The effect of selected psychological and occupational characteristics on Atlanta University black female doctoral graduates in education and the sciences

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THE EFFECT OF SELECTED PSYCHOLOGICAL AND OCCUPATIONAL
CHARACTERISTICS ON ATLANTA UNIVERSITY BLACK FEMALE
DOCTORAL GRADUATES IN EDUCATION AND THE SCIENCES

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE SCHOOL OF EDUCATION,
ATLANTA UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

BY
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ABSTRACT

Purpose of the Study

The purpose of this study was to compare selected psychological and occupational characteristics of black female doctoral graduates who chose careers in education with black female doctoral graduates who chose careers in the sciences at Atlanta University between the academic years 1975 through 1985.

Hypotheses

The significance of differences between the two groups was tested on the following variables: 1) women's self-perception; 2) women's perception of women's ideal woman; 3) women's perception of men's ideal woman; 4) deterministic; 5) motivation to achieve; 6) need for control; 7) concern for people; 8) self-actualization; 9) stress; 10) professional recognition and involvement; and 11) professional productivity. The .05 level of significance served as the decision rule.

Significance of the Study

The anticipated benefits of this study were:

1) That it would have implications for student personnel staff in their interactions with black female graduate students;

2) That it would be used as pre-screening tools to assess the readiness of doctoral degree applicants for the Doctor of Education and Doctor of Philosophy degree programs;
3) That it would serve as a generating point for further research on the values, managerial and leadership styles of black female doctorates;

4) That it will add to the body of knowledge on achievement motivation in black professional women who have earned the doctorate;

5) That it will aid Atlanta University in obtaining follow-up information on its terminal degree graduates; and

6) That it will suggest some ways of addressing the needs of future matriculating black female doctoral students.

**Research Methodology**

The survey and ex post facto research techniques were used in this study. The instruments used were the Male-Female Role Research Inventory of Feminine Values, Meta-Motivation Inventory and a Demographic Questionnaire. The statistical treatment used was Fisher's t for uncorrelated means.

The findings of the study seem to warrant the following recommendations.

1) That more financial aid in the form of fellowships, scholarships and other monies be made strictly available for doctoral education at Atlanta University;

2) That a new thrust be made in identifying, hiring and promoting black female earned doctorate holders in decision-making faculty and administrative positions; and

3) That concerted efforts be made to recruit, counsel and financially support black females interested in entering traditionally male-oriented areas.
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CHAPTER I
INTRODUCTION

The academic and professional experiential field of the black female has not been examined to any great extent according to the literature. One researcher has summarized:

The public image of black women as professional persons is almost nonexistent. This lack of public visibility contributes to societal myths and keeps professional women from serving as role models for black youth.1

The literature that was directed towards the educational and occupational attributes and aspirations of the black female professional was scarce, indeed. The elimination of fictional, caricature-like depictions of black women was a herculean task. To somehow uncover scientific, scholarly studies addressing such issues as: values systems, achievements motives, the doctoral experience and its effect on the black female, and professional goals and accomplishments of the black female doctorate holder proved to be quite difficult.

It would doubtless be profitable and interesting to pursue the subject of difference among academic women . . . It would be interesting to know more about the differences


-1-
among those in different subject-matter areas, . . .
But as yet detailed data are not available for such comparisons.1

The literature that was available consisted of journal articles
to a great extent, or if in book form, referred to black women at
second thought, and even then somewhat haphazardly. Debra Kaufman's
tome on the achievement motive in women was a perfect example. This
particular author devoted exactly four pages, as listed in the index,
to the achievement motive found in black females. In actuality, there
were only seven to eight paragraphs.2

Swann and Witty called for more scholarly activity on the
educational backgrounds, career motivations, monetary resources,
professional training experiences and actual job performance of the
professional black female.3

Few have attempted to address issues affecting the small
number of black females holding a doctorate. Authors such as Ann
Burlew, Carol H. Smith, Constance Carroll and Myrtice Mosely, to
name a few, have greatly contributed to the presenting of the black
female doctorate holder and administrator in academia, in an accurate
light.

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1Jessie S. Bernard, Academic Women (University Park, Pa: The

2Debra Kaufman, Achievement and Women: Challenging the Assumptions

3Ruth N. Swann and Elaine P. Witty, "Black Women Administrators at
Traditional Black Colleges and Universities: Attitudes, Perceptions
and Potentials," Western Journal of Black Studies vol. 4, no. 4 (Winter
As Dr. William Cosby has been able to cast a positive reflection on the black man and woman, and especially the black family, through the broadcast medium, many more efforts need to be made in presenting the Clair Huxtables and other black professional women to the general public.\(^1\) Pinkstaff and Wilkinson stated that, "Women need the opportunity to observe other successful women."\(^2\)

Young black children and adolescents need to experience and perceive black female professionals and academicians as role models and heroes, to counter the negative messages that they are bombarded with constantly, on the black female achiever.

The black female doctorate holder tends to belong to an isolated segment of society, because her employment opportunities lie primarily in academia, usually on historically black colleges and universities campuses located in the South. Her interactions with the general public are not only limited, but her personal relationships are restricted as well. Constance Carroll observed that, "Black women in higher education are isolated, . . ."\(^3\) An inordinate amount of time is devoted to professional responsibilities and professionally related activities such as: writing, teaching, administrative duties and research. These

\(^1\) The Bill Cosby Show, National Broadcasting Company, 1986.


restrictions have resulted in a large number of these individuals remaining single and childless, possibly to the detriment of future black families and children.\footnote{Dorothy Guilford and Joan Synder, Women and Minority Ph.D.'s in the 70s: A Data Book (Washington, D. C.: National Academy of Sciences), pp. 36-38.} In reference to the black family, these women usually have come from better educated, middle-class homes, where the father has had at least three to four years of college on the average.\footnote{Ibid., p. 31.}

Billingsley asserted that a strong family life figured prominently in the backgrounds of black men and women of achievement. The families of these achievers tended to be guided by a certain set of values or a particular philosophy, in their interactions with in-group members and the outside world. A pattern of behavior usually accompanied these values that were not only consistent or congruent with the family's value system, but its philosophy as well.\footnote{Andrew Billingsley, Black Families in America (Englewood Cliffs, N. J.: Prentice-Hall, 1968), p. 97.}

Although these individuals have not been publicly lauded or even identified, or in many instances rewarded for their accomplishments, they have infrequently earned high academic and governmental positions. Black female holders of the doctorate continue to persevere and attain the near impossible. These individuals allow only their own intellects and creative energies to establish academic and occupational boundaries.
Statement of the Purpose

The purpose of this study was to compare selected psychological and occupational characteristics of black female doctoral graduates that had chosen careers in education with black female doctoral graduates that had chosen careers in the sciences at Atlanta University between the academic years of 1975 and 1985.

This investigator was interested in answering the following questions:

1) Do the feminine values of black female doctoral graduates that had chosen careers in education differ from those of black female doctoral graduates that had chosen careers in the sciences?

2) Do the managerial and leadership styles of these individuals differ?

3) Do the professional recognition level of these individuals differ?

4) Do the professional productivity of these individuals differ?

Hypotheses

The following hypotheses were tested in this study. The decision rule for acceptance or rejection of these null hypotheses was the .05 level of significance.

1H0: There will be no statistically significant difference between the mean level in women's self-perception for black female doctoral graduates who have chosen careers in the sciences and education.

2H0: There will be no statistically significant difference between the mean levels in woman's ideal woman for black female doctoral graduates who have chosen careers in the sciences and education.
3H₀: There will be no statistically significant difference between the mean level in woman's perception of man's ideal woman for black female doctoral graduates who have chosen careers in the sciences and education.

4H₀: There will be no statistically significant difference between the mean deterministic scores for black female doctoral graduates who have chosen careers in the sciences and education.

5H₀: There will be no statistically significant difference between the mean level of motivation for black female doctoral graduates who have chosen careers in the sciences and education.

6H₀: There will be no statistically significant difference between the mean levels of need for control for black female doctoral graduates who have chosen careers in the sciences and education.

7H₀: There will be no statistically significant difference between the mean levels of concern for people for black female doctoral graduates who have chosen careers in the sciences and education.

8H₀: There will be no statistically significant difference between the mean levels of self-actualization for black female doctoral graduates who have chosen careers in the sciences and education.

9H₀: There will be no statistically significant difference between the mean levels of stress for black doctoral graduates who have chosen careers in the sciences and education.

10H₀: There will be no statistically significant difference between the mean levels of professional recognition and involvement for black female doctoral graduates who have chosen careers in the sciences and education.

11H₀: There will be no statistically significant differences between the mean levels of professional productivity for black female doctoral graduates who have chosen careers in the sciences and education.

**Evolution of the Problem**

The researcher's interest in this problem stemmed from a lifelong fascination with women who had gone beyond the realm of the ordinary and excelled in their particular field of interest through imagination and hard work.
Previous research on motivational factors, leadership qualities and values affecting success has tended to primarily focus on white males from middle-class backgrounds. ¹

The recent feminist movement of the 1960s generated a more balanced view of factors affecting success, both academic and occupational, but to the basic exclusion of the black woman and female adolescent. The literature tended to reflect the belief that black females are similar to white women and the general black population. The theories emanating from the feminist movement did not take into account the black female's subcultural traits, belief or past. ²

The researcher felt that although the literature neglected to address the achievement motive in black females, this omission did not negate or lessen its presence in the black female's psyche. What social or environmental rewards could account for this researcher's intense desire to obtain the Ph.D.? Certainly not high employment related compensation or social prestige. For this particular researcher, this desire could only be explained by a strong inner drive to achieve. The early research on achievement motivation stressed its internal or intrinsic component. Kaufman noted, in her review of the literature that, "the motive to achieve has been described as a


relatively stable disposition to strive for success in any situation wherein standards of excellence are applicable.¹

Yet Kaufman's summary of the literature suggested that this pursuit of excellence was only applicable to the female for certain situations, those situations being where she has a "socially approved goal." She noted that various researchers found that females respond to achievement stimuli in a markedly different manner when compared to males. Not only were females found to respond to these stimuli in a different manner, but the need to respond at all, appeared to cause great conflict in these females. These conflicts were said to occur due to the females' "affiliative needs" being in a discordant state with their "achievement needs." The author elucidated that, during the early childhood socialization process, female children are rewarded for one set of behaviors, and these rewards usually are manifested through praise, love and social approval.²

She concluded,

Early socialization involves learning not only what one should desire but also, perhaps, how to obtain things one should not desire. The publicly defined script has been off limits to women; to date, the manly ways of competition are still not open to them.³

It has been this researcher's personal experience that parental expectations were met much easier by being selected the basketball

¹Kaufman, Women and Achievement, p. 27.
²Ibid., pp. 57-59.
³Ibid., p. 55.
homecoming queen than by graduating from high school with not only a 3.86 overall grade point average but a chemistry medal as well.

Limited data were available on psychological and occupational influences affecting achievement in black females; but even in these limited instances, a population of high school seniors and undergraduate college students was deemed as the most appropriate to address by researchers.¹

Because of the dearth of scientific research addressing black females who have achieved academic and professional success, this researcher chose this to be a group worthy of identification and study.

**Significance of the Study**

The findings of this study will be significant in the following ways:

1) They will have implications for student personnel staff in their interactions with black female graduate students.

2) They can be used as pre-screening tools to access the readiness of doctoral degree applicants for the Doctor of Education and Doctor of Philosophy degree programs.

3) They may serve as a generating point for further research on the values, managerial and leadership styles of black females who have received and who will receive the doctoral degree.

4) They will add to the body of knowledge on achievement motivation, primarily because the majority of research studies have not dealt with black women who have achieved academic and professional excellence.

5) They will aid Atlanta University is ascertaining information on its terminal degree graduates, and possibly how to address the needs of future matriculating black female doctoral students.

Assumptions

The following assumptions were made in carrying out this study:

1) That the respondents would honestly and accurately answer items on the research instruments;

2) That responses would be accurate as far as the population was capable of being accurate, i.e., recollection or memory;

3) That the majority of the participants in this study holding the Doctor of Education in Administration would be employed in public elementary and secondary schools or by historically black institutions of higher education; and

4) That the basic demographic characteristics of the participants in this study, such as age, marital status, number of dependents, employment status, or the like, would be similar to black female doctorates in previous studies.

Limitations

The following limitations were offered for persons who might use the findings of this study:

1) Caution should be exercised in generalizing the results to populations with backgrounds different from this highly selected group. This caution is offered because of the educational, occupational, and income levels of the participants. This investigation only dealt with recipients of the Ph.D. and Ed.D. degrees from the Schools of Education and Sciences at Atlanta University.

