented programs, and to identify educational policies or practices that facilitate or inhibit minority progress through the system. Such a study should begin during the secondary school years (or at the latest by college entry) and should be replicated on a regular basis at least every four years.

Rationale. These recommendations are based on the commission's understanding of prior research efforts as well as on its direct experience in conducting research for this project. They are meant to complement the recommendations regarding data and evaluation. Given the current efforts to reduce federal support for research in education and in the social and behavioral sciences, pressures for funding further research on minority education will fall heavily on private and state agencies.