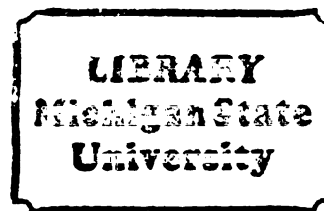




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A handwritten signature in cursive script, appearing to read "George W. Fairweather".

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MINORITY EARNED DOCTORATES IN PSYCHOLOGY:
EFFECT OF INSTITUTIONAL VARIABLES

By

Isidore Flores III

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1985

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ABSTRACT

MINORITY EARNED DOCTORATES IN PSYCHOLOGY: EFFECT OF INSTITUTIONAL VARIABLES

By

Isidore Flores III

The yearly percentage of minority earned doctorates in Psychology hasn't increased appreciably since 1978. In that year, minorities comprised 3.1 percent of APA doctoral members according to APA's 1978 Human Resource Survey (Russo, Olmedo, Stapp, & Fulcher, 1981; Stapp & Fulcher, 1981). That same year saw 6.8 percent of all Psychology earned doctorates going to minorities (NRC, 1979). The latest figures, for 1983, indicate that 8.3 percent were earned by minorities (NRC, 1983). Painfully slow improvement in the face of what Russo et al. (1981) termed "continuing severe underrepresentation of minorities."

Sixty-three institutions were randomly drawn from the entire population of college and university Psychology departments offering the Ph.D. degree in the United States. Excluded from this population were those departments that offered graduate degrees in community, community/clinical, applied social, applied experimental, or program evaluation; professional schools; and departments with extensive prior contact with the Ecological Psychology program at Michigan State University.

The percentage of minority earned doctorates at a college or university is used as the outcome measure. Only

U.S. citizens and permanent residents are included. Since the numbers of minority doctorates produced in a single year by any one institution can be quite small, the doctoral graduates for schools in the sample were collapsed across the four inconsecutive years for which data exist: 1975-76, 1976-77, 1978-79, and 1980-81.

The outcome measure was correlated with each item using the Pearson product-moment correlational coefficient. The entire data set was also cluster analyzed (Tryon, 1970) to assist in describing general interrelationships among various historical, demographic, organizational, and process variables.

The most interesting findings are that minority populations are associated with higher percentages of minority earned bachelor's degrees, but not doctoral degrees; departments associated with higher percentages of minority earned doctorates offer greater numbers of minority considerations but may exist in states with lower percentages of minority earned bachelor's degrees; and that older, large Psychology departments connected well to APA and existing in large urban institutions are associated with greater percentages of earned minority doctorates, but Psychology departments in large, old public and land grant institutions are not.

To my mother

ACKNOWLEDGMENTS

George W. Fairweather, the chair of my committee, was generous of his time and guidance throughout the span of this effort. Charles D. Johnson, the chair of my Master's committee and member of this committee, has been constantly supportive from the start of my graduate career. Esther O. Fergus and Andrew M. Barclay, the other members of my committee, have been helpful in many ways. Brian Mavis was a valuable reference source.

Thanks folks!

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INTRODUCTION

Factions distressed with inequality based on sex, race, and culture have existed since the beginnings of recorded history. In this country, attempts to rectify the disparity of opportunity and resources wrought by the mechanisms of colonization, slavery, ethnocentricity, and male dominance have taken various forms. Present forms of these attempts include the affirmative action policies and programs that are encountered daily.

A widely held belief maintains that the most effective weapon against social inequality is education. Who would argue that individuals who have lived the dark side of the American Dream cannot make as viable a contribution to the alleviation of inequality as those more fortunate? All manner of qualified, interested individuals must be trained to take their place as educators and help society to realize the folly of stereotypes and the injustice of inequality.

The present study concerns the topic of graduate education as it relates to minorities. These sub-population groups have always been underrepresented proportionately among holders of doctoral degrees. The reasons for this are varied and call for observation and

measure. This study approaches the issue by attempting to discover variables correlated with producing greater percentages of minority earned doctorates from Psychology departments. In so doing a basis for experimental hypotheses is generated.

To aid in understanding the current relationship of minorities to graduate education, an historical perspective is important. Although the minority groups that are currently addressed by affirmative action efforts are blacks, hispanics, native americans and asian/pacific islanders, a short history of only the largest minority group in higher education is presented. Early on, blacks and their supporters organized to fight injustice in many areas of society and won court battles that affected the position of all minority groups.

Bowles and DeCosta (1971) relate that prior to the Civil War, only twenty-eight (28) blacks had received baccalaureate degrees from American colleges. The earliest graduates were in 1826. They were Edward Jones from Amherst College and John Brown Russwurm from Bowdoin College. Russwurm, along with Samuel Cornish, began editing the first black newspaper, Freedom's Journal, in 1827. Although small in number, this pioneering group of college graduates illustrated the point that blacks were equal to the academic task. They provided the foundation for the attitudes of those who worked for the higher education of minorities after the Civil War.

Attempts to establish institutions of higher learning for blacks came as a result of the failure of Northern colleges to admit blacks in satisfactory numbers. The early efforts to establish such institutions were largely unsuccessful. This period began in 1817 with the founding of a school in Parsippany, New Jersey. This and all succeeding attempts failed until the establishment of Ashmun Institute, now Lincoln University, in Pennsylvania in 1854. This institution, established by the Presbyterian Church, and Wilberforce University, founded by the Methodist Episcopal Church in 1856, were the only black colleges established prior to the Civil War.

These two churches and other large church and missionary groups cooperated with philanthropists and the federal government to establish more of these institutions in the South immediately after the Civil War. In addition to the Presbyterians and the Methodists, the Baptists and Episcopalians along with the Congregationalists, who worked mainly through the American Missionary Association, were active in this endeavor. During this age of philanthropy, several large educational foundations were established that had a significant impact on the historically black college; included are The Peabody Education Fund established in 1867 and the John F. Slater Fund which was founded in 1882 specifically for the benefit of education among blacks (Franklin, 1974). On March 3, 1865, President Lincoln signed into existence the Bureau of Refugees, Freedmen and

Abandoned Lands. The Freedmen's Bureau, as it became popularly known, had its greatest impact in education even though it stopped doing work in this area by 1870. Public higher education for blacks was initiated by the Morrill Act of August 30, 1890; better known as the Second Morrill Act. It specified that each of the 17 Southern and border states were to set up a land grant college for blacks.

The result of all of this church, philanthropic, and government activity was the period of the most rapid growth in the history of black colleges in America.

Although the thirty years following the Civil War saw the majority of the presently existing black colleges established, degree graduates did not reach appreciable numbers until later. The reason is that most of these institutions first had to prepare their students for collegiate courses since the South had been slow in providing public high schools for the education of black children. Nearly all of the colleges had preparatory departments that were larger than their collegiate departments. By 1895, it is estimated that 1,151 had graduated from these 34 colleges. Up to this same year, another 228 had graduated from 107 other colleges. Oberlin College, an anti-slavery stronghold, graduated 100 of these (Du Bois & Dill, 1910, pp.42-51).