2) Because the instruments that were used were of a self-report nature, the validity of the results was contingent upon the honesty and recollection of the participant by eliminating the use of names, social security number, and any specific numbering of answer sheets.
3) Previous researchers have experienced extreme difficulties in obtaining data of a private nature from black middle-class professionals, especially Ph.D.'s.\(^1\)

**Definition of Terms**

The following terms had the meaning listed below:

1) **Black female doctoral graduates** were operationally defined as those individuals who had received the Doctor of Education in Administration and Supervision or the Doctor of Philosophy in Biology, Chemistry, or Counseling between the academic years of 1975 through 1985. Additionally, the terms doctorate and Ph.D. were used interchangeably and also connoted those who had earned the Ed.D. degree.

2) **Feminine values** were operationally defined as the scores shown by the subjects on the Mafferr Inventory of Feminine Values. The sub-test areas of the MIFV are: Women's Self-Perception, Women's Ideal Woman, and Women's Perception of Man's Ideal Woman.

3) **Managerial and leadership styles** were operationally defined as scores shown by the subjects on the Meta-Motivational Inventory. The sub-test areas of the MMI are: Deterministic, Motivation to Achieve, Need for Control, Concern for People, Self-actualization and stress.

4) **Professional recognition** was operationally defined as the receipt of postdoctoral fellowships, memberships in professional and honorary societies, and offices held in these organizations.

5) **Professional productivity** was operationally defined as the number of articles published, number of papers presented to professional organizations, number of books published as sole or senior author, consultation work, and number of research grants received.

6) **Employment situation** was operationally defined as employment in areas of training, types of employment, places of employment, length of employment, income and position title.

CHAPTER II
REVIEW OF THE RELATED LITERATURE

This review of related literature is organized into five sections, each of which relates directly to black female doctorate holders. The five sections are: 1) Demographic characteristics of black female doctoral graduates who have chosen careers in education or the sciences; 2) traditional versus nontraditional values' orientation towards a career and family; 3) managerial and leadership styles; 4) profession recognition; and 5) professional productivity.

A preponderance of the available research data on academically achieving black females has focused on their ascribed and perceived roles as administrators and faculty members in colleges and universities. These data only addressed the acquisition of the doctorate because the degree is generally held to be a prerequisite for obtaining a college or university administrative or faculty post. According to Astin, "...the educational and career aspirations of women are not well understood as those of men."\(^1\)

Schweitzer held that the Doctor of Philosophy degree is the traditional "mark" of the "trained scholar" who through her capacity to carry out innovative and original research has shown that she is

worthy of the title, Ph.D. Not only are institutions of higher education using this degree as a prerequisite for employment selection, but many other employment areas including state and local government agencies, the private sector, and the church are looking to the Ph.D. as the "mark" of the professional who has prepared herself for a host of leadership positions.¹

Hoskins asserted that although the Ph.D. is not the only requirement for becoming an administrator in higher education, black administrators in upper level positions on majority campuses are more than likely to hold the Ph.D. or Ed.D.²

The only other earned doctorate that has generally received the same degree of recognition, relative to the Ph.D., is the Doctor of Education degree. Whereas the Ph.D. is primarily a research degree, the Ed.D. represents the individual's preparation for employment in all levels of education, from elementary to teritary education.³ Bryant stated that, "the Ph.D. continues to be regarded as the 'sine qua non' for college faculty standing."⁴

³Schweitzer, The Doctorate, p. 18,
At this juncture, this research attempted to directly examine the characteristics of the black female doctorate holder, while indirectly focusing on black females in higher education.

In conducting a survey on the number of black men and women holding the doctorate, Bryant discovered that fewer than one percent of the earned doctorates, held by all Americans, had been conferred upon blacks.¹ The figure appeared to serve as a numerical base for the majority of research studies addressing the presence and percentage of black doctorate holders in the United States. Interestingly, of the 1,096 replies received by Bryant, only 234 were from black female doctorates.²

Astin's research indicated that the proportion of females completing each degree level, from the baccalaureate to the doctorate, is smaller than the proportion of males. At each higher degree level the difference is more pronounced.³

Black females accounted for a minority of doctorates awarded to Blacks up to 1980. Prestage's review of the literature showed a slight gain over black males for that year.⁴ Yet, it is vital to note that a net gain of two to three percent for black females during a one-year

¹Ibid., p. 3.
²Ibid., p. 4.
³Astin, Woman Doctorate in America, p. 4.
period will certainly not surpass the total number of doctorates awarded to black males.

The survey data from Women and Minority Ph.D.'s in the 70's revealed the following information on the black female doctorate. From years 1973 to 1976, 1,177 native-born, black females reportedly held the doctorate degree. A great majority of these women (802) were born in the South. In fact, only one third of the number was born in other regions of the United States.¹

Blacks have tended to largely emanate from the South, due to this area being their historical location in the United States. Other population groups, for example, Native Americans and Asians, have come from the South and the state of Oklahoma, and the West, respectively. Through Guilford and Synder's examination of the southern origin and average age of the black Ph.D., it was ascertained that the overwhelming majority of these individuals matriculated "under formal systems of segregation."²

**Educational Level of Parents**

The family background of an individual is likely to be the most salient factor in determining her educational and occupational aspirations and subsequent behaviors towards realizing these aspirations.³

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¹Guilford and Synder, Ph.D.'s in the Seventies, p. 28.
²Ibid., p. 29.
³Astin, Woman Doctorate in America, pp. 21-22.
The average educational level of parents of the Ph.D. is approximately two grade levels above that of the general public. Women holding this terminal degree have tended to come from "slightly better educated families" than the male doctorate.¹ Guilford and Synder, in their study, found that among the respondents queried, that the educational level of the fathers of male Ph.D.'s was lower than that of female doctorate holders.²

For the black female recipient of the doctorate, the percentage distribution by education of father tended to favor two categories, with 45 percent reporting that their fathers did not complete high school and 32.8 percent reporting that their fathers had completed up to three years of college. The percentage distribution by education of mother tended to favor these categories with slightly lower percentages.³

Guilford and Synder stated that,

Among the fathers of Ph.D.'s, 30.2 percent had at least four years of college education, while the fathers of female doctorate recipients displayed a percentage of 39.2 percent with college degrees.⁴

A research study by the Carnegie Commission on Higher Education found that parents attaining high levels of education, relative to the general public, are less likely to distinguish between academic needs

²Guilford and Synder, Ph.D.'s in the Seventies, p. 31.
³Ibid., p. 30.
⁴Ibid., p. 31.
of their male and female progeny.\textsuperscript{1}

Astin concluded that the higher than average educational and professional achievement levels of the parents of female doctorates are reflections of their strong motivation and unusually high levels of ability. The same parental qualities are usually manifested in their offspring.\textsuperscript{2}

**Age**

The average age of doctorates, upon conferment of the degree, is around 30 years old. The age range varies from younger in the sciences, "particularly chemistry," and much older in the field of education, where the age is typically 40. The author's explanation for this occurrence is the interval between the receipt of the baccalaureate to the receipt of the Ph.D.\textsuperscript{3}

Although women are typically younger at the time of conferment of the baccalaureate degree, they tend to be older than men upon conferment of the doctorate.\textsuperscript{4} Females tend to receive the doctorate later in their careers than their male counterparts.\textsuperscript{5}

Astin's explanations for the age differences between sex groups and fields were that the doctorate in the sciences may have entered

\begin{itemize}
\item \textsuperscript{2}Astin, Woman Doctorate in America, p. 25.
\item \textsuperscript{3}Harmon, Century of Doctorate, p. 51.
\item \textsuperscript{4}Ibid.
\item \textsuperscript{5}Astin, Woman Doctorate in America, p. 19.
\end{itemize}
graduate school at an earlier age, had fewer hinderances and difficulties, made advanced career plans or were more unsure about employment opportunities, than doctoral degree holders in education and the humanities.¹

A lower percentage of black women earn the Ph.D. before age 45 than black men, the figures are 71.8 percent and 84.0 percent, respectively. Additionally, more black men and women are awarded the doctorate "between the ages 35 and 39" than any other age span period.²

For the black female doctorate recipients surveyed for Women and Minority Ph.D.'s in the 70's, the median age for completion of the doctorate was 37.2 years, although the age range from 30 to 34 held a slightly higher percentage (22.3 percent) than other age grouping.³ Tobin reported that the average ages of his respondents ranged from 47 years to 49 years upon conferment of the doctorate.⁴

Prestage supported the previous research on the age differential between white and black doctorates. Education as a field choice appeared to be the most salient factor in explaining why blacks are older upon receipt of the Ph.D.⁵


²Bryant, Black American Doctorates, p. 3.

³Guilford and Synder, Ph.D.'s in the Seventies, p. 34.


⁵Prestage, "Role of Black Colleges and Universities in Graduate Education," p. 57.
The literature tended to support the notion that black females are older than other recipients of the doctorate. The field choices, of blacks and women, education and the humanities, appear to account for the above average ages relative to Asian and white men.

Undergraduate Institutions

Research data in the literature showed that a majority of black males and females received their undergraduate training from black colleges and universities. Guilford and Synder's study found that the top five undergraduate institutions producing the largest number of graduates who have obtained doctorates among Blacks were Howard University, Florida A & M University, Southern University, Tuskegee University and Wayne State University.\(^1\)

Bryant revealed that the overwhelming majority of black female American doctorates (n = 181) received their baccalaureate training and degrees from historically black institutions as compared to 53 black females who matriculated and later graduated from white institutions.\(^2\)

Prestage noted that a majority of baccalaureate degrees awarded, not only to southern blacks but blacks nationwide, are conferred by historically black institutions in the South.\(^3\)

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\(^1\) Guilford and Synder, *Ph.D.'s in the Seventies*, p. 34.

\(^2\) Bryant, *Black American Doctorates*, p. 5.

\(^3\) Prestage, "Role of Black Colleges and Universities in Graduate Education," p. 55.
Hoskins established an interesting dichotomy between black administrators at black institutions and black administrators at white institutions. The former were said to have matriculated and received their undergraduate degrees from black institutions, while the latter were said to have graduated from white institutions.¹

This is supported by the findings of Mommsen that historically black institutions produce the largest number of black undergraduates who later receive doctorates. His list of the "leading institutions" were Fisk University, Howard University and Virginia State College.²

Although there are minor differences in accounting for the exact location of undergraduate attendance for black Ph.D.'s there was virtually no disagreement in the literature that the majority of Blacks receive their undergraduate education from historically black colleges and universities.

**Baccalaureate to Doctorate Time Span**

It has taken black doctorate holders an average of 13 years to obtain the Ph.D. from the time of the receipt of the baccalaureate degree. This figure appeared to be almost five years longer than the seven and one-half years required for Ph.D.'s in general.³

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³Bryant, Black American Doctorates, p. 5.
Financial responsibilities, part-time attendance, recognition of the need for further training by individuals in the work force, and educational interruptions due to marital and childrearing responsibilities were among several factors given by Astin for the extended baccalaureate to doctorate time span, especially for women.¹

A slight minority of black females, during 1976, in Guilford and Synder's survey, tended to display no elapsed time from receipt of the baccalaureate to their entry into graduate school.²

Prestage's review of the literature disclosed that a lower proportion of whites than blacks has earned master's degrees before attaining their doctorates, especially in the natural sciences. The acquisition of the master's degree was said to be a very important milestone in the educational career of Blacks.³

A period of 3-8 years out of school between entrance to graduate school and attaining the Ph.D. tended to typify the greatest number of black female doctoral recipients, with nine years or more out of school following in the next largest group.⁴

The literature showed that most Blacks required longer time spans to complete the doctorate, from receipt of the baccalaureate, when

¹Astin, The Woman Doctorate in America, p. 20.
²Guilford and Synder, Ph.D.'s in the Seventies, p. 52.
³Prestage, "Role of Black Colleges and Universities in Graduate Education," p. 64.
⁴Guilford and Synder, Ph.D.'s in the Seventies, pp. 54-55.
compared to all groups, especially Asians. Again, this could be accounted for by the heavy concentration of Blacks in the field of education.

Tobin's study highlighted these conclusions by disclosing that 55.7 percent of his respondents spent three of eight years completing the master's after receiving the bachelors and 53.3 percent spent eight to 15 years completing the doctorate after receiving the master's.¹

Institutions Conferring Doctorates on Black Females

Of the over 100 historically black institutions of higher education, only Howard University, Atlanta University, The Interdenominational Theological Center, Morgan State University, Meharry Medical College and Texas Southern University are authorized to confer the doctorate.²

Atlanta University and Howard University conferred master's level degrees upon the majority of Black who eventually received the Ph.D. However, Kent Mommsen, a noted sociologist, found in his survey that black doctorates, overall, tend to matriculate and receive Ph.D.'s from "prestigious," northern, historically white institutions of higher education. His examples of these institutions included Columbia University, New York University and Ohio State University.³

¹Tobin, Black Females Ph.D., pp. 83-84.
²Prestage, "Role of Black Colleges and Universities in Graduate Education," pp. 62-63.
Morrison supported Mommsen's findings, although a majority of her subjects had generally attended black institutions for undergraduate studies, most had attended white institutions for graduate, postgraduate or professional studies.¹

Guilford and Synder's findings for female doctorates, inclusive of black females, appeared to conflict with those of Mommsen and Morrison. They found that the top five institutions that were above average in proportion of doctorates granted to women between the years of 1973 to 1976, were Texas Woman's University, Bryn Mawr College, University of North Carolina, Cornell Medical College, and Atlanta University, with a sub-total of 21 female doctorates from an overall total of 40 doctorates, 15 of these 21 matriculated in the School of Education.² Their findings indicated that the majority of female doctorates, inclusive of black females, graduated from institutions in the South, with two--Atlanta University and Texas Woman's University--in the "Deep-South."