The Supreme Court decision in Plessy v. Ferguson (163 U.S. 537), 1896, involving train coaches, rather than education, hindered the rate at which qualified black

applicants in significant numbers would eventually become available to graduate and professional schools. It stated that a Louisiana law providing for racially separate coaches was not in conflict with the equal protection clause of the Fourteenth Amendment. This established the separate-but-equal doctrine that was used by Southern society to segregate blacks and not provide equal facilities or resources. "Legally, blacks were 'free and equal citizens' for only thirty-one years between periods of enforced slavery and enforced segregation, from 1865 to 1896" (Fleming, Gill, & Swinton, 1978, p. 18). This only reinforced the de facto isolation of blacks in higher education already present by the establishment of the black colleges.

These colleges were initially staffed by white teachers from the North and a few Northern educated blacks, but their graduates took on faculty roles through replacement and expansion. This led to a pervasive lack of communication between the white and black colleges; a lack of information from which the black colleges could adjust their standards to the white institutions (Bowles & DeCosta, 1971). Hence, the graduate schools remained almost inaccessible to black college graduates; in the South due to legalized segregation, in the North due to financial, geographic, and academic impediments.

These academic problems continued until the 1930's when the Southern Association of Colleges and Secondary Schools

began systematically cooperating with the black colleges in setting up requirements for full accreditation. A 1928 survey of black college standards, in comparison with then current accrediting standards conducted by the U.S. Office of Education, was used as a basis. This was a significant action since 38,000 blacks were in college in 1933; ninety-seven percent in Southern black colleges (Franklin, 1974). It would be erroneous to imply that these accreditation actions would totally dispel the academic problems of black colleges, but they could now begin to close the "standard gap," even though it would take until 1957 to finally get the Southern Association of Colleges and Schools to admit the black colleges into membership (Bowles & DeCosta, 1971). Aside from the "standards" question, another situation that would take time to overcome was that these colleges, for the most part, had no experience in preparing students for graduate and professional schools; their experience was in preparing students for the teaching and related professions (Bowles & DeCosta, 1971).

The continued academic improvement of the black colleges would be one of the major factors leading to large numbers of qualified black applicants becoming available for graduate and professional schools. Two other factors were also of major importance: the migration of blacks out of the South, and the legal efforts of the National Association for the Advancement of Colored People (NAACP).

Geographic considerations limited the availability of the less racist Northern institutions to blacks, but their steady migration from the South did much to overcome this barrier. In 1940, the black population outside the old Confederacy was about four million. By 1970, it had grown to over eleven million. This was about half of the entire black population of the United States at that time (Franklin, 1974).

The NAACP sought to eliminate segregated education by systematically attacking the "separate but equal" doctrine established in Plessy v. Ferguson. These legal efforts began in the 1930's with court battles over admission of blacks into the white graduate and professional schools of the South, and culminated with the Brown v. Topeka Board of Education Supreme Court decision in 1954 (347 U.S. 483) which unequivocally outlawed segregated public schools by holding that the "separate but equal" doctrine had no place in the field of public education.

Four cases had particular import for the desegregation of white graduate and professional schools in the South. By 1935, several Southern states had appropriated funds for black student graduate training. However, these funds would only become available to them if they attended institutions outside of their states of residence (Franklin, 1974). The 1938 Supreme court decision in Gaines v. Canada (305 U.S. 337) found that the practice of paying the tuition for a black if s/he went out of state

was not in compliance with the equal protection clause of the fourteenth amendment.

In the *Sipuel v. Oklahoma* (332 U.S. 631) decision of 1949, the Supreme Court was stronger in making the point. The court held that Sipuel was denied admission to the University of Oklahoma Law School, although admittedly qualified, because she was black and that the state must provide her with a legal education in conformity with the equal protection clause of the fourteenth amendment and do it as soon as it did for applicants of any other group.

Sweatt v. Painter (339 U.S. 629) involved the hasty and inadequate attempt by the University of Texas Law School to establish "separate but equal" facilities for blacks. The Court ruled that the facilities did not approximate equality and that Sweatt was to be admitted into the regular facilities.

McLaurin v. Oklahoma State Regents (339 U.S. 637) pertained to the issue of segregation within facilities. McLaurin was made to sit apart in class and lunch rooms through such devices as rope barriers and ante-rooms. The Supreme Court said that these arrangements were not providing "substantial equality" and that he had to be integrated in all facilities of the university.

The combined effect of the Supreme Court decisions that opened white graduate schools in the South, the raising of academic standards in historically black colleges, and the out migration of the black population from the South

brought graduate education within the grasp of the black community.

The civil rights movement of the 1960's provided the impetus for an accelerated enrollment of minorities in the nation's graduate schools. The hard won Civil Rights Act of 1964 and Lyndon Johnson's follow-up Executive Order 11246 in September, 1965, establishing the general policy of "affirmative action" provided opportunities for minorities in many areas including graduate education. Indeed, the numbers of black and other minority graduate students steadily grew through the mid 1970's.

This trend began to reverse itself in the late 1970's because of events that stifled the civil rights movement. Misperceptions and unfounded assumptions slowly began to cloud the general policy issue of affirmative action and federal court rulings began to limit some of the advances they had previously had a part in creating.

Advocates of affirmative action believe that a systematic, exclusionary process has worked to keep minorities from equal opportunity. They want "merit evaluation," in the spirit of Johnson's executive order, used to determine such issues as which applicant gets a particular job, or is admitted to graduate school. If all applicants are equally qualified and a history of discrimination is evident in a setting, preference should be given to the minority. On the other hand, adversaries suggest that minorities have lower levels of talent,

energy, ambition or aspiration and conclude that qualified minorities are not available. They assert that preference is given to minorities even though white males are better qualified (Sells, 1974).

In 1970, the federal courts established the use of court ordered quotas to remedy the effects of past and repeated discrimination. In a different vein, overzealous businesses and universities heavily dependent on federal funds had been using quotas, instead of goals, as a quick way to conform to federal government expectations and to avoid charges of discrimination. Adversaries focused their arguments on the quotas issue to bolster their attack against affirmative action. The Supreme Court in *DeFunis v. Odegaard* (416 U.S. 312) made the point that segregated admissions procedures stigmatize minorities and suggest caste, and carry the assumption that minorities cannot make it on their own merits. The court later elaborated the point in *Bakke v. The Regents of the University of California* (438 U.S. 265) and ruled that any criteria employed by a state or its agencies that violates the "equal protection" clause of the fourteenth amendment is prohibited because it suggests that one group is not equal to another. The decision allowed preferential treatment of minorities as a means of remedying past societal discrimination as long as those remedies were consistent with the fourteenth amendment. Although quotas could not be used to fill positions, goals could be used. The

decision left intact the right of courts to use quotas when the courts themselves determined that repeated discrimination had occurred.

Growing confusion brought on by advocate/adversary controversy, the case of *Defunis v. Odegaard* which Taylor (1976) described as epitomizing the sentiment against affirmative action, and the Bakke decision had a negative effect on the momentum of the civil rights movement as it related to higher education. The result was fewer minority enrollments in the nations graduate schools.

The Problem

In Psychology, the yearly percentage of minority earned doctorates has not increased appreciably since 1978. In that year, minorities comprised 3.1 percent of APA doctoral members according to APA's 1978 Human Resource Survey (Russo, Olmedo, Stapp, & Fulcher, 1981; Stapp & Fulcher, 1981). That same year saw 6.8 percent of all Psychology earned doctorates going to minorities (NRC, 1979). The latest figures, for 1983, indicate that 8.3 percent of doctorates in psychology were earned by minorities (NRC, 1983). Painfully slow improvement in the face of what Russo et al. (1981) termed "continuing severe underrepresentation of minorities."

The current study is concerned with discovering variables correlated with producing greater percentages of minority earned doctorates from Psychology departments. A better understanding of these factors could help direct

policies to increase the numbers of minority earned doctorates in Psychology as well as in other areas.

Hypotheses

The federal government initiated its support of higher education with the Morrill Acts of 1862 and 1890. Public lands were donated to states to be used (or sold and the funds used) for the establishment of public colleges. Funds were also authorized to support these land grant institutions. The concept of federally supported higher education connotes the idea of a more equal opportunity for all. Hypothesis 1: "Land Grant" institutions produce a greater percentage of minority earned Psychology doctorates.

An older institution would necessarily have a greater historical perspective to its character. Its traditions and procedures would have "stood the test of time" and would therefore be less susceptible to what could be viewed as short lived societal demands for changes in its recruitment, admission, and operating policies. Hypothesis 2: The older a university, the smaller the percentage of minority earned doctorates in Psychology.

Public institutions are less dependent on tuition and fees since they are subsidized by the tax-payers. By the same token, they are expected to stay more in financial reach of those that support them. Since minorities are over-represented among the poor, one could argue that they would more readily attend these institutions.

Hypothesis 3: Public institutions produce a greater percentage of minority earned Psychology doctorates than do private universities.

The same argument regarding limitations on rapid change that has been made for older departments can also be made for older educational institutions. An historically determined perspective would make it less likely that the older department would change its ways of doing things to accommodate what could be perceived as short term demands from a small segment of the society. Hypothesis 4: The older a department, the lower the percentage of minority earned doctorates.

Minorities tend not to be evenly distributed among all areas of graduate study. This phenomenon may also be present within an academic area. If this is the case, a department that offers a greater number of graduate programs would have a better chance of attracting minority students. Hypothesis 5: The more programs a department offers, the greater the ratio of minority earned doctorates.

The middle and upper classes of this society produce most of the college population. Individuals that come from environments that do not usually produce college students might be more interested in socially oriented issues than the typical college student since a larger social difference exists between home and college environments. This difference may act to instill a sense of resolve in

these individuals to try to do something about social problems and inequities. A department that offered more socially oriented programs would attract more minority graduate students. Hypothesis 6: The greater the social orientation of a department's programs, the greater the ratio of minority earned doctorates.

Government, as the representative will of the people, is expected to be responsive to societal demands. A present day demand is that it use its control of the public purse to fulfill its social responsibilities to the poor and socially disenfranchised. One would expect that a state government would try to influence public institutions to be more responsive to the education of minorities and be most effective with the ones closest to it. Hypothesis 7: The nearer an institution to its state capitol, the greater the ratio of minority earned doctorates.

Outmigration from the South presented opportunities for blacks to become undergraduates and prepare for graduate school, but it did not necessarily eliminate the geographic inaccessability of graduate programs. Because the nature of graduate study makes applying to a graduate program a very selective matter, one may find themselves accepted to a program some distance from home. Poor people could find it difficult to attend a school far from home. Initial transportation costs and those projected for visits home would weigh into the decision to go away to school. Even daily transportation costs could prove a hardship in many

cases. Hypothesis 8: The greater the percentage of minorities living in close, geographic proximity to the institution, the greater the percentage of minority earned doctorates.

Even if the campus is geographically accessible to minorities, the department may not be viewed as academically accessible. A probable effect of the societal treatment of minorities is a heightened susceptibility to disproportionate feelings of inadequacy. A department with a good reputation may not necessarily be considered desirable by a minority student. The cultivation of institutional prestige carries with it the notion that well prepared, bright students would be likely classmates and competitors. The minority person may not wish to locate in a department in which s/he may feel unwanted or insufficiently prepared. If there is also a perception among perspective minority applicants that a good percentage of their fellow students are likely to be financially secure, visions of an uncomfortable social atmosphere are added.

A limited number of minority applicants would lessen the number of minority students enrolled and that would eventually graduate. Hypothesis 9: The more academically prestigious a department, the lower the percentage of minority earned doctorates.

Psychology graduate programs may or may not exhibit flexibility in their attempts at affirmative actions. For

most programs, traditional predictors of success in graduate school have proven less than adequate, but the same formulas have continued to be used in reviewing applicants because less traditional credentials are not normalized across the population and therefore tend to be subjective. The emphasis on affirmative action has worked as a catalyst toward expanding the set of predictors for many programs. The exceptions include the most prestigious of institutions which see "creaming" as an answer to the call for affirmative action.

A ubiquitous reason given to slow affirmative action progress is that qualified applicants do not exist. This indeed appears to be true in many academic areas. The social sciences, and more specifically Psychology, is not among them. Adequate numbers of minority Psychology undergraduates are noted in national figures.

Aggressiveness in seeking out prospective minority applicants would logically act so as to increase the number of actual minority applicants to graduate programs. Some institutions may not need to expend resources in this direction, but others may need to although they may not realize it. Still others may recognize the need, but feel constrained by limited resources.

Affirmative action activities may depend upon the general fiscal well being of a department. Newly funded programs and positions may not have time to be fully accepted or incorporated into regular university life

before budget cuts pare them. This may erase whatever affirmative action gains a department makes.

These reasons may singly, or in combination, be responsible for the lack in progress toward overall equity in Psychology graduate program participation by minorities.

Hypothesis 10: The more accommodating a department in actions advantageous to the admission and retention of minorities, the greater the percentage of minority earned doctorates.

It would appear that the greater the heterogeneity of students and faculty at a university, the more tolerant the atmosphere for minorities and their concerns. This would probably be reflected best in the divergency of departments and courses and the numbers of faculty, administrators and students. The diversity of an institution may be a factor in attracting minority students and keeping them.

Hypothesis 11: The more diverse an institution, the greater the percentage of minority earned doctorates.

METHOD

The present study was conducted in coordination with a national study which aimed to identify experimentally the social and institutional processes and conditions that determine the adoption of a new Psychology graduate program (Fairweather, Fergus, & Mavis, 1984).

The National Experiment

Subjects. The entire population of college and university Psychology departments offering the Ph.D. degree in the United States was considered for the sample, with the exception of those departments that offered graduate degrees in community, community/clinical, applied social, applied experimental, or program evaluation. A second group which was excluded were professional schools, since they are not typical Psychology graduate programs. Finally, departments with extensive prior contact with the Ecological Psychology program at M.S.U. were also eliminated from the study. The remaining 125 departments were used as the sample for the Fairweather, et al. study.

Research Design. The research called for a 2 X 2 X 3 X 5 control group design. Treatment conditions included meetings involving Faculty Presentation vs. Faculty & Student Presentation; Spring of the Year vs. Fall of the

Year meetings; High, Medium or Low Prestige of Target University. Five Follow-up Interviews were used to assess the results.

Stratifying according to prestige involved using a non-published measure since available studies did not include all of the departments found in the sample. The designated prestige score of a department was the mean number of faculty publications in seventeen American Psychological Association sponsored journals in 1979 (see Appendix A for a list of these journals) plus authorships reviewed in the 1975-79 volumes of Contemporary Psychology. Co-authorships were treated as separate publications as were published commentaries and brief notes. Articles published from dissertations were credited to the institution where the research was conducted.