Garibaldi stated that 22 percent of approximately 29,000 of all degrees conferred upon Blacks were awarded by historically black institutions during 1975 to 1976. This 22 percent included about 4,500


²Guilford and Synder, Ph.D.'s in the Seventies, p. 133.
master's degrees, 500 first-professional degrees and 50 doctorates.¹

Prestage also disclosed that Blacks were awarded 50 doctorates from historically black institutions. A total of 1,213 were awarded to Blacks during the same time period, 1975 to 1976. In the South, Blacks received 26 out of 320 doctoral degrees conferred.² Yet, Mommsen disclosed that no respondents in his survey had received doctorates from Atlanta University and only seven from Howard University.³

This occurrence was rather unusual since his survey was conducted around 1974 and Guilford's study was conducted between 1973 and 1976. The latter author found 40 doctorates, 21 of them female from Atlanta University alone. It can be assumed that a majority of the 40 doctorates were black. At this point, no explanation is available because of the dearth of information on this topic. But it did appear as if Mommsen did not clearly reflect his actual numerical base with his description of the population in his earlier statement that black Ph.D.'s tend to graduate from northern, historically white institutions. Mommsen stated that, "Thirty-six percent of the sample attended the 'top-ten institutions' at the bachelor's level, compared with 45 percent at the master's level and 50 percent at the Ph.D. level."⁴


²Prestage, "Role of Black Colleges and Universities in Graduate Education," pp. 63-64.


⁴Ibid., p. 258.
Major Field of Concentration

The research team headed by Harmon found that both black males and females are more heavily concentrated in education and showed smaller percentages in the sciences, except chemistry, when compared with other ethnic groups.\(^1\) According to Astin, "... Women are still underrepresented in the scientific and professional fields."\(^2\)

Of the 17 black females surveyed in the physical sciences, 88.2 percent received their baccalaureate in the physical sciences, while 80.0 percent of the 70 doctorates in the biological sciences received their baccalaureate degrees in the biological sciences. Interestingly, of the 758 respondents in education, only 59.2 percent received their baccalaureate degrees in the field of education. Although a majority of black female doctorates matriculated in schools of education, Guilford and Synder found that some 40 percent received undergraduate degrees in other fields.\(^3\)

Astin found that when women doctorates were compared with typical women graduates, the former had a pronounced proclivity towards matriculating and graduating from baccalaureate degree level programs considered masculine and more "intellectually demanding."\(^4\)

\(^1\)Harmon, Century of Doctorates, pp. 49-50.
\(^2\)Astin, Woman Doctorate in America, p. 3.
\(^3\)Guilford and Synder, Ph.D.'s in the Seventies, pp. 46-48.
\(^4\)Astin, Woman Doctorate in America, p. 38.
Guilford and Synder's data previously cited not only showed the baccalaureate to doctorate field changes, but also that a majority of the black female respondents in their study were in education.¹

The large number of black female doctorates that switches from other fields to education might indicate that blacks gravitate towards this area as a "last resort" rather than education being a preferred field of doctoral study.²

Tobin ascertained, through his review of the literature, that the majority of black American doctorates are in the area of education. His study supported the previous findings because his largest group of respondents was also in education.³ It is interesting to note that Tobin dichotomized education and the fields of physical education, administration and supervision, technical studies, and social studies, which generally fall under the auspices of Schools of Education. This observation was noted because the percentage of black female doctorates in education would have been higher if these sub-areas were grouped together.⁴

Bryant's study supported the literature that Blacks matriculate in and receive doctoral degrees in education to a great extent. Over half, 54.4 percent, of the respondents in this study received the

¹Guilford and Synder, Ph.D.'s in the Seventies, pp. 46-48.
²Prestage, "The Role of Black Colleges and Universities in Graduate Education," p. 59.
³Tobin, Black Female Ph.D., p. 50.
⁴Ibid., pp. 50-51.
Ph.D. in education.¹

American women doctorates, in general, are reticent to select masculine oriented fields, i.e., physical sciences, because of "cultural-induced convictions" that such field choices are "unfeminine."²

Sources of Support

Although the references cited appear to conflict with regard to primary sources of support for doctoral education, the literature tended to support the contention that doctoral education and completion of these programs are impacted upon by financial difficulties.

Astin noted that female doctorates in education are more likely to finance their own graduate training, while women in the natural sciences are more likely to have their doctoral programs financed through assistantships or fellowships.³

The black female doctorates in Tobin's study, to a large extent, financed their doctoral education through the usage of scholarships (41.5 percent), and traineeships (26.3 percent). Only 25 percent of these individuals used personal resources.⁴

It appeared as though the respondents in Guilford and Synder's study financed their doctoral education in a different manner. For the

¹Bryant, Black American Doctorates, p. 5.
²Astin, Woman Doctorate in America, pp. 46-47.
³Ibid., p. 48.
⁴Tobin, Black Female Ph.D., pp. 92-93.
year 1976, a large majority of the respondents reportedly either financed their own doctoral education or depended on spousal assistance.¹

A majority of black female achievers, all doctorates, surveyed by Carol Smith, found it quite difficult to finance their doctoral education. Financial hinderances and stress were common experiences for this group.²

Bernard found differences among married and unmarried female doctorates in reference to financing of their doctoral education. She disclosed that married doctoral students' husbands were highly supportive financially of their educational efforts, while the unmarried female doctorate has usually had to finance her own doctoral program.³

Bryant felt that there are several plausible explanations for the "underrepresentation" of Blacks in higher education, baccalaureate to doctoral level. Lack of financial support for doctoral education and the urgent need for employment are two explanations. The remnants of discriminatory entrance requirements and deficient educational preparation also accounted for the scarcity of Blacks in institutions of higher learning. Financial difficulties in doctoral education were

¹Guilford and Synder, Ph.D.'s in the Seventies, p. 56.
³Bernard, Academic Women, p. 212.
exacerbated, for black and white students, by lengthy program requirements and escalating expenses.\(^1\)

The involvement of black students in doctoral study assistance programs is generally unsatisfactory. Yet, Danforth Predoctoral Fellowships, Ford Foundation Fellowships and Woodrow Wilson Doctoral Fellowships are but a few of the assistance programs aimed at increasing the number of black Ph.D.'s.\(^2\)

Prestage concluded that there must be changes in the patterns of financial aid distribution in graduate education if there is to be a significant increase in the number of Blacks attaining the Ph.D.\(^3\)

**Marital Status**

The conferring of the Ph.D. on a woman greatly limits her choice of a mate, more so, than it does a male doctorate holder. Eighty percent of the married female doctorates in Simon, Clark and Galway's study had professional spouses, while 60 percent of the married females had husbands with Ph.D.'s (with the exception of those in education), and 20 percent of the female doctorates had husbands with the master's degree.\(^4\)

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\(^1\) Bryant, *Black American Doctorates*, p. 7.

\(^2\) Ibid.

\(^3\) Prestage, "The Role of Black Colleges and Universities in Graduate Education," p. 65.

Tobin's research data supported that of Simon and associates. The spouse's educational levels of Tobin's study were found to be the following: 2.5 percent had attended graduate school, while 50.0 percent had received a graduate or professional degree.¹

Bernard's review of the literature on Academic Women ascertained that male doctorates are more apt to be married than their female counterparts. Low marital rates are not eliminated even if the analogy is drawn between female doctorates with indistinguishable academic background or scientific and professional proclivities. Additionally, when compared with females in similar profession, i.e., doctors, lawyers, female doctorates were still found more likely to be unmarried.²

Astin concluded that the "observed marriage rates" for her subjects was low when compared with those of other college educated women and women in general.³

Between 1973 and 1976, the marital status or percentage of married black female doctorate recipients, in Guilford and Synder's study ranged from 52.3 percent in 1973 to 56.7 percent in 1975. Although over half of the respondents in this study were married, this percentage was still low when compared to the average women, white or black.⁴

¹Tobin, Black Female Ph.D.
²Bernard, Academic Women, p. 206.
³Astin, Woman Doctorate in America, p. 27.
⁴Guilford and Synder, Ph.D.'s in the Seventies, p. 36.
Astin stated stat, "The overall rate of marriage for women doctorates was rather low compared with that of women in general."^1

Tobin found among his subjects that more than half were currently married and living with their spouses. But again, it was found that a significant percentage, 44.4 percent, was single (never married, divorced, widowed or separated), relative to the general female population.^2

Ball ascertained from his subjects that being married was no more associated with life satisfaction than being single or widowed. When certain variables such as health, age, social participation or education were controlled, the impact of having a spouse appeared to be minimal on life satisfaction.^3 Personality characteristics were the only explanations offered by the literature for female doctorates to remain single or marry.^4

Dependents

Reid reported that for white and black females in the 35 to 45 age range, the lowered fertility rate was related to high educational

^1Astin, Woman Doctorate in America, p. 26.
^2Tobin, Black Female Ph.D., pp. 55-56.
^4Astin, Woman Doctorate in America, p. 27.
attainment. The lowest fertility rate of all was found among black women with four years of college or more.¹ The fertility rates of women doctorates are lower than that of their contemporaries in the general population.²

Although Ball found that, when certain variables were controlled, such as age, health and the like, that there was no association between marriage and life satisfaction, but he did find for black women that having children was associated with life satisfaction.³

Simon, Clark and Galway studied a group of approximately 5,000 female doctorate holders and approximately 1,500 male doctorates. Seventy percent of the married women had at least one child. Again, this percentage is lower than it is for men.⁴ Female doctorates were found to have fewer children than women with comparable training, i.e., physicians and lawyers. Additionally, the number of offsprings was related to the degree of professional involvement.⁵

A highly significant percentage of the black female doctorate recipients in Guilford and Synder's survey reported either no dependents

²Astin, Woman Doctorate in America, p. 29.
⁵Ibid.
(48.5 percent, or one to two dependents (42.3 percent). ¹

Tobin's study found that 465 of his respondents had no dependents, while the next largest group, 22 percent, had only one child.² This phenomenon could be accounted for by Astin's assertion that,

The woman who takes her doctoral degree in an academic field is idea-oriented and object-oriented, two traits that might make her less interested in having a large family.³

The literature on black and white female doctorates tended to support the contention that the higher the educational level the lower the fertility rate, when compared with women in the general population.

Postdoctoral Employment Plans

Black female doctorate holders, as well as white, can expect employment opportunities to exist in all levels of academia, from research to teaching and administration. The employment rate among women doctorates was found to double that of the female population in general, while the married female doctorates were less likely to be employed than single women doctorates.⁴

Tobin reported that 7.6 percent of his respondents held the rank of assistant professor, while 49.2 percent and 41.5 percent held the

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¹Guilford and Synder, Ph.D.'s in the Seventies, p. 38.
²Tobin, Black Female Ph.D., pp. 58-59.
³Astin, Woman Doctorate in America, pp. 31-32.
⁴Ibid., p. 58.
rank of associate professor and professor, respectively. He concluded that his study supported the research, relative to black female doctorates holding high academic ranks in higher education.\textsuperscript{1} Astin found that over 50 percent of the respondents in her survey, employed in academia, held ranks of either professor or associate professor.\textsuperscript{2}

This review of the literature did not allow the same conclusions to be drawn in reference to black female doctorate holders and supposedly "high academic rank." Quite the opposite occurred. There was a litany of disgruntled voices among a number of authors lamenting the sad state of black females in academia. Carroll summed up the feeling of these authors by stating, "The sheer paucity of black women among the faculty and administration in colleges and universities tends to force black women into small, isolated communities."\textsuperscript{3}

Atlanta University is a microcosm, reflecting events and decisions that occur in higher education. If the ranks of black female doctorate holders were examined carefully at this institution, it would be impossible to find an adequate male-to-female employment ratio, especially in the higher academic and administrative ranks.