The departments were then rank ordered and equally divided into high, medium, or low prestige. From within each prestige level, one of each pair of consecutively ranked departments was randomly assigned to either the experimental or control group with the other of the pair assigned to the other group. After this procedure was performed for all three prestige levels, those within each level in the experimental group were assigned randomly to either the Faculty Presentation or the Faculty & Student Presentation condition. Attendance by a faculty representative of a department at either the Spring or Fall meeting date was determined by that participant's

availability; both types of meetings were held at each of those times of the year.

The Present Study

Subjects. The present study uses as subjects the 63 institutions in the experimental condition.

Instruments. Some of the data gathered through a number of the instruments developed for the national experiment is used.

Following is a list of instruments and sources used in the national study:

- Vitae of Faculty Agreeing to Attend a Meeting
- Records of Telephone Interaction
- 1981 American Psychological Association Directory
- Faculty Questionnaire
- Chairperson Questionnaire
- The American Psychologist
- Graduate Study in Psychology by the American Psychological Association, 1980-81
- Smithsonian Science Information Exchange
- Cox & Catt's Report on Productivity
- Roose & Anderson's Reputational Ratings
- Morgan, Kearney & Regen's Assessment
- Conference Board of Associated Research Council's Assessment
- University Graduate Catalogs
- National College Databank
- Baron's Profiles of American Colleges
- American Library Directory
- National Center for Educational Statistics
- Academe Report on the Economic Status of the Profession
- U.S. Census Bureau Data
- Follow-up Interview
- 21 Month Follow-up Questionnaire
- Site Visit Questionnaire
- Post Colloquium Dictation

From the sources mentioned above, data were collected and organized accordingly. Some of the data gathered and

organized by using the following worksheets specifically relate to this study.

The University Catalog Data Form (UCD) compiles institutional demographic data gathered from university catalogs and bulletins. It includes descriptions of major academic divisions, research and service units, and units that specifically relate to urban/community/rural affairs or studies. In addition, it denotes the number of professional schools and graduate degree programs. Also, the year the institution was founded, the city or town in which it is located, and its distance from the state capital are included. (See Appendix B)

The University Data Worksheet (UDW) supplements the UCD with information gathered from various other sources. It takes data on enrollments, and numbers of administrators and deans from the Yearbook of Higher Education 1980-81. From the National College Databank, it takes information on flexibility in class scheduling, helping programs, and various freshman class, academic demographics. Information is taken from Baron's Profiles of American Colleges on gender enrollments, applied/accepted breakdowns at the graduate and undergraduate levels, and test scores from entering undergraduates. Also, various information on the institution's library is gathered from the American Library Directory, 33rd Edition. (See Appendix C)

The Graduate Study in Psychology (GSP) instrument takes selected information from the publication of the same name

by the American Psychological Association. It includes various information related to department offerings, accreditations, admissions flexibility, applicants, degrees granted, and financial aid. (See Appendix D)

A National Center for Educational Statistics (NCES) data tape provided information on an institution's land grant status, whether it is publicly or privately held, the total number of university faculty, and the total undergraduate as well as graduate enrollment.

The American Psychologist (AP) journal was surveyed from 1976-80 for numbers of officers, representatives, board members, and committee members in order to measure a department's professional ties to the American Psychological Association.

The 1980 U.S. Census (USC) was used for information in respect to minority population ratios.

Outcome measure. The following documents were used as the source for the outcome measure: four yearly reports entitled Data on Earned Degrees Conferred by Institutions of Higher Education by Race, Ethnicity, and Sex (DED). The U.S. Department of Education's Office for Civil Rights generates and makes available earned degrees data from the Higher Education General Information Survey (HEGIS) which is conducted by the National Center for Educational Statistics. All institutions that receive Federal financial assistance are required to participate in this annual survey .

DED reports are the only relatively complete source of earned degrees data by institution, ethnicity, and gender generally available on a continuing basis. Unfortunately, budgetary constraints have forced changes in the original plan for year to year production of these reports and their timely dissemination.

The logical outcome measure for the effects of process variables leading to equitable, proportionate representation of minorities in graduate program applicant pools, their admission to graduate programs, and their retention is the percentage of minority earned doctoral degrees.

Procedure. Since the numbers of minority doctorates produced in a single year by any one institution can be quite small, the doctoral graduates for each college and university were collapsed across the four years for which DED data is available. The four years are inconsecutive. These academic years were: 1975-76, 1976-77, 1978-79, and 1980-81. Only U.S. citizens and permanent residents were included.

The outcome measure was correlated with each item measure using the Pearson product-moment correlational coefficient. A $p < .05$ level of significance was expected. These data, as well as other collected data, were also cluster analyzed to assist in describing general interrelationships among various historical, demographic, organizational, and process variables.

In a cluster analysis of variables, composite groups of similar variables are objectively formed so that groups are similar within themselves but different from the other groups. The analysis is based on the property of collinearity in that the definers of a cluster fall on the same line, i.e., are collinear. "Generally, collinearity is defined by the line graph of the correlation coefficients of two variables with all the variables in the study, their correlation profiles. Collinear variables have the same profile of correlations....Clusters of collinear variables have two objective characteristics of similarity: they correlate positively with each other, and they follow the same pattern of correlations with other variables. They also are objectively different from other clusters of collinear variables because their common correlation profiles have a different shape from that of other clusters" (Tryon and Bailey, 1970, p. 47).

A measure of relational strength and direction between clusters was also obtained by computing the interdomain correlations. This is an estimate of what the correlations would be among the clusters if a great many additional samples of variables were drawn that were collinear with the observed set. This is a more important technique than finding the simple correlation between cluster scores since these scores would be subject to sampling error.

Each hypothesis, along with the items used to measure it, is indicated below. Items are followed by the

previously specified abbreviation for the instrument or source from which it was taken and/or calculated. In some cases, a more involved description of a measure's derivation is presented:

- H1. "Land Grant" institutions produce a greater percentage of minority earned Psychology doctorates.

Whether a "Land Grant" institution (NCES).

- H2. The older an institution, the smaller the percentage of minority earned doctorates in Psychology.

Date university founded (UCD).

- H3. Public institutions produce a greater percentage of minority earned Psychology doctorates than do private universities.

Present status; public or private (NCES).

- H4. The older a department, the lower the percentage of minority earned doctorates.

Year department established (GSP).

- H5. The more programs a department offers, the greater the ratio of minority earned doctorates.

Total number of programs in the department (GSP).

- H6. The greater the social orientation of departmental programs, the greater the percentage of minority earned doctorates.

Each department was assigned an overall social orientation score. Each departmental program (GSP) was first assigned a value of one, two, or three (three was high) according to the degree it was seen as socially oriented. Values were then summed and divided by the total number of departmental programs. This comprised the overall social orientation score. The list of the types of departmental programs encountered and

categorized according to this social orientation scheme is included as Appendix E.

- H7. The nearer an institution to its state capitol, the greater the percentage of minority earned doctorates.

Distance in miles to state capitol (UCD).

- H8. The greater the percentage of minorities living in close, geographic proximity to the institution, the greater the percentage of minority earned doctorates.

- A. Population of the city, U.S. Bureau of the Census determined urban area, county, Standard Metropolitan Statistical Area, or Standard Consolidated Statistical Area (whichever are applicable) in which the university is located (USC).
- B. Minority population of the city, U.S. Bureau of the Census determined urban area, county, Standard Metropolitan Statistical Area, or Standard Consolidated Statistical Area (whichever are applicable) in which the university is located (USC).
- C. Population of the state in which the university is located (USC).
- D. Minority population of the state in which the university is located (USC).

- H9. The more academically prestigious a department, the lesser the percentage of minority earned doctorates.

- A. Percentage of faculty involved in American Psychological Association (APA) matters.
- B. Scale score derived from four highly correlated measures of prestige.
 - Mean number of publications per faculty member in the department (Cox and Catt, 1977).
 - Prestige ranks based on mean and total publications reported by departmental chairpersons (Roose and Anderson, 1970).
 - Mean number of citations noted in the Social Science Citations Index (Endler, Rushton, and Roediger, 1978).
 - Ranking of schools based on the familiarity of rankers with the schools they ranked (Jones, Lindzey, and Coggeshall, 1982).

H10. The more accommodating a department to actions conducive to the admission and retention of minorities, the greater the percentage of minority earned doctorates.

Number of minority considerations (GSP).

H11. The more diverse an institution, the greater the percentage of minority earned doctorates in Psychology.

- A. Total number of university faculty in academic ranks (NCES).
- B. Total undergraduate enrollment (UDW).
- C. Total graduate enrollment (UDW).
- D. Number of academic and administrative units such as colleges, schools, divisions, professional schools, etc. (UCD).
- E. Total number of graduate degree programs (UCD).
- F. Number of research institutes, centers, and other professional units (UCD).
- G. Number of service institutions, centers, and other like units (UCD).

RESULTS

The hypothesized correlates of effective Affirmative Action for minorities in Psychology graduate programs will first be examined. The results of a cluster analysis (Tryon, 1970), which treats all of the various historical and demographic measures collectively, will then be presented. This analysis assists in describing general interrelationships among the hypothesized relationships and helps to provide direction for future research.

Hypothesized Relationships.

The outcome variable for each of the hypothesized relationships is the percentage of minority earned Ph.D. degrees in Psychology at the particular college or university. The Pearson product-moment correlational coefficient was used to determine the extent and directionality of each hypothesized relationship.

Hypotheses one through eight were not supported by the findings. An institutions "Land Grant," public, or private status was not significantly related to the production of minority earned Ph.D. degrees; nor was the age of the department or institution, the social orientation of the department or the number of programs offered, the distance of the institution to its state capitol or the percentage

of minorities living in close, geographic proximity to the institution.

Significant correlations in the testing of three hypotheses were found.

Hypothesis 9. The more academically prestigious a department, the lower the percentage of minority earned Ph.D. degrees.

This hypothesis was measured by using a scale score from four highly correlated measures of prestige derived or developed from the generally available sources previously discussed, and by a separate item indicating the number of Psychology faculty involved in American Psychological Association (APA) related matters. The correlation of the outcome variable with the prestige scale score was .13; but with the number of faculty involved in APA related matters it was .30, $p < .05$. Both correlations were in the wrong direction, thus, the hypothesis was not supported. The significant correlation, though, indicates that faculty involvement with APA is associated with producing a greater percentage of minority earned Ph.D. degrees.

Hypothesis 10. The more accommodating a department is in actions advantageous to the admission and retention of minorities, the greater the percentage of minority earned Ph.D. degrees.

Each department's score was derived by counting the considerations extended to minorities as denoted in Graduate Study in Psychology. The correlation of the

outcome variable with the number of departmental considerations was .30, $p < .001$. The hypothesis is supported.

Hypothesis 11. The more diverse an institution, the greater the percentage of minority earned Ph.D. degrees in Psychology.

A number of university demographics were correlated with the outcome variable and are presented in Table 1. The total number of university faculty in academic ranks, the total undergraduate enrollment, and the total graduate enrollment were seen as related variables. They were grouped together and designated Group 1. Likewise, a second group of variables seemed related. They included the number of academic and administrative units, graduate degree programs, research units, and service institutions. All variables were correlated independently with the outcome variable as were the groups themselves. These correlations are presented in Table 1.

When taken as an aggregate, the first group of variables ($r = .26$) supports the hypothesis at the .05 level. When they are correlated individually with outcome, two variables in the group support the hypothesis: total university academic faculty ($r = .29$), and total university graduate enrollment ($r = .31$). When these two variables are computed together and correlated with the outcome measure, this sub-group formed the highest correlation of all ($r = .41$).

Table 1
Item Correlations of the Outcome Variable with
Various Demographic Variables

	University or College Percent Minority Psychology Ph.D. Degrees		University or College Percent Minority Psychology Ph.D. Degrees
total academic faculty	.29*	academic and administrative total units	.16
total undergrad enrollment	.10	total grad degree programs	.14
total graduate enrollment	.31**	total research units	-.02
		total service institutions	.02
Sum of Group 1	.26*	Sum of Group 2	.15
faculty + grads	.41**		

* $p < .05$

** $p < .001$

Variables in the second group did not support the hypothesis either independently or as a group, although the groups themselves were correlated with each other: $r=.60$, $p<.001$.

Cluster Analysis

The results associated with each hypothesis have been presented independently. Those measures, along with a number of conceptually related variables, were cluster analyzed to help determine their patterns of interrelation. Table 2 presents the results of this cluster analysis.

Cluster 1 indicates that certain departmental and institutional variables relate to a higher percentage of minority earned Psychology Ph.D. degrees. Larger and older Psychology departments are related as well as departments with strong ties to APA, those with a history of receiving APA minority fellowships, those with fewer admission dates, those with a greater number of doctoral programs, those with a greater number of considerations advantageous to minority graduate students, and departments that reside in larger institutions. The related institutional variables are: a department's institution is in a state that has produced a greater percentage of minority earned Psychology Ph.D. degrees, institutions with larger graduate components, and urban institutions.

Cluster 2 denotes that the elements correlated with a higher percentage of minority earned Psychology bachelor's

Table 2
The Four Clusters

	Cluster Loadings
Cluster 1: Variables Related to Higher Percentages of Minority Earned Ph.D. Degrees in Psychology Departments	
1. Higher Percentages of Minority Earned Ph.D. Degrees in Psychology Departments	.53
2. Size of Department	
A greater number of full-time Psychology graduate students.	.64
A greater number of full-time Psychology department faculty.	.49
A greater number of part-time Psychology graduate students.	.32
3. Professional Orientation of Department	
A greater number of APA minority fellowships awarded to the Psychology department over five years.	.61
A greater number of Psychology department faculty involved in APA related matters (APA officers, APA journal editors, etc.).	.57
4. Size of University or College Graduate School	
A greater total number of graduate students enrolled in the college or university.	.58
A greater total number of faculty in the institution where the Psychology department is located.	.55
5. In-State Minority Psychology Ph.D. Degrees	
A higher percentage of minority earned Psychology Ph.D. degrees in the state where the institution is located.	.58
6. Other Departmental Characteristics	
A greater number of Psychology department considerations advantageous to minorities (no admission fee, etc.).	.57
Fewer admission dates to Psychology department Ph.D. programs.	.46
A greater number of Ph.D. programs offered by the Psychology department.	.35
The Psychology department has existed for a longer time.	.30
7. Location of University or College	
The Psychology department's institution is located in a Standard Metropolitan Statistical Area.	.38
The Psychology department's institution is located in a U.S. Census Bureau defined urban area.	.32

Table 2 (cont'd)