Over 65.6 percent of the black female doctorate recipients in Guilford and Synder's survey reported having definite employment, while

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\textsuperscript{1}Tobin, \textit{Black Female Ph.D.}, pp. 65-66.
\textsuperscript{2}Astin, \textit{Woman Doctorate in America}, p. 87.
\textsuperscript{3}Carroll, "Three a Crowd," p. 178.
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28.5 percent were seeking employment in 1976. It could be assumed from subsequent data provided by Guilford and Synder on areas of employment for both black men and women doctorates, that a very low percentage held positions in the private sector, while the majority were employed in educational institutions. The author also disclosed that all women doctorates employed in academia are less likely than men to be involved in administrative duties.

Of the 1,096 black doctorates in Bryant's survey, 85.4 percent were employed by educational institutions; 5.3 percent by the government, 4.8 percent by service agencies and 2.7 percent in the private sector.

Astin's research also concluded that a majority of women doctorates are employed in academia, usually in small colleges and universities. Yet, women doctorates in education were found to be employed in junior colleges or public school systems.

The research data appeared to support the contention that Blacks and females are employed, to a great extent, in higher education, primarily in historically black colleges, and, to a much lesser extent, in business and industry.

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1 Guilford and Synder, Ph.D.'s in the Seventies, pp. 60-62.
2 Ibid., pp. 73-75.
3 Bryant, Black American Doctorates, p. 7.
4 Astin, Woman Doctorate in America, pp. 71-72.
Traditional Versus Nontraditional Values
Orientation towards a Career and Family

Research data, pertaining to traditional and non-traditional values, of the black female doctorate holder are nonexistent, per se, although there was very limited research on the motive to achieve in black female adolescents and baccalaureate degree level collegians.

Astin felt that the women in her study, by deciding to become involved in a demanding and time consuming doctoral program, and by receiving the doctorate, "have already demonstrated in some ways they are unique, pioneering, and unconventional."¹

The literature that does address the black female doctorate, does so in a vicarious manner, in that the roles and responsibilities of the black female faculty member and administrator in higher education are the principal focus.

The academically and professionally achieving black female has been a largely ignored positive entity in the literature. Much attention has focused on the capricious, emasulating black fury, who has wreaked havoc not only on the black male but the family, as well. The black female has been portrayed in the oral and printed mediums as overly confident, domineering and generally aggressive on the home front and in the labor market. Not only does the black female contend with a spurious and humorously chronicled image in the public's eye, but she must also negotiate her status in American society as a double negative, so to

¹Astin, Woman Doctorate in America, p. 26.
speak, being black and, unfortunately, female. Her fate has been to be figuratively thrown into the general "catch all" category of minority group member with little regard for the distinct qualities that have been acquired through her socialization process in American society.

Allen succinctly stated that, "Black women are a minority hidden within two more conspicuous minority groups." The authors explained this statement by asserting that the exigencies, truths and experiences of black women are largely ignored by researchers and assumed to be indistinguishable from those of white women and black men.¹

Allen further stated, that the examination of black women as a distinct race-sex subgroup is usually postponed because researchers have tended to assume that by analyzing the realities of females and blacks, that the realities of black females are also encompassed.²

Smith's review of the literature found that white women, as van-guards of the feminist movement, have tended to direct research towards their life experiences. The results of their efforts have been to apply the findings, on the education and socialization difficulties facing white middle-class female children and adolescents, to black girls. Although the "socialization process" for black females may parallel that of white girls, Smith stated that there are not only cultural differences between these groups, but historical differences, as well.³

²Ibid.
Anderson postulated that male and female children are socialized from an early age that certain behavior are appropriate for either boys or girls.¹

Ladner's observation that the lower-class black community has different dictates and "expectations" for the disadvantaged black girl, than the white community has for the middle-class white girl is quite interesting. These dictates and "expectations" supposedly result in the black female maturing at a much earlier age than her white middle-class counterpart.²

Various researchers have indicated that factors in the early development of the black female, predispose her to assume an advanced sense of autonomy and ability, brought on by the assumption of child-care and housekeeping responsibilities. These responsibilities coupled with the black female's documented exposure to female participation in the world of work, will bring them to the realization that they will not only function as mothers, when entering adult life, but that another primary role will be that of economic provider. These observations were based on many factors related to economic survival.³

It was concluded from the literature that the socioeconomic background, accessible role models, and the degree to which black

¹Patricia C. Anderson, "Sex-Role Factors and Women's Plans for Graduate Study" (Doctoral dissertation, Georgia State University, 1976), p. 11.
female adolescents internalize cultural values of black America and the dominant society affect their experiential fields in either a negative or positive manner.¹

The public image of black women is almost non-existent. This lack of public visibility contributes to societal myths and keeps professional women from serving as role models for black youth. How many film strips, videotapes or other media used for educational purposes, include black women physicians, lawyers, or nurses? How many picture textbooks portray black women as professionals?²

The literature abounded with research on the effects of maternal employment and parental aspirations on the academic and career attainment of black females; yet, very little was found on other aspects of her experience.

Allen stated that the "black matriarchy theory" attributed superior economic and social positions to women over men in the black community.³

Bock stated that black parents, similar to "farm parents" assumed that their female progeny would be more successful in the attainment of educational and occupational goals than their sons.⁴

Blacks have historically placed a great emphasis upon "educational attainment" as a tool for upward mobility. The social and/or economic positions, which an individual occupies, were found by Allen to be

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²Ibid.
³Allen, "Statuses of Black Women," p. 27.
significantly influenced by their educational attainment.¹

Burlew examined the backgrounds of black females developing "traditional and nontraditional goals." She determined that the mothers of nontraditionals may have provided different role modeling as compared to the mothers of traditionals. The mothers of nontraditionals demonstrated to their offspring that they did not need to confine themselves to conventional educational or occupational spheres that had been commonly looked upon as feminine. The daughters not only perceived the educational achievements of the nontraditional mothers as significant but also their "pursuit of nontraditional work."²

The daughter's perception of her mother's educational achievement as significant and other values instilled by the mother's role modeling could possibly have engendered a strong self-concept in these individuals.

Anderson noted that a positive correlation was suggested between nontraditional attitudes and a strong self-concept relative to "femininity" and appropriate sex-role behavior.³

In addition, Burlew found that maternal employment and an early work experience might have accounted for her respondent choosing careers in nontraditional fields. She speculated that exposure to racial and sexual discrimination in the workplace, during this early

³Anderson, "Sex-Role Factors and Graduate Study," p. 15.
work experience, probably influenced these black females to select male-dominated fields that offered higher financial remuneration and social status.¹

Astin's findings on women Ph.D.'s were similar to Burlew's. These doctorates, whose mothers had not only functioned as housewives but pursued careers as well, were better able to resolve their own careers versus marriage conflicts.²

Anderson found evidence that the self-concept which a female internalizes, inclusive of strengths and weaknesses, is related to maternal modeling. Females with working mothers tended to have a less stereotypical perception of feminine role and thus viewed and displayed a "broader range" of behaviors as "sex-role appropriate," while girls with "homemaker mothers" tended to exhibit a more constrained perception of "sex-role appropriate behaviors."³

The research study conducted by Heaston findings varied from previous research of matriarchal influences on occupational and academic achievement of black professional women. Using a group of black females selected from the legal and medical professions, the researcher found that these individuals credited strong paternal influences to persist in their pursuit of educational goals towards their chosen career fields. These findings appeared to be at odds with those

²Astin, Women Doctorate in America, p. 60.
³Anderson, "Sex-Role Factors and Graduate Study," p. 15.
regarding strong maternal influences on educational and occupational attainment.¹

Pinkstaff and Wilkinson also found evidence that fathers have become role-models for professionally oriented daughters. The researchers stated that many females credit paternal influences with their motive to achieve.² It appears that there are conflicting opinions among researchers on whether maternal or paternal influences lead to educational and occupational aspirations in black women.

Gurin and Pruitt assert that statistics have been displayed and interpreted in a way that suggests that black females are in an advantageous position over black males. Yet fewer black women are employed in higher level professions and earn less than the four race and sex groups.³

Collier's study on the economic status of the black male documented the following, "that in contemporary American society, the median income of black males exceeds that of black females."⁴


Allen's study revealed that black women continued to suffer from the "twin handicaps" of sexual and racial bias in gaining entrance to jobs that have been perceived as masculine.\(^1\)

It has been commonly accepted that black women are not only more highly motivated to achieve educationally and occupationally than black men, but that they are also better able to move into higher paying professional positions.

Gurin and Pruitt stated that, "Highly educated black women particularly have been viewed as bringing unusual motivational assets to the world of work."\(^2\)

Anderson's review found that prior research had suggested that, in the United States, educational attainment, subsequent occupational advancement and personality characteristics needed for the pursuit of "academic achievement" have been affiliated with the "masculine role."\(^3\)

Averbuch noted that psychologist Sandra Bem was the first to scientifically analyze an individual's proportion of male to female personality characteristics. Bem used the term "androgy nous" to describe individuals with "strong aspects of 'both' sexes." Versatility and adaptability were adjectives applied to these individuals' abilities to function in a variety of settings. Averbuch's review of the


\(^2\)Gurin and Pruitt, "Counseling Implications," p. 98.

literature also revealed that in a study of athletes and scientists, both groups scored high in "androgyne." The research concluded that "the androgynous personality seems to be prevalent among women achievers in general."

Place and Plummer suggested that, "The traditional role of women fostered dependence on men;..." Lightfoot found that the "ideal 'feminine' woman" is viewed as unrealistic, immature, and passive. Yet black women could not fulfill the "economic and social luxury" of meeting the "cultural ideal of a woman."

Previous research, as viewed by Anderson, stated that feminine thought was usually linked with a need for "friendship and social love," while masculine thought was affiliated with intrinsic achievement and accomplishment. Lightfoot added that general view of the black woman is as follows: "She is liberated, aggressive and competitive. She knows too well the feelin' of work and for too many years has been responsible for putting the bread on the table."

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The adjectives used above to describe the black woman are generally only applied to men in American society as per the following,

... men are seen as possessing such personality attributes as independence, objectivity, logic competitiveness, worldliness, self-confidence, ambitiousness and leadership and decision-making capabilities.¹

The characteristics of a successful professional, as defined by American culture, are fundamentally masculine in nature. The research data analyzing the traits this society values are usually associated with masculinity or a healthy adult, i.e., integrity, maturity and independence, while the unhealthy adult or "healthy female" are attributed personality factors such as dependence, submissiveness, and passivity.² Anderson felt that masculine traits and males, in this culture, are deemed more worthy and useful than feminine traits and females.³

The following research studies revealed that black women are not unusually equipped to function in the labor market when compared to black men, but tend to choose and pursue traditionally feminine-dominated fields. Contrary to the myths of the aggressive, domineering black female, it was shown that black women hold similar feminine values with white women.

Affiliative needs and social rewards are generally perceived as compatible ends, while achievement needs and intrinsically related goals are viewed as operating in tandem, Yin and Yang and their

¹Ibid.

²Pinkstaff and Wilkinson, Women at Work, p. 115.

associated characteristics, one set of prescribed behaviors for men and one set for women.

The women in Heaston's study were found to be "outer-directed" rather than "inner-directed." She stated that these individuals' goals and hopes related more to the social uplift of other "less fortunate" blacks and less to "self."¹

Gurin and Pruitt concluded that black women are affected by "sex-role constraints" in their pursuit of "educational and occupational aspirations."²

Anderson succinctly stated that a prerequisite for the manifestation of achievement motivation was the female's ability to recognize the compatibility of achievement goals within the feminine agenda.³

Pinkstaff and Wilkinson suggested that women are "conditioned" to serve or place others first, not only in the home but also in the workplace. This process does not occur naturally but is literally a man-made artifice. Women are socialized, not born to serve. This attitude was said to be "valued" into female via the childrearing process.⁴

Values were characterized by the authors to be global, deeply internalized, stable and enabled individuals to make choices based on what they considered right or wrong. Values stem from one's family background, religious beliefs, established societal institutions and

¹ Heaston, "Selected Role Perceptions," p. 4362-A.
² Gurin and Pruitt, "Counseling Implications," p. 98.
⁴ Pinkstaff and Wilkinson, Women at Work, p. 23.
culture in general.¹

Allen noted that the "professional occupational" aspired to by black females appeared to be "sex-typed." Examples of these "sex-typed" occupations were nursing and teaching. He also remarked that these occupation aspirations suggested some "redundancy" in that black women tend to cluster in occupations, like nursing and teaching, because these are careers which they "aspire to" and they "aspire to" these careers because black women cluster in them.²

Astin stressed that a negligible number of women is drawn to scientific and professional careers, while the vast majority of employed females are concentrated in nursing, clerical or secretarial work and teaching.³

Gurin and Gaylor concluded from their study that black men and women were similar in their values, concerns and achievement needs. These researchers' findings suggested that previous studies had over-emphasized the importance of "earlier socialization" and its effect on "achievement inhibitions among women." Gurin and Gaylord also noted that the black females surveyed were motivated. Their study suggested that these females chose to channel this motive to achieve into traditional roles because they perceive successful outcomes in

¹Ibid., p. 2.
³Astin, Woman Doctorate in America, p. 35.
these traditionally female-dominated areas. Carroll found that most black female collegians have moved into traditionally feminine areas such as education, nursing and social work.

The great majority of female students in the American educational system, from middle school onward, limit their "vocational aspirations" to restricted number of socially approved career fields. Although, in Gurin and Gaylord's study, there were no significant differences in the desire for freshmen level men and women to attend graduate or professional school, there were significant differences between senior men and women on expectations to pursue graduate and professional education. More black men than women set the attainment of the Ph.D. and professional degrees as goals and a majority of the women viewed the master's degree as terminal. Research tends to support the notion that black women, as well as white, are influenced by the same boundaries defined by sex-role.

Anderson stated that even for today's college woman, affiliative needs are salient factors regulating their educational and occupational goals.

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3 Anderson, "Sex-Role Factors and Graduate Schools," p. 5.


perceptions and behaviors. Fear of "social rejection" or gender-based identity conflicts tend to limit these individuals' behavioral repertoire to sex-role appropriate activities.¹

The research states that many black women are not likely to center on or aspire to masculine-oriented fields, doctoral or professional degrees because of the traditional views they hold on roles appropriate for women.²

Anderson's review found that an extremely small percentage of "high ability" females matriculate in professional or graduate schools; and even smaller proportion of "intellectually capable" women graduate from doctoral programs.³ If tracking women into traditionally female-dominated fields continues in this age of technology, individual women as well as the United States, will suffer.⁴

Burlew added that,

More black women than ever are considering careers in male-dominated fields than probably ever before. Yet many still consider only traditional careers as alternatives. Obviously, an increase in black females in those professions identified as masculine must occur if the employment situation is to change substantially for black females.⁵


⁵Ibid., p. 313.
Cherne's findings suggest that there are significant differences between black women professionals that have chosen traditional or nontraditional careers as discerned by several important features. The factors affecting the selection of a nontraditional profession were an external locus of control orientation, education, birth order, and the salience of significant others as role models. She was unable to ascertain any significant differences between the sex-role orientation of the two groups.\(^1\)

Burlew suggested that, in general, there are important differences between women pursuing traditional and nontraditional careers. She stated that the two areas where traditionals and nontraditionals vary are in background and attitudes. Additionally, these individuals differ in the way they perceive the price they must pay socially for the pursuit of a career and in their work expectations.\(^2\)

Adams found, in her study, that the respondents felt that the price of their educational and occupational accomplishments was the lack of a "committed relationship with a special man."\(^3\)


Hobson-Smith noted, in her focus on black female achievers, that Dr. Mary F. Berry felt that in order to advance her rather nontraditional career, through writing and research, was the need to forego the development of personal relationships.¹

Anderson reported that the literature implied that women conventionally have assigned a higher priority to marriage, in spite of expressing the aspiration or need for a career and marriage.²

It might appear that the nontraditional female would experience difficulties in making decisions on marriage and family in her charting new ground, so to speak, in the choice of a career and the subsequent responsibilities of such a career choice. Yet, Burlew added that, "Nontraditional black females think they are just as likely or unlikely to marry as traditionals."³

Anderson concluded that the young woman's need to confirm her identity through a stable "affiliative" relationship with a man was of importance.⁴ Anderson added that several reasons exist to explain why black women may be less afraid than white women that professional careers might jeopardize their chances of marriages. Burlew found that black women, overall, tend to include men with lesser social and professional standing into their pool of eligible men.⁵

¹Hobson-Smith, "Black Female Achievers," p. 324.
²Anderson, "Sex-Role Factors and Graduate Schools," p. 17.
⁵Burlew, p. 324.
Although black women include black men of lesser social and professional stature into their pool of eligible men, Allen stated that, "black women are still confronted with difficulties in the marital arena, relative to white females, due to the decrease in the pool of eligible black males because of the "high rates of incarceration, homosexuality, economic instability, etc. . . ." He also concluded that the "marital prospects" for a large number of black women appear rather dim.¹

Simon and associates felt that the doctorate additionally confines the woman's choice of a mate because of societal dictates.² Fleming's investigation of black female and male graduate students disclosed some interesting results. Black women characterized by a "fear of success" were attempting to promote professional interest consistent with their obligations to husband and family. These black women had come to desire both the conventional and unconventional facets of the "feminine role." Past socialization and other experiences had primed these black women to not only look for an acceptable spouse, but to cultivate their own potentials. The profile that appeared of this person was one who desires to neither follow career interest that might be injurious to family goals nor to minimize her own career goals. Fleming concluded that any woman who purposes or expects to satisfy both "inner-directed"


²Simon, Clark and Galway, "The Woman Ph.D., pp. 221-236.
and "family" goals is bound to experience conflicts.¹ A primary result of these conflicts, especially among women doctorates, is that many of these females are reticent for males to learn just how intellectually capable they really are.²

Yet, Heaston found the black female lawyers and physicians in her study did not experience the "role-conflict" said to occur among white female professionals. These women perceived no dissonance in their roles as black, female and professional. Heaston’s subjects had, reportedly, resolved conflicts arising from their career choice demands and family.³

Weston and Mednick's findings were similar to those of Heaston's. Firstly, their findings suggested that achievement or "success" in "intellectually competitive" circumstances did not stimulate comparable fear, as found in white women, in their black college female sample. This outcome was probably related, as explained by the researchers, to this culture placing black females in more predominate roles than the roles ascribed to black men or white women. Western and Mednick reported that a "successful" black woman was perceived by black men as appealing and an "economic asset" rather than threatening. Thus, for these females, occupational and educational attainment might not

¹Jacqueline Fleming, "Fear of Success in Black Male and Female Graduate Students: A Pilot Study," Psychology of Women Quarterly, vol. 6, no. 3 (Spring 1982):338.
³Heaston, "Selected Role Perceptions," p. 4352-A.
lead to ostracization or rejection.¹

Murray and Mednick concluded from their study that black women's behavior, in some achievement-related spheres, may be anticipated from conventional role considerations but individual differences must also be accounted for. Three possible scenarios are discussed: first, the black woman who desires to be feminine in the conventionally sense, yet who acknowledges a negative perception of herself, may be constrained in her achievement pursuits; second, the woman who acknowledges the "sterotypic" role of the black woman and rejects the conventional feminine one "may exhibit high achievement" in fields considered masculine; and lastly, if the perception was acknowledged that black women were responsible for the emasculation of the black man, then the acceptance of the superwoman role might lead to "low aspirations and achievement."²

The literature is abounded with studies attesting to the matriarchal influence on the black female's easy adoption to the "world of work" and her "unusual motivational asserts" applicable to the job market. Yet, the more recent research on the motive to achieve in black women appears to conclude that she is more similar than dissimilar to white


females in the internalization of traditionally feminine values relative to educational attainment and career goals.¹

Managerial and Leadership Styles

Jewel Jackson McCabe reported to a group of black professional women that, "there is one area in which black women have been able to achieve and that is in terms of leadership."²

Place and Plummer asserted that a certain combination of personality qualifications and motivations is needed for leadership. The personality qualifications are curiosity, vision, self-confidence, venturesomeness and judgement.³

McCabe's speech also stated that,

People are beginning to ask why is it that black women are able to develop leadership. The answer is quite simple: Who are the people that are the most stable forces within our communities, who go to the polls in greater numbers, who organize and unite for service for their community and who are politically active? When we analyze, we find our answer is overwhelming black women.⁴

Owen's research concluded that professional black females, relative to white females, were not only significantly more comfortable in leadership positions, but were more liable to maintain or assert their


³Place and Plummer, Women in Management, p. 98.

own ideas in the organizational decision-making process.¹

Yet, Jones and Welch's review of the literature led them to conclude that a class of people cannot acquire "leadership ability" when they have been assigned to "powerless positions." The authors stated,

Various studies pertaining to the "corporate structure" suggested that the socialization process of males equipped them to take on administrative and managerial roles, while the same process trained women to fill more traditionally labelled roles. Negative self-images had resulted in women from these role assignments. The black female professional in the United States has suffered from "twin barriers" of racial and sexual discrimination.²

Although the barriers outlined by Jones and Welch are part and parcel of the black female professional's reality, an examination of their status of managerial and leadership roles continues.

Place and Plummer stated that managers need to acquire "leadership characteristics," since these individuals direct resources and production in their areas of supervision. The authors conceded that some management research draws a dichotomy between management and leadership because of the linguistic origins of the two words. Place and Plummer thought that it was more useful and practical to utilize these words synonymously because of an overlap in their usage. A manager is


usually the individual behind the initiative of business while leadership in most professions or businesses connotes "initiative" in building and maintaining an organization.¹

The literature tended to treat management and leadership styles in a synonymous fashion, although a leader is viewed as operating on a higher level, "an effective manager will anticipate the results of his or her decisions in advance. But a leader must also balance matters of personality with matters of fact."²

According to Place and Plummer, "leadership roles require assertiveness." Women have found it necessary to acquire more and more assertive traits as they have assumed leadership roles in government and industry. Women have been socialized from early childhood that certain behaviors are appropriate for them. The primary concern of women entering leadership positions is unlearning values and subsequent behaviors internalized during childhood. In the conventional sense, assertiveness is thought to be a masculine characteristic. Many women, if they become assertive, harbor anxieties about the loss of their femininity.³

The selection of a style of leadership can be a difficult process, and indeed it is a process because the individual is directed towards growth through trial and error and through the making of successful decisions.

¹Place and Plummer, Women in Management, p. 98.
³Place and Plummer, Women in Management, p. 51.
Jones has dichotomized or delineated three basic management styles; first, the participative or situational type who deals more with "individual situations" and personalities; second, the authoritative or dictatorial type who operates in a strict or dogmatic manner; and lastly, the humanitarian who deals with people on a considerate and compassionate level.¹ Jones asserted that,

> It is unrealistic, however, to think that one method of management is all that's needed to manage effectively. It is important that the management style chosen fits your personality, and once chosen, be consistent.²

Brophy interviewed various "movers and shakers" in the American corporate structure and reviewed the literature. She found that extended work hours are not necessarily correlated with high salaries or success. Working overtime, to many management executives and experts connoted poor organizational skills, incompetence or low productivity during regular work hours. "Competent people work the shortest hours, especially at the executive level. A good leader delegates and goes home."³

The author stated that management skills are not acquired at birth. These skills were found to involve the organizations of resources, decision making, and influencing others to produce results. Managers determine and delegate responsibilities, form policies, are

¹Jones, "What It Take to Be the Boss," p. 69.
²Ibid.
accountable for decision making in all spheres of the organization, motivate subordinates, plan and control events and evaluation of results. "Different characteristics and abilities come into play in different types of organizations and at different levels."\(^1\)

The duties or responsibilities of the manager are multitudinous, . . . but knowing how to explain flaws in a staff member's work is only one of the duties of a manager. Others include disciplining or rewarding an employee, evaluating performance and maintaining communication with upper management. It's a difficult juggling act that demands firmness, patience and compassion. . . ."\(^2\)

Allen's review of the literature noted that access into professional careers for black females is limited to a very minute percentage of this group.\(^3\) Reid's statistical data appeared to show that black women are in managerial and administrative positions to a greater degree than black men, 5.2 percent as compared to 3.2 percent, respectively.\(^4\)

The Carnegie Commission on Higher Education found that,

Although blacks of both sexes were represented on faculties in much smaller proportions as a whole, black women formed a considerably larger percentage of all women faculty members than did black men of male faculty members.\(^5\)

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\(^{1}\) Place and Place, Women in Management, p. 93.

\(^{2}\) Jones, "What It Takes to Be the Boss, p. 68.


\(^{4}\) Reid, "Black America in the 80s," p. 28.

This observation was rather misleading, although probably accurate. Research supported the contention that black women had, to date, participated in the work force to a greater degree than white women, but not to the extent that black men had. It is deemed important to make a delineation not only between race, but sex as well, when using labor market data.