**Cluster 2: Factors Related to Higher Percentages
of Minority Earned Bachelor's Degrees in
Psychology Departments**

1. Higher Percentages of Minority Earned
Bachelor's Degrees in Psychology Departments .82
2. Urban/rural location of university or college
The Psychology department's institution
is located in a Standard Consolidated
Statistical Area. .65
3. Composition of Area Population
A greater percentage of minority populations
in the Standard Metropolitan Statistical
Area where the Psychology department's
institution is located. .51
4. Composition of Department
A greater number of part-time Psychology
department faculty. .42

Cluster 3: Minority Political Power

1. Minority population percentages
A greater percentage of minority group
members in the state where the Psychology
department's institution is located. .99
A greater percentage of minority group
members in the urban area where the
Psychology department's institution
is located. .83
A greater percentage of minority group
members in the county where the Psychology
department's institution is located. .64
A greater percentage of minority group
members in the city where the Psychology
department's institution is located. .34
2. In-State Minority Psychology Bachelor Degrees
A higher percentage of minority earned
Psychology bachelor degrees in the state
where the institution is located. .84
3. Location of university or college
A greater distance from the institution
in which the Psychology department
resides, and its state capitol. .48
4. Department prestige
A higher "prestige" scale score. .37
5. University or college characteristics
A greater total number of service units
in the institution where the Psychology
department is located. .23

Table 2 (cont'd)

**Cluster 4: Environmental Characteristics of
Certain Psychology Departments**

1. Department specific

That the Psychology department is located
in a public institution. .82

That the Psychology department is located
in a land grant institution. .88

The Psychology department is located in
an older institution. .29

2. University or college specific

A greater number of undergraduate students
enrolled in the institution. .72

A greater total number of academic units
in the institution where the department
is located. .51

A greater total number of graduate degree
programs offered by the institution where
the Psychology department is located. .30

A greater number of research units in the
institution where the Psychology department
is located .29

degrees are that the Psychology department has a greater number of part-time departmental faculty and that it resides at an urban institution, and that the urban area has a greater percentage of minorities in its population.

Cluster 3 provides evidence that minority political power is related to the percentage of minority earned Psychology bachelor's degrees in the state, to prestigious institutions, to institutions that are further away from the seat of state government, and to institutions which provide a greater number of services.

Cluster 4 is a grouping that represents Psychology departments residing in large, older, public/land grant institutions, with a larger number of graduate degree programs, and with a greater number of research units.

To further understand the results of the overall cluster analysis, the interdomain correlations must be examined. Table 3 contains the correlations between cluster domains.

Table 3
Correlations of Cluster Domains

	Clstr 1	Clstr 2	Clstr 3	Clstr 4
Clstr 1	1.00	.14	.22	-.36
Clstr 2		1.00	.37	-.08
Clstr 3			1.00	-.04
Clstr 4				1.00

The variables clustering around the Minority Earned Psychology Ph.D. Degrees outcome measure make up Cluster 1. It has a very low correlation with Cluster 2 which contains variables related to Minority Earned Psychology Bachelor's Degrees. Cluster 4, Psychology Departments with Certain Environmental Characteristics, is negatively correlated with Cluster 1. The greater percentages of minority earned Ph.D. degrees are not being produced by Psychology departments in the old, large public and land grant institutions. Cluster 4 is not related to Cluster 2, indicating that those institutions are not associated with producing larger percentages of minority Psychology bachelor's degrees. The Psychology departments indicated by Cluster 4 are also not related to Cluster 3: Minority Political Power. The greater correlation of Cluster 3 with

Cluster 2 than with Cluster 1 suggests that the political power of minorities is related to the production of minority Psychology bachelor's degrees.

Thus, the higher percentages of minority group members are associated with higher percentages of minority earned bachelor's degrees, but not Ph.D. degrees. Those departments that are associated with higher percentages of earned minority Ph.D. degrees offer greater numbers of minority considerations, but, some evidence suggests that they exist in states with lower percentages of minority earned bachelor's degrees.

Another interesting finding is that older, large Psychology departments connected well to APA and existing in large urban universities are associated with greater percentages of earned minority Ph.D. degrees, but Psychology departments in large, old public and land grant institutions are not.

DISCUSSION

The results of this study are limited to some extent by the necessary, categorical exclusion of many universities from the sample of those studied. For example, all Psychology departments with community programs were omitted from the Fairweather Ecological Psychology diffusion study sample because of their unsuitability as candidates for the creation of a new community Psychology program. Psychology departments might be reluctant to start another interest group that may appear related to an existing one. Nonetheless, the study did include twenty-five percent of the colleges and universities in this country.

The present study supports a few broadly held notions and some not as popular. But most important, it offers insight into the sorts of programs that could be developed to increase the ratio of minority earned Ph.D. degrees.

Each cluster values individual discussion. It is also important to examine the interrelationship of clusters for insights and implications.

The variables found to have significant relationships to the outcome measure fall, as one might expect, into the structure of cluster one. This cluster presented factors related to higher percentages of minority earned Ph.D.

degrees in Psychology departments. The cluster loadings might be viewed as a set of recommendations for minorities wishing to pursue Ph.D. degrees in Psychology departments.

The variable with the highest loading associated with a higher percentage of minority earned Ph.D. degrees is the size of the Psychology department. Size was defined by three variables: (1) greater number of full-time graduate students; (2) greater number of full-time faculty; and (3) greater number of part-time graduate students in that order. One other variable pertaining to size of the Psychology department was included in the study. The number of part-time faculty variable fell into Cluster 2. All in all, it appears that the greater the size of the Psychology department, the greater the percentage of minority earned Ph.D. degrees produced.

Another related variable is the professional orientation of the department. Two variables with almost identical factor coefficients define this sub-cluster. They are the number of faculty involved in APA related matters such as editing APA sponsored journals or serving as APA officers, and the number of APA minority fellowships awarded to the department over a five year span. It appears that departments with these faculty members may be more inclined to strive toward the APA goal of increasing the number of minority earned Ph.D. degrees and/or feel more comfortable, due to its close relationship to APA, in encouraging and helping minorities to seek APA minority

fellowships. In addition, these faculty members are in a better position to monitor other departments in meeting that goal and in utilizing appropriate recruiting methods. A question for future study is whether minorities already in the program influenced the faculty by promoting departmental recruiting behaviors or whether the department faculty members themselves set forth the initiative.

In another manner of interpretation, departments with faculty involved in APA matters could also have faculty involved in other organizations with control of funds. These positions might be used to influence the funneling of funds to their own departments either directly or through a mechanism not unlike the interlocking directorships of the corporate world. A department with greater amounts of funding coming from outside sources would be less tied to budgetary constraints in funding graduate students. This may be the reason for the unexpected Hypothesis 9 result in which greater percentages of minority earned doctorates were found related to the number of Psychology faculty involved in APA related matters.

The cluster loadings indicate that the size of the university or college graduate school is also important. The sheer number of graduate students and faculty in the institution as a whole is significantly correlated with the percentage of minority earned Ph.D. degrees. Considering this, while recalling that Hypothesis 11 was confirmed, gives rise to an interesting issue. It may not have been

the diversity of the university that was being measured while testing that hypothesis but rather the size of its graduate school. Consider the variables which were not correlated with the outcome measure: number of undergraduates, number of academic programs, number of graduate degree programs, number of research units, and number of service institutions. This leads one to suspect that diversity has little to do with producing greater proportions of minority earned Ph.D. degrees.