Collier and Williams alluded to this situation with the following statements:

The comparisons being made are between the labor force participation of black males relative to white males and black females relative to white females. This distinction is rarely made (even by academicians), and it is precisely the failure to underscore the fact that such conclusions are based on comparisons within the same-sex groupings that has contributed to the distortion.¹

To reinforce this statement, "The earnings of black males, however, have been historically higher than that of black females."²

Mosley countered previously articulated assertions and statistics with the following statement:

Black female administrators in white academe are an endangered species. They are still tokens in higher education. Black women, where they are represented, are most often in peripheral positions to the policy and decision-making core of higher education.³

²Ibid.
In this culture, leaders are usually selected from the "ranks" of education. These leaders are sought to improve the "quality of life" for the masses.¹

Hoskins found that white administrators have customarily come up through the ranks from faculty positions in their ascendency to upper level administrative post, i.e., deanships, vice-presidencies and presidencies. A majority of black faculty and administrators, however, had only been recruited quite recently to predominately white institutions, due to varied reasons, therefore, their ascent up the "administrative ladder" was distinctly different from that of their white counterparts.²

Black women have been doubly affected by the phenomenon of racial and sexual discrimination in the area of administration, according to Jones and Welch. Routinely, both white females and blacks have been denied leadership positions on the basis of imputed traits, leaving the perception that they could not fill any meaningfully "powerful" position in society.³

Traditionally, black and white women have not attained the needed educational credentials for entrance into leadership positions. Many top industry executives and leaders have doctorates or professional

degrees, i.e., J.D.'s, M.S. in engineering. Professionally oriented women will find it quite difficult to enter upper level management posts without the necessary educational background.\(^1\)

Smith felt in conducting her study of "Black Female Achievers in Academe" that:

It is indeed fitting that this yearbook focuses on black women because they have been all but omitted from consideration as a separate group in studies of administrators and faculty in institutions of higher education. Such studies if concerned at all with the racial/ethnic and sex distribution of such personnel have covered minorities usually without specific attention to black women.\(^2\)

A noted sociologist articulated that academic women have not been especially outstanding in the "administrative channel" for advancement in tertiary education.\(^3\) "The sheer paucity of black women among the faculty and administration in colleges and universities tends to force black women into a small, isolated community."\(^4\)

A review of the situation from the Carnegie Commission on Higher Education disclosed that this dilemma not only affects black women but women in general.

If women are thinly represented on faculties, especially in traditionally male fields, they are so rarely represented in top academic administrative positions as to be practically nonexistent in the upper echelons.\(^5\)

\(^1\)Place and Plummer, Women in Management, p. 70.
\(^2\)Hopson-Smith, "Black Female Achievers," p. 318.
\(^3\)Bernard, Academic Women, p. 179.
\(^4\)Carroll, "Three's a Crowd," p. 178.
\(^5\)The Carnegie Commission, p. 123.
For example, the number of women that have attained full professorships in Georgia's public and private institutions of higher education is indeed abysmal. Of the 1,103 full professors at the University of Georgia, Emory University, Georgia State University, and Georgia Institute of Technology, only 78 or approximately seven percent are females.¹ The demise of women in leadership positions appeared to have been exacerbated by many variables including the downgrading or elimination of deal of women posts.²

Tidball's study disclosed even more alarming information for black and white women faculty and administrators in higher education. The rate of hiring and positions held by women in coeducational and women's colleges has actually decreased (in women's colleges by 50 percent or more).³

According to Carroll,

There is no more isolated subgroups in academe than black women. They have neither race nor sex in common with white males who dominate the decision-making stratum of academe; black males in academe at least share with white males their predominance over women. Even in black educational agencies and institutions, there is a disproportionately greater number of black males than black females in important positions.⁴

¹Ibid.

²Hank Ezell, "Women Trail Men in College Pay," The Atlanta Journal, 27 May 1986, p. 4-C.

³Elizabeth Tidball, "Perspective on Academic Women and Affirmative Actions" (Speech presented at the Annual Meeting of the American Association for the Advancement of Science, Section of Education, December 27, 1972), Washington, D. C., pp. 130-131 of the proceedings.

⁴Carroll, "Three's a Crowd," p. 177.
Hoskins also noted that more black males were found in administrative positions in institutions of higher education to a greater extent than black females.¹ Atlanta University, which has a greater female to male ratio of doctorate recipients, can be used as a case in point. At this time, there is not one policy influencing black female doctorate holders in an upper level administrative post other than the Deans of the Schools of Library Science and Business. It is a sad indictment indeed, that with the quality and quantity of Atlanta University doctoral graduates that are female, not one is felt sufficiently capable of holding a vice-presidency or presidency.²

The nationally known scientist, Dr. Jewell Plummer Cobb, related to Carol Smith in her account of black female achievers,

The black colleges, even those for women, have not been known for selecting female administrators. She feels certain, however, that sexism operates in all institutions of higher education.³

It is further disheartening for the black female doctorate holder to learn that another imminent black female educator, Dr. Gloria Scott, also feels that she was a victim of sexism. For example, she recalled that at age 28, she applied for the presidency of a historically black college and felt that as the most qualified applicant, she would be offered the position. She believes that the decision not to hire her was related to sex bias on the part of the males on selection committees who saw her as a threat.⁴

¹Hoskins, Black Administrators in Higher Education, p. 45.  
²Guilford and Synder, Ph.D.'s in the Seventies, p. 133.  
³Hopson-Smith, "Black Female Achievers," p. 325.  
⁴Ibid.
Hoskins noted that black college administrators have customarily been found at historically black institutions and their scarcity in the administrative ranks on dominant campuses has not allowed scientific observations of their "ascension pattern."¹

Mosley concurred that black women have functioned as administrators for many years and held leadership posts, i.e., "founders, presidents, deans and department chairs," at historically black institutions.

Black female and administrators in white academia are "invisible beings."

Their status in higher education is a reflection of their status on the national scene - at the bottom. They are isolated, and their academic opportunities are limited by barriers that have nothing to do with their preparation, qualifications or competency.²

So it becomes apparent that the situation at Atlanta University, at present, is no anomaly or aberration because there was not one black female earned doctorate holder at the helm of a historically black institution as of February 1986.³

Swann and Witty observed, from the literature, that for women in academia, their presence decreased significantly as the value of the position increased. Women are minimally appointed to position of power, i.e., finance directors, vice-presidents of development or academic affairs or president.⁴

¹Hoskins, Black Administrators in Higher Education, pp. 6-7.
This situation is prevalent throughout the literature,

Yet we find that relatively few black women have made it to the top in terms of holding the highest administrative positions in our colleges and universities or in relevant associations or governmental post.¹

The misconception appeared to be operating, as fact, among many black males and uninformed black females that black females hold a greater number of professional positions than black males. This supposition can be accepted only if we can assume that professional black females remain in entry level professional or secretarial slots throughout their work life. The overwhelming facts remain clear, black women are plagued, not only by racial constraints but sexual constraints as well, in their pursuit of academic and occupational excellence. Black females have few, if any, role models with whom they can identify. In this researcher's ten-year pursuit of the doctoral degree, from the baccalaureate degree level to the present, only three black female doctorate holders have been present in the classroom milieu and only two in upper level administrative positions, i.e., Ex-Vice-President of Development at Tuskegee University (Dr. Velma Blackwell) and Ex-Vice-President of Finance at Atlanta University (Dr. Marie Reid).

Hoskins's research revealed that black male and female administrators in the academics are usually found in positions that deal with black and other minority affairs. Many students and interested

¹Hopson-Smith, "Black Female Achievers," p. 320.
others see these positions as ineffectual, powerless and far from the core of decision making.¹

Carroll stated,

The great majority of their professors are white men, or if they take black studies courses, black men. Rarely do they see black women in responsible academic or administrative positions. . . .²

A substantial number of research studies appeared to be at great odds with Bock's out-moded supposition that, "in comparison with Negro males, Negro females have a greater chance of entering and remaining in professional occupations."³ It becomes evident that black women must look to themselves or other outside academia for encouragement or support in order to succeed in academia or the occupational world.

Wright's findings suggested that black women emphasized "individual action" and independence as measures of self-esteem opposed to those behaviors or beliefs valued or displayed by their white counterpart.⁴ Black women have been imbued with tales concerning their inferior status yet have managed to sustain themselves and flourish. Smith

¹Hoskins, Black Administrators in Higher Education, p. 2.
²Carroll, "Three's a Crowd," p. 178.
found in her study of several black female doctorate holders that these individuals, "became aware of their potential during their formative years."¹

Although the credentials and educational attainment of black females have not been acknowledged or materially manifested through upper level administrative positions, they have continued to strive, in spite of neglect. Not only must black women cope with the lack of models and peer and professional acknowledgement, but Carroll stated,

Black females feel that their educational advancement opportunities are restricted. There are overwhelming obstacles to their future in academia and a "built-in isolation" in this career choice. Black female doctorates, unlike black or white men, are rarely selected for "apprenticeships to male 'people developers.'" Few role models or advocates exist to assist or encourage their development. Black female administrators have had to develop on their own with little or no help from significant others to survive in academia.²

Place and Plummer acknowledged that career planning would be less difficult for professionally oriented women if they had role models to emulate. Knowledgeable, experienced individuals serving as mentors could certainly aid the career advancement for females.³

It would appear that not only have black men not helped in the development of necessary skills for the black females in academia, but the respondents in Mosley's survey felt that black men in black

²Carroll, "Three's a Crowd," p. 177.
³Place and Plummer, Women in Management, pp. 122-124.
administrative organizations have also been obstacles. These hinderances or barriers to development were evidenced by exclusion of black females from organizational policy-making sessions, not crediting these individuals for ideas and general lack of management and acceptance of ideas by black male peers.¹

When the black female has been able to attain high level administrative positions in tertiary education, she has proven herself to be an adept leader.

A look at the leadership styles of these administrators showed that most of the women saw themselves as democratic, assertive, and aggressive leaders, not as follows. Their female models or admirers were such dominant women as Barbara Jordan, Shirley Chisholm, Mary McCleod Bethune and Angela Davis, in that order. The selection of these activists gives us some insight into the makeup of black female administrators.²

The black female educational administrators in Lewis's study were not found to be characterized by a one-dimensional career path or model. Several common experiences or patterns in their career development were: an acute achievement need; nurturing family background; stress placed on education; and a continuous work history.³

The subjects in Mosley's survey felt that, "A problem frequently faced by black administrators is getting access to information to do

²Ibid., p. 305.
a job effectively."¹ She added further that while a majority of the respondents did have means of garnering this information, several indicated problems in gaining entree into the "good old boys'" network to gather information needed to perform their duties in a suitable manner.²

Pinkstaff and Wilkinson described the good-old-boy network as being a "vital support system" that males had organized and maintained for themselves over the years. Not only did this network involve their current work setting but their contacts in other related professions as well. The authors stated that these contacts might be formed and maintained through memberships in country clubs, professional societies or even on the tennis court. Women, as explained by Pinkstaff and Wilkinson, are not allowed to break into this network directly but can indirectly tap certain of its resources.³

One other problem area, according to Mosley,

"... is that of control of finances or budgets in one's own area of responsibility. One-third of these administrators had no say in budgetary decisions. Others reported limited responsibility. Still others stated that on paper they were responsible, but were thwarted when they tried to act."⁴

Not only did a third of these respondents feel they had little or no impact, even in their own sphere of influence, but also felt that

²Ibid.
³Pinkstaff and Wilkinson, Women at Work, p. 106.
black men saw them as "not having any real power" and further undermined their positions by going to white men when they needed something falling under the auspices of the black female administrator.¹

Mosley reported that a majority of black female administrators in her study felt that they served more as "enforces of the rules" rather than as agents for change.² The ability to be agent for change, to influence decisions regarding institutional changes in policy and control of budgetary affairs appeared to further dichotomize the role of a leader as opposed to the role of the manager who merely attempts to find ways of meeting institutional goals.

A sense of general responsibility pervaded the term management leadership and superseded private gain or opportunitism. This leadership spirit called for organizing, molding and developing a group of individuals. Teaching, futuristic projections, observation and analysis of organizational output are qualities of the genuine leader.³ Jones concluded:

> Focusing on objectives, with a coherent way of reaching them is the task of the manager. Regardless of the management style used to get there, as long as the goal is achieved, you are an effective manager.⁴

The manager, in essence, plans, organizes and controls organizational objectives to achieve projected results. This individual plans to

¹Ibid., p. 304.
²Ibid., p. 307.
³Place and Plummer, Women in Management, p. 98.
⁴Jones, "What It Takes to Be the Boss," p. 72.
explicate schedules, goals and procedures. He organizes the work of a department, while allowing professional autonomy among employees. Furthermore, he sets restraints to determine that goals are achieved. "Managers who do not get satisfactory results are replaced."\(^1\)

Carroll noted that, although many institutions of higher learning have "stepped up" the hiring of black women, those hired have usually been placed in clerical/secretarial positions, Afro-American and minority studies programs, and, rarely, in lower-level administrative posts. She felt that no real changes had taken place. It is true that blacks and minorities have made gains but the individuals benefiting most from this progress have been white women and black men.\(^2\)

Affirmative action programs appear to be the only solution to remedying the absence of black females in decision-making positions in higher education and the world of work. Even this solution is very dubiously viewed in light of the present Reagan administration's attitude towards blacks and other minorities.

Arnez's survey of selected black female public school superintendents ascertained that although women constitute a majority of teachers in American public education, they are not being utilized in educational administrative positions. Most school administrators have routinely been men. Affirmative action programs, instituted during the '60s and '70s, have stimulated little change in the existing state

\(^1\)Place and Plummer, *Women in Management*, p. 94.