Following in the size of its relationship to the percentage of minority earned Psychology Ph.D. degrees was the state where the student chose to apply. The greater the percentage of minority earned Psychology Ph.D. degrees earned in a particular state, the greater the chances of someone from a minority group receiving a Psychology Ph.D. degree in that state. The axiom of the proven track record apparently holds in this instance.

There is also a general grouping of departmental characteristics. The variable with the highest cluster loadings among them is the number of Psychology department considerations advantageous to minorities. Apparently, minorities have a better chance of succeeding if things are done to assist them in gaining admission, in adjusting, and in helping them to remain and complete graduate school. Greater numbers of minority considerations are significantly correlated with greater percentages of minority earned Psychology Ph.D. degrees in support of

Hypothesis 10; but Cluster 1 is not correlated with Cluster 2 which is a cluster of variables related to higher percentages of minority earned Psychology bachelor's degrees. This would first of all suggest that minority considerations are indeed useful in increasing the percentage of minority earned Psychology Ph.D. degrees but not minority earned Psychology bachelor's degrees. Some other possibilities suggest themselves.

Psychology departments in states with high percentages of earned minority Psychology bachelor's degrees may be preparing minorities for doctoral education in other universities. If minorities holding undergraduate degrees are as well informed as majority bachelor's degree holders in the purposes of graduate school, the behaviors expected of graduate students, the general political strategies to be employed, and the lifestyle that must be led to accomplish a successful end, they would take advantage of the opportunity to attend the most prestigious graduate programs. This view is strengthened as we recall that greater percentages of minority earned Psychology Ph.D. degrees are related to departments with greater percentages of faculty involved in APA business. This interpretation is further strengthened when one stops to consider that there are socio-economic class distinctions within minority groups as there are within the majority group. Both majority and minority students qualified to go to graduate school may be interested in the most prestigious

institutions since graduate schools are attended by greater proportions of individuals in upper socio-economic classes.

Another possibility is that departmental faculty may assume that minorities earning bachelor's degrees would not need other considerations, having proven themselves in the undergraduate system. This would not appear a valid appraisal given the low percentages of college graduates among minorities. First generation undergraduate degree holders would not have the same societal opportunities to learn about the graduate system as others would.

On the other hand, departments in states without high percentages of minorities earning Psychology bachelor's degrees may feel they must offer considerations in order to attract minorities from out-of-state. A departmental policy to provide minority considerations appears to be an effective way to increase the number of minority earned Psychology Ph.D. degrees, but more evidence is needed to strengthen this contention. A question for further research is whether minorities are admitted and complete a program because of minority considerations, or whether a strong minority presence in the program influenced the creation of those considerations.

Fewer admission dates to Psychology doctoral programs is another variable worth considering. Fewer admission dates would mean that more students would enter at the same time providing for stronger social support among peers. Also, it would allow departments to focus their resources

on the group of minority students in providing services or other considerations such as an orientation seminar.

The last two departmental characteristics are age of department and number of doctoral programs offered. Older departments may have internalized the philosophy of affirmative action and better learned to attract and graduate minority students. Offering a greater number of doctoral programs may be important in attracting minorities to a department because of broader educational opportunities.

And finally, the location of the university or college in which the Psychology department resides seems important. Greater proportions of minority earned Psychology Ph.D. degrees are associated with institutions in large urban areas.

If one used these findings to advise minorities that seek Ph.D. degrees from Psychology departments, it would be the following. They would enhance their probability of graduating if they applied to large, older departments in institutions with large graduate schools. The institution would be found in a large urban area in a state that produces a large proportion of minority earned Psychology Ph.D. degrees. This department would have fewer admission dates to its larger number of programs. The department would also be well connected professionally to APA, have a history of receiving APA minority fellowships, and provide a larger number of considerations advantageous to minority

graduate students (e.g., waiving certain application fees or providing programs to develop mentoring relationships).

Now let us turn our attention to the variables related to higher percentages of minority earned bachelor's degrees from Psychology departments. The greatest cluster loading here indicates that an urban location for the educational institution in which the Psychology department was located is associated with a higher percentage of minorities earning bachelor's degrees. Specifically, the institution is more likely to be in a Standard Consolidated Statistical Area; a very urban setting indeed. This undergraduate Psychology degree granting institution would most likely be in an area with a greater percentage of minority group members as indicated by the next cluster loading. The last variable associated with a higher percentage of minority earned bachelor's degrees was a variable about the composition of the departmental faculty. Those departments with a greater number of part-time faculty are associated with producing greater percentages of minority earned bachelor's degrees.

It is unfortunate that it was not possible to directly measure the notion that role models increase the production of minority earned Ph.D. degrees since no publicly available data currently exists. But it could be argued that since minorities in professional positions are currently few, they are in demand to fill more roles in society than other professionals and would therefore be

found in part-time university positions more often than in full-time university positions. The finding that a greater number of part-time faculty is associated with a greater percentage of minority earned Psychology bachelor's degrees provides evidence for this argument and would suggest that a doctoral Psychology program could increase the percentage of its minority earned Ph.D. degrees by increasing the number of part-time minority faculty.

Eight variables make up the minority political power cluster structure. The sub-cluster containing the greatest cluster loading is one that encompasses minority population percentages in the state, urban area, county, and city where the Psychology department's institution is located. This is followed by four one item sub-clusters: a greater distance between the state capitol and the Psychology department's institution, a greater departmental prestige scale score, the Psychology department's institution having a greater number of service units, and a greater percentage of in state minority Psychology bachelor's degree holders. These loadings indicate, first of all, that minority populations may have influence in producing minority Psychology bachelor's degrees, but not Ph.D. degrees. Further support for this notion is provided by the stronger relationship found between this cluster of variables and the one associated with higher percentages of minority earned bachelor's degrees than the one associated with higher percentages of minority earned Ph.D. degrees.

These findings could indicate that a great many graduate students do not attend schools in their own home states, but rather go where they are accepted, where the financial opportunities are best, or where specific academic interests are better satisfied. These students would not have ties to the local community and would be reluctant, because of the time constraints imposed by a life of graduate study, to establish those community ties that would be needed as a base for voicing concerns over the dearth of doctorally educated minorities. As the domestic economy tightens, though, graduate students may not find out-of-state study quite as appealing as it once was.

Extending the interpretation of these loadings, one could surmise that minority and majority populations farther away from their state capitol may look upon the university closest to them as having more of a role as an agent of state government and expect the university to have more service units.

The cluster of variables associated with minority earned Ph.D. degrees is negatively related to the cluster of variables denoting environmental characteristics of certain Psychology departments. Variables loading as departmental specific characteristics in this cluster are that departments reside in older, land grant, or public institutions. Loadings as institutional specific characteristics include a greater number of undergraduate

students, academic units, and graduate degree programs. The profile of variables describing these institutions indicates that they are not located in larger urban areas. These variables are not correlated as a cluster with minority political power, as are the large, older, more urban institutions. This finding calls for an investigation which could include an attempt to find causative reasons why one group of institutions is associated with minority earned Ph.D. degrees and the other is not. In addition, the mechanisms involved in minority political power in this context and its degree of importance in producing college graduates can be examined. Finally, the issue of size demands further study. Why are larger departments in larger institutions in larger urban areas associated with the production of greater percentages of minority earned Psychology Ph.D. degrees? Some reasons might be that there are more chances for social or academic support, for finding role models, for finding a cheap place to live, or for finding a part-time job.