\(^2\)Carroll, "Three's a Crowd," p. 179.
of affairs. In concurrence with Tidball, Arnez stated that if any change has taken place, it has been the decrease of women in leadership positions due to declining school enrollments and budget cuts. These negative occurrences for women have resulted in a majority of high level school leadership positions still being held by males. Despite being victimized by sexual and racial barriers and the empty promises of affirmative action, black female doctorates and near doctorates have made significant contributions to education in top-level administrative posts.¹

To summarize, although there are many pitfalls and barriers and little support of highly educated black females in administrative positions, whether in academia or industry, these women, by sheer determination, strong need to achieve and solid family backgrounds continue to fight the vestiges of ignorance, sexism and racism to reach their individually perceived "pot of gold."

Professional Recognition

Consideration will now be given to the "accolades" that black females are receiving in higher education. This academic attention or praise will be manifested in the form of professional recognition afforded these individuals.² McCabe stated that, "Black women continue to receive accolades, and they predominate over black men in numbers


at institutions of higher learning.\(^1\)

Professional recognition, as defined by Bernard, included: peer recognition and praise, citations of research, election to professional and honorary societies and offices held in these organizations, and becoming "names."\(^2\) Professional recognition will include, but not be limited to, the receipt of postdoctoral fellowships, memberships in honorary societies and offices/committee memberships held in state and national level professional organizations.\(^3\)

Astin felt that a postdoctoral fellowship illustrated one type of reward for academicians in that it is customarily conferred on the basis of unusual "academic achievement" and its receipt may be regarded as placing the individual into an "elite" segment of academia with "respect to scientific and scholarly promise."\(^4\)

Nies revealed that,

Fellowships serve four hidden functions: First, they come to function as professional credentials in themselves. Second, they provide educational experiences often available in no other way. Third, they provide professional and political contacts, exposure and access to professional channels that might not be otherwise available or that would take years to develop on an individual basis. And fourth, they serve as a channel for transmitting professional values.\(^5\)

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\(^1\)McCabe, "Black Women - Meeting Today's Challenges," p. 11.

\(^2\)Bernard, Academic Women, p. 178.


\(^4\)Astin, Woman Doctorate in America, p. 77.

\(^5\)Judith Nies, "Fellowship and Women" (Research presented at the AAUW Conference on the Graduate and Professional Education of Women, sponsored by the AAUQ, May 9-10, 1974), p. 34 of the proceedings.
Unfortunately, the postdoctoral fellowship, while an invaluable experience for the doctorate recipient, appears to be underutilized not only for black females, but for females in general. The research tended to concur that the numbers of black females and females are quite low in terms of participation in postdoctoral fellowships. Guilford and Synder's survey reported that only 3.9 percent of the black female doctoral degree recipients interviewed had definite postdoctoral study plans, while only 3.0 percent were seeking postdoctorate study positions.\(^1\) This minute figure, relative to all males, appeared to be supported by Tidball's findings that of all American women, only three percent receive postdoctoral opportunities.\(^2\) Nies additionally stated that:

> While money is important, fellowships have holdover characteristics significant far beyond the actual year or time period of the monetary award. In a competitive job market, the fact of having been a certain type of fellow—a Guggenhiem, for instance, as a Rhodes Scholar—becomes, in itself, a professional qualification. Insofar as women are discriminated against or are outside the network of recipients in prestigious fellowship programs, they become less qualified in the job market, even though they may hold equivalent degrees and professional training.\(^3\)

Astin's research supported the salience attached to the receipt of a postdoctoral fellowship. Employers were noted not only to compete

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\(^1\) Guilford and Synder, Ph.D.'s in the Seventies, pp. 60-62.

\(^2\) Elizabeth Tidball, "Women Role Models in Higher Education (Research presented to the AAUW Conference on the Graduate and Professional Education of Women, sponsored at the AAUW, May 9-10, 1974), p. 58 of the proceedings.

\(^3\) Nies, "Fellowships and Women," p. 69.
for these individuals, but to seek them out as well. This reasoning was offered for the postdoctoral fellow being more occupationally mobile than the doctorate that had not received this training.\(^1\)

Tobin's study disclosed that the majority or 82.2 percent of his respondents had not been the recipient of a postdoctoral fellowship. Interestingly enough, of those received, most were in the field of education. His explanation for the small number of black female doctorates receiving fellowships was that historically black institutions have placed greater emphasis on their teaching mission and less on research.\(^2\)

Astin's findings reported that women in education are the least likely to receive postdoctoral fellowships, while women in biology are the most likely to receive them.\(^3\) Simon and associates stated that being awarded a fellowship is a "sign" of recognition.\(^4\)

The authors observed that married female doctorate holders are more likely than unmarried female doctorates to be recipients of postdoctoral fellowships due, in large part, to employment difficulties and institutional antinepotism rules.\(^5\)

\(^1\)Astin, *Woman Doctorate in America*, p. 69.

\(^2\)Tobin, *Black Female Ph.D.*, p. 84.

\(^3\)Astin, *Woman Doctorate in America*, p. 69.


\(^5\)Ibid.
Martin related that many faculty wives find themselves unemployed and "homebound" because of three factors: 1) the mobility of individuals in higher education; 2) antinepotism regulation; and 3) basically because many colleges and universities are located in relatively small towns.¹

The most viable alternative for the female doctorate or near doctorate holder, in lieu of suitable academic employment or remaining unemployed, might be the postdoctoral fellowship. It has been shown, statistically, that women apply for fellowships in low numbers and received them in even lower numbers. It has also been shown that for the lower level fellowship (Fullbright Graduate Fellowship) women tend to do better (receive 20 percent of the total awarded). But for the Fullbright Doctoral and Postdoctoral Fellowships, women fared rather poorly, only accounting for two percent to four percent of those received.²

In terms of employment, women who had been awarded postdoctoral fellowships or held doctoral assistantships were more likely to be employed full-time later on in their careers.³

According to Astin, married women tend to hold a higher percentage distribution of teaching and research assistantships, scholarships and

²Nies, "Fellowships and Women," p. 35.
³Astin, Woman Doctorate in America, p. 69.
fellowships than their single female doctoral colleagues.\footnote{Helen Astin, "Factors Affecting Women's Scholarly Productivity," The Higher Education of Women, edited by Helen S. Astin and Werner Z. Hirsch (New York: Praeger Publishers, 1978), p. 142.} Although married women seem to operate on a higher level in this respect, the combined figures, for married and single female doctorates, were still miniscule in comparison to those doctoral support services received by men, especially white men.\footnote{Ibid., p. 143.}

Nies reported:

Fellowship administrators claim that few women are in the fellowship programs because women simply don't apply. This is true. But human nature being what it is, women tend to apply where they can win.\footnote{Nies, "Fellowships and Women," p. 36.}

This researcher has no knowledge of her institution, Atlanta University, publicizing in an oral or written medium, the existence of predoctoral, doctoral, or postdoctoral fellowships or scholarships, i.e., Danforth Fellowships, Woodrow Wilson Fellowships, although it had prior knowledge of them. This action might tend to have a deleterious effect on black female doctoral students and their ability, in the future, to carry on needed research, remain in school or even attain their academic and subsequent occupational goals.

Although it appears to be an no win situation for females in general, and especially for black females, Judieth Nies asserted that a federal bill passed during the early seventies, Title IX of the

Higher Education Amendment Act, would at least induce the administrators of fellowship programs to think about the bias built into their programs and the low participation rate of women.\(^1\)

The only available reference on postdoctoral education tended to treat the experience as the final bastion of male supremacy as evidenced by such statements as:

"the attractiveness of the postdoctoral as a faculty member in comparison to a man coming directly from his Ph.D. has several components, . . . he is much better able to get grant support. . . ."\(^2\)

The review focus will now change to another form of professional recognition, the receipt of honors, induction in honorary societies and participation in professional organizations.

Women doctorates in education, who tend to be older than the average female doctorate, also tend to receive a larger number of honors, i.e., outstanding faculty member awards, listing of Who's Who, etc.\(^3\)

Simon found membership in an honorary society an ambiguous measure of professional recognition because a majority of doctoral degree holders were inducted while students, therefore, membership in an honorary society could not be considered an absolute guide of professional recognition.\(^4\)

\(^1\)Ibid., p. 37


\(^3\)Astin, Woman Doctorate in America, p. 80.

Mosley determined from her survey that:

Historically barriers erected and maintained against Blacks in professional organizations offer little help. Recognition of this fact has caused Blacks and women to create Blacks and women's caucuses as ways of seeing that their needs are given some attention. Some new organizations, such as the Association of Black Psychologists (a spinoff of the American Psychological Association), have been formed as a protest against practices not felt to be in the best interest of black members.¹

Eighty-five percent of the respondents in Mosley's study belonged to or were active in scholarly or professional organizations.²

It is not clear whether black female doctoral degree holders in Tobin's study held elected offices or committee memberships, as was the case with Mosley's respondents, but approximately 86 percent had attended and taken part in professional meetings. It would appear that although these black female Ph.D.'s had, to a great extent, participated in professional meetings, their participation had not been manifested in the presentations of professional papers. Only six percent had presented seven or more scholarly papers at professional meetings.³ It appeared as if several factors impacted upon the professional participatory patterns of black female Ph.D.'s other than a lack of initiative or motivation.

²Ibid., p. 299.
³Tobin, Black Female Ph.D., pp. 67-70.
Simon and colleagues noted:

That a higher proportion of respondents (men and women) in education is likely to be involved in the activities of their professional organizations than respondents in other fields.1

Men and married women are less likely to serve on committees and hold offices in professional organizations than unmarried women. This pattern occurred in education, as well as other fields.2 Bernard also reported that the unmarried female doctorate participated and held membership in a great deal more professional and scientific societies than their married colleagues.3

The authors accounted for this statistic, for unmarried women (membership 37 percent and holding office 39 percent), by stating that married women not only have professional responsibilities, but marital and familial demands as well. In the prioritizing of marital and professional duties, committee work was seen as the least essential of all. They also indicated that committee work served a two-fold purpose for the unmarried doctorate, that of filling "social needs" in combination with meeting professional responsibilities.4

Women in academia are more likely to receive professional recognition comparable to the recognition received by male colleagues when

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2Ibid., p. 369.
3Bernard, Academic Women, p. 212.
the acknowledgements are academic titles or posts rather than when the compensation is based on financial remuneration on salaries.¹

To conclude, men in academia, even today, receive higher average salaries than women faculty in Georgia's institutions of higher education, i.e., Emory University rewards male full professors with approximately $53,000 per annum, while paying female full professors only $43,000.²

Professional Productivity

The review will now focus on the productivity level of black female doctorates. Interestingly, Hecker indicated that less than 15 percent of doctorates publish after conferment of the degree. Humorously, the author noted that these publications include "those squeezing every ounce from their dissertations."³

Astin alluded to the idea that the "quality" of the institution of doctoral matriculation correlated with productivity, much more than aptitude or interest.⁴ The author stated that the university attended by the female doctorate influences her productivity. This influence was explained by Astin to involve two primary factors. First, women who tend to be drawn to "elite" and "competitive" colleges or

²Ezell, "Women Trail Men," p. 4-C.
⁴Astin, Woman Doctorate in America, pp. 81-82.
universities may be more research oriented and academically motivated than other females, thus more productive occupationally. Second, women who attend these "elite" institutions are likely to emulate highly productive faculty members.¹

Although these explanations appeared plausible, there might be other factors which also impact upon the black female doctorate to produce or not to produce. Not only did Astin make the assumption that females attending "elite and competitive" institutions are more motivated but also that this motivation gives these females an added impetus to produce scholarly works and research. She also appeared to find evidence that, in some instances, a mentor relationship takes place which further motivates the doctorate to exceed standard expectations.