The group of institutions just discussed probably has only a short road to the goal of equal opportunity since it appears to be very similar demographically to the group associated with producing greater percentages of minority earned Ph.D. degrees.

Another approach to the further study of minority participation in graduate school is to explore the decision making processes of minority undergraduate and graduate

students in regard to graduate training. One example of this sort of investigation might be to explore the common belief that many minority students do not begin thinking about graduate school soon enough in their undergraduate careers. If this belief holds, the minority undergraduate faces the need to rectify an academic record that was not planned with the idea of graduate school in mind, an impediment to developing suitable qualifications. Other studies could include surveys of minority attitudes toward issues relevant to graduate study, or examinations of associated folklore and behaviors through sociological and anthropological techniques. Many types of studies will be needed to provide data for all institutions to use in ensuring a more equitable representation of minorities among psychologists.

APPENDICES

APPENDIX A

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APPENDIX A

APA Journals Used to Determine Prestige Rankings

1979 Volume

**American Psychologist
Animal Behavior Processes
Developmental Psychology
Human Learning and Memory
Human Perception and Performance
Journal of Abnormal Psychology
Journal of Applied Psychology
Journal of Comparative and Physiological Psychology
Journal of Consulting and Clinical Psychology
Journal of Counseling Psychology
Journal of Educational Psychology
Journal of Experimental Psychology
Journal of General Psychology
Journal of Personality and Social Psychology
Professional Psychology
Psychology Bulletin
Psychological Review**

APPENDIX B

APPENDIX B

Coder's Name

University Name

Code #

University Catalog Data Form:

1. Total number of faculty in the university.

- ____ a. Total number of academic faculty (professor, associate professor, assistant professor, lecturer, instructor)
- ____ b. Total number of emeritus faculty (all ranks as above)
- ____ c. Total number of designated research faculty (specifically listed as research professor, research associate, research scientist)
- ____ d. Professional school faculty (e.g. Law, Medicine)
- ____ e. Total faculty = (a + b + c + d)

Note: Specifically exclude graduate assistants or other classes of graduate students as faculty personnel.

2. Is there a separate graduate faculty list? Yes__ No__

3. List all colleges, schools, divisions, professional schools etc.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4. Is there a medical school? Yes__ No__

6. ____ Total number of graduate degree programs.

research:

[illegible][illegible]

Page 3
University Catalog Data Form:

Code #

8. Control of university is:

___State ___Municipal ___Private Religious

___Private Nonsectarian ___other:_____

9. Is it a "land grant" institution? Yes___ No___

10. _____ Founding date of university (year).

11. _____ Total number of undergraduate courses offered.

12. _____ Total number of graduate courses offered.

13. List all academic and non academic programs/units
related to urban/community/rural affairs or studies:

_____	_____
_____	_____
_____	_____
_____	_____

14. List any administrators responsible for urban/rural
/community affairs: _____

15. Name of town or city within which university is
located:_____

16. _____ Distance in miles to state capital.

APPENDIX C

APPENDIX C

Coder's Name	University Name
	Code #

University Data Worksheet:

Yearbook of Higher Education 1980-81:

1. _____ Full-time enrollment
2. _____ Part-time enrollment
3. _____ Student FTE's (full-time + part-time)
4. _____ Number of administrators
5. _____ Number of deans

National College Databank:

6. _____ Evening and weekend degree programs 1=no 2=yes
7. _____ Adult/continuing education programs " "
8. _____ External degrees " "
9. _____ Skill-building programs for students " "
with resolvable learning difficulties
10. _____ Developmental programs to prepare " "
freshmen for college level work
11. _____ Entrance difficulty level:
5=most difficult
4=very difficult
3=moderately difficult
2=less difficult
1=non competitive
12. _____ Over 50% of freshmen come from top " "
10% of high school class
13. _____ More than 75% scored 600 or above " "
on Math SAT
14. _____ More than 75% scored 600 or above " "
on Verbal SAT

Page 2
University Data Worksheet

15. _____ Formal co-op programs 1=no 2=yes
16. _____ Percent of enrollment receiving aid
(1=<20%, 2=20-50%, 3=51-80%)

Baron's Profiles of American Colleges:

17. _____ SAT V
18. _____ SAT M
19. _____ ACT
20. _____ Competitiveness:
6= most competitive
5= highly competitive
4= very competitive
3= competitive
2= less competitive
1= non competitive
21. _____ Undergraduate number applied
22. _____ Undergraduate number accepted
23. _____ Undergraduate number enrolled
24. _____ Undergraduate number women enrolled
25. _____ Graduate number applied
26. _____ Graduate number accepted
27. _____ Graduate number enrolled
28. _____ Graduate number women enrolled

American Library Directory (33RD Edition):

1. _____ Total staff
2. _____ Professional staff
3. _____ Non professional staff
4. _____ Clerical
5. _____ Student assistants

Page 3
University Data Worksheet

6. _____ Enrollment
7. _____ Faculty
8. _____ Latest expenditure given (include salaries)
9. _____ Total library holdings
 10. _____ Books
 11. _____ Periodicals
 12. _____ Total of reels, film, fiche, cards,
prints, etc.)
 13. _____ Other (Specify _____)

APPENDIX D

APPENDIX D

<u>Coder's Name</u>	<u>University Name</u>	<u>Code #</u>
<u>"Graduate Study in Psychology"</u>		
<u>Department Data Form</u>		

1. _____ Total number of regular faculty in the Psychology department
2. _____ Number of assistant professors
3. _____ Number of associate professors
4. _____ Number of (full) professors
5. _____ Total number of other professional titles
6. _____ Number of female faculty
7. _____ Number of faculty with Ph.D.'s
8. _____ Number of faculty with Ed.D.'s
9. _____ Number of faculty with M.D.'s
10. _____ Number of faculty with other doctorate
11. _____ Number of faculty with master's only
12. _____ Number of faculty with bachelor's only
13. _____ List the undergraduate programs, tracks. or specializations in psychology that are formally stated (other than a major in psych.):

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Page 2

"Graduate Study in Psychology"
Department Data Form

Code # _____

14. _____ List the doctoral programs, concentrations, or specializations in psychology that are formally stated:

15. _____ List all "terminal" graduate degrees granted:

___ Ph.D. ___ Psy.D. ___ Specialist degree/
 certificate

___ M.A./M.S. ___ Ed.D. ___ Other: _____

16. _____ List all undergraduate and graduate multidisciplinary or jointly administered academic programs involving psychology and another unit(s):

_____ undergraduate: _____

_____ graduate: _____

17. _____ What college/division/unit is psychology affiliated with? _____

18. _____ Is there a unit separate from the psychology department which grants any degree(s) in psychology (e.g., institute, professional school)? List (include Educational, School Psych., etc. if in separate department)

APPENDIX E

APPENDIX E

Social Orientation Codes for Psychology Subfields

Non-Socially Oriented: Code = 1

- Biopsychology
- Cognitive / learning / perception
- Developmental / child
- Engineering
- Experimental / general
- Measuremental / evaluation / quantitative
- Personality
- Physiological / comparative

Mid-Ground: Code = 2

- Applied behavioral analysis
- Bioclinical
- Mental retardation / developmental disabilities
- Phenomenological
- When two crossed terms are given (e.g.,
clinical-learning)

Socially Oriented Subfields: Code = 3

- Clinical
- Community / ecological / environmental
- Counseling
- Educational
- Health psychology
- Industrial / organizational
- School
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