Lewis's study found that, "This research revealed that the black female has not had the benefit of an all purpose mentor who (sic) she gives primary credit for shaping and guiding her career."² Carol Smith gave further credence to Lewis's finding with, "Even today a young black female who aspires to become a college or a university administrator must diligently search to find a mentor who is also black and female."³

Gilbert observed that female graduate students working with a female faculty member might find a source of "affirmation" for their professional aspirations and goals as well as encouragement. She

²Lewis, "Black Female Administrators," p. 570-A.
³Hopson-Smith, "Black Female Achievers," p. 320.
felt women graduate students were no less achievement motivated than their male colleagues but were more aware of the negative outcomes of both academic and professional "success" for women. The researcher was able to conclude that role models of the same sex were significant for female graduate students if the values, life-styles and personal attributes of each were similar.¹

The professional/student relationship or association was thought, by Bernard, to aid in the student's academic socialization. She felt that the graduate student-mentor relationship was of special significance. Bernard asserted that the graduate student-mentor association carried implications for "success or the lack of it" for the students' subsequent career goals.² Pinkstaff and Wilkinson reported that mentoring is vital and that the knowledge gained from this experience cannot be acquired from any other source.³

This researcher was quite fortunate in her early graduate school experience to find such an individual. Dr. Fannie Richardson Cooley Chairperson of the Graduate Counselor Education at Tuskegee University, provided academic leadership, spiritual guidance and inspiration to achieve the ultimate. This extremely intelligent and cultured black female doctorate holder did not let a severe physical injury, that

²Bernard, Academic Women, p. 140.
³Pinkstaff and Wilkinson, Women at Work, p. 51.
occurred in her first doctoral program, deter her from striving to attain the Ph.D. She merely used this barrier as a stepping stone. This unusually highly motivated black woman served as an excellent example that black women cannot only attain the Ph.D., against great odds, but that they can also serve on national committees and hold offices on the state and national levels for professional organizations, as well as be prolific in their production of scholarly research.

Astin suggested that:

Traditionally, rank and salary in academe are based on scholarly productivity rather than training, ability or teaching effectiveness. The use of the publication criterion is unfortunate for two reasons: (1) Despite its quantifiability, the criterion is not particularly appropriate for rewarding achievement in an educational environment; teaching effectiveness would seem a far better, even if more difficult to measure criterion; (2) it affects women adversely, since they tend to publish less and devote more time to teaching.  

The research suggested that teaching is the primary work activity of a majority of female doctorates across all field, except for the biological and physical sciences where research ranked highest.  

In making a distinction between the role of men and women in academia, Bernard reported that women traditionally have made their contributions in the role of teachers. The functions of the teacher's roles are "serving as an instrument of communication," dealing with the elementary facet of the discipline and handling required course work. 

\[2\] Astin, The Women Doctorate in America, p. 75.  
\[3\] Bernard, Academic Women, pp. 114-118.
The female doctorate is more apt to be employed at a four-year college than an university; and, subsequently, to carry heavier teaching assignments that leave little time for research, writing or publication. In turn, funding organizations are less amendable to allocating research monies to four-year colleges. These funds are usually diverted to scholars at large universities.\(^1\) Adding to the possible inappropriateness of "scholarly productivity" as a gauge for possible rank and salary levels are other considerations for the black female doctoral student and degree holder.

Mosley set forth the notion that:

In addition to the credentialing and certificating of higher education, one is expected to do research, to publish and to keep up with developments to one's field by belonging to and participating in professional organizations and meetings. Even though these requirements are more stringently enforced for faculty members in the tenure tract, Blacks on the whole, have not been provided with the same publishing opportunities as whites for a variety of reasons, many having to do with institutional racist policies that deny Blacks access to the publishing medium.\(^2\)

Astin revealed that for women doctorate in education, administrative responsibilities were ranked second after teaching duties.\(^3\)

The review disclosed earlier that blacks and women tend to cluster in education as a doctorate field choice. Therefore, the reasons became apparent why the publication rate for black female doctorate

\(^1\)Astin, "Career Profiles of Women Doctorates," p. 156.


\(^3\)Astin, Woman Doctorate in America, p. 73.
is especially low, first teaching duties and second administrative responsibilities.

The individuals in Mosely's study felt that, in addition to administrative or teaching duties, they were required to be the resident "nigger expert" without released time or additional resources to complete them. Black females get extra duty because they could fulfill two requirements: the need for a woman and the need for a black.¹ "In many cases, where tenure is involved, Blacks are penalized for not publishing and therefore lose their jobs because they do not have time to publish."²

Bernard succinctly asserted that it is not quite valid to compare the "productivity" of academicians in the humanities, i.e., history, with doctorates in the natural sciences, i.e., chemistry, since historians have a low productivity rate compared to that of chemists.³

Astin noted;

When we examine the productivity of women doctorates in general, as compared to academic women, we observe that the former had published an average of four to five articles, that 75 percent had published at least one, and that 13 percent had published eleven or more. Natural scientists were the most productive, 92 percent having published at least once, and 24 percent having eleven or more articles to their credit. Moreover, those in academic settings appear to be slightly more productive than those in other work settings.⁴

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² Ibid.
³ Bernard, Academic Women, p. 147.
Additionally, women doctoral level biological scientists are more prolific, using articles written as an index, compared with other women doctorates across all fields.¹ Yet, the literature revealed that an examination of measures of productivity, books versus articles, women in the humanities and arts are more prolific than other female doctorates across all fields.²

Simon and associates found the number of books published as sole or senior author and number of articles published to be the two most direct assessments of productivity. Although the above measures of productivity appeared to be the more accurate, receipt of a research grant in one's own name and consultation work were also used to assess productivity.³

Tobin stated that aside from the relatively low number of books and articles published, and presentations of scholarly papers by the subjects in his study, a significantly higher number of individuals had participated in the writing of proposals and receiving funding.⁴

Although blacks reported have not been afforded the same opportunities to publish as their white colleagues, the black women in Mosley's study appeared to be rather active. Of the 120 total respondents, 42 percent reported presenting scholarly papers in state

¹Bernard, Academic Women, pp. 147-148.
²Astin, "Career Profiles of Women Doctorates," p. 156.
⁴Tobin, Black Female Ph.D., p. 69.
and national meetings during the preceding three years, 13 had edited 15 books or monographs, 18 had shared the authorship of 20 articles or scholarly papers, while 38 women had written 167 articles or scholarly papers. "Fifty-one percent were involved in professional activities that, hopefully, would lead to publication."1

Interestingly, Bernard assessed the personality traits of "high-producers." They were reported not only to organize their lives around work but "productivity" became an alternative life-style. Adjectives used to describe these individuals were: "ambitious," "driven," "curious," and the like.2 Across all fields, unmarried women are less likely to publish than married women.3

In Tobin's study of black female Ph.D.'s, he found that the individuals employed by predominately black institutions, with a historical thrust towards mechanical and agricultural sciences, encountered fewer experiences in which stress was placed on publishing and research. Therefore, it appeared congruent that most of the subjects in this study had neither published articles or books.4

It must be noted that the historically black institutions used by Tobin to draw his sample were state supported institutions. It must be clarified that Tuskegee University, a private historically black

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2Bernard, Academic Women, p. 156.
institution, according to the Tuskegee University Alumni Newsletter, is noted for its research innovations in engineering, veterinary science, agriculture and many other areas as evidence by its solid financial base and number of private and governmental grants awarded.¹

To aid in alleviating the "Brain Drain" from historically black institutions, Mommsen felt that these schools should attempt to emulate the larger historically white institutions through increased "professionalization," which incorporates research and the support of research, papers of a scholarly nature, publications, books, and professional organizations. He pointed out these areas of concern for the black doctorate holder in choosing a place of employment.² The research tended to show that black female doctorate holders are not as research oriented, and, therefore, not as prone, as other colleagues to publish books or articles.

**Summary of the Review of the Literature**

The doctorate is considered to be a pass-key to many positions in the private sector, church and government. For higher education and administrative posts in elementary and secondary education, the doctorate is all but a prerequisite for entry.

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¹Tuskegee University Alumni Newsletter, Winter 1986.
Black Ph.D.'s, inclusive of females, have tended to come from the southern United States. The educational levels of their parents were found to be generally higher than that of the general public, while the educational levels of parents of black female Ph.D.'s were reported to be higher than that of black males. The average age is approximately 40 years old upon conferment of the doctorate. Blacks tended to matriculate and receive baccalaureate degrees from historically black institutions and usually took about 13 years to attain the doctorate after receipt of the baccalaureate. There is a point of contention, in the research, on the regional location of institutions awarding the majority of doctorates to blacks. One researcher asserted that northern, "prestigious," white institutions awarded the majority of these terminal degrees, while another researcher noted that three of the top five doctoral degree granting institutions, conferring the doctorate on females, are located in the South. Atlanta University is among this group. Whether attending northern or southern institutions of higher education, Blacks, apparently, concentrate in education, to the basic exclusion of other fields, with the exception of chemistry in the physical sciences. Sources of support tend to come from one's self or spouse although there are several sources of fellowship and scholarship monies set aside specifically for minorities. A slight majority of black female doctorate holders are married, yet an unusually large block is unmarried. The great majority reported either no dependents or only one.
Black doctorates tend to find employment in higher education to a great extent, while a very low number are in the private sector. Yet black female doctorates in higher education feel that they are discriminated against when administrative and high-level faculty positions are awarded.

Research on the motive to achieve in black females revealed that they are quite similar to white females in that they tend to choose and cluster in traditionally feminine-dominated fields.

Black female doctorates were found to not only be constrained by sexual barriers, but racial ones as well in their attempts to secure managerial and administrative positions. When these individuals were able to move up to these high-level jobs, they were said to be both democratic and assertive leaders.

The research tended to show that black female doctoral degree holders are not as research-oriented as their other colleagues. Although there were several reasons, the most salient appeared to be their employment with historically black institutions that placed a great deal of emphasis on their "teaching mission."

Black female Ph.D.'s tend not to receive postdoctoral fellowships, nor was there evidence that they hold committee memberships or offices in professional organizations to any great extent. One researcher was able to conclude that many were able to write and receive research grants and monies.
CHAPTER III
RESEARCH METHODOLOGY

This section contains a discussion of the research design, subjects, selection procedure instrument descriptions, procedures for implementation, analysis of the data, and statistical treatment of the data.

Research Design

The research design for this study consisted of the survey research technique utilizing the ex post facto research technique. According to Kerlinger, "Surveys sample population in order to discover the incidence and distribution of, the interrelationships among, . . . psychological and educational variables."¹

Ary indicated that ex post facto research is conducted after modifications of the independent variable have been resolved "natural course of events."²

Subjects

The group used for this research study consisted of all black female doctorates in the four disciplines of: administration and

supervision, guidance and counseling, biology and chemistry who completed degree requirements from Atlanta University during the academic years 1975 through 1985. The initial figure for all disciplines was 91 (n = 91); with 45 in administration, 21 in counseling, 23 in biology, and two in chemistry.

Selection Procedure

The following statements synoposize the procedures used by the researcher for the selection of subjects in this study. Cross-referenced lists of black female doctoral graduates from the Atlanta University Schools of Education and Sciences between the academic years of 1975 through 1985, were obtained from the Offices of the Registrar and Alumni Affairs. Additional mailing lists were secured from other sources, i.e., local telephone directories, the Atlanta University Alumni Association, faculty members and various departmental staff.

All black female doctorates who graduated during the targeted period were eligible for inclusion in this study.

Instruments

The following instruments were used to obtain the data for this study: 1) The Male-Female Role Research Inventory of Feminine Values; 2) The Meta-Motivation Inventory; and 3) A Demographic Questionnaire.

The Male-Female Role Research Inventory of Feminine Values is coauthored by Drs. Anne G. Steinmann and David S. Fox. This MIFV is a Likert-type scale consisting of 34 statements. Half of the items
delineate family, home, other oriented (traditional) values and attitudes. The other half represents self-oriented, self-achieving (liberal) values and attitudes. Three forms of the instrument for measuring female perceptions of the feminine roles are administered to females to assess their self-perceptions, as they believe the ideal woman would respond, and as they believe a man would have the ideal woman respond.

For the MIFV, content validity is based on the judgement of seven experts, all professionals in the social discipline, who agreed with these categorizations, self-oriented (liberal) or family, home and other oriented (traditional). Concurrent validity of the MIFV has been tested in more than 90 research studies. These studies indicated that sources of the MIFV were correlated with scores on a wide variety of other tests. Split-half reliability of the MIFV, using the Spearman Brown prophecy formula, was estimated at .81.

The Meta-Motivation Inventory is authored by Dr. John A. Walker. The original norming data for the Meta-Motivation Inventory were collected from 220 mid-level managers in the Spring of 1979. The data base of 220 was deemed sufficient by the author to establish the original norms for the inventory, since the statistical error rate for sample populations over 200 is minute. Dr. Waler reports, at this writing, approximately 5,000 managers have taken the Meta-Motivation Inventory and analysis supports the accuracy of the original norms. The author detailed two types of validity for the instrument, namely,
stating that several studies have been conducted using these data which indicate that the MMI has predictive validity. Additionally, a primary source of validation of the MMI was based on respondent self-report. Participants in the original norm were asked if the results represented an accurate description of their personality and management style. Eighty-seven percent responded in the affirmative. The MMI was subjected to a test-retest reliability study due mainly to the odd number of items in each category and the brevity of the inventory. The correlations between the scores on the first and second administrations, for the six major dimensions of the inventory, are reported as follows: 1) self-actualization, .86; 2) deterministic, .86; 3) achievement, .84; 4) need for control, .87; 5) concern for people, .86; and 6) stress, .87.

The demographic questionnaire was loosely based on the National Academy of Science Survey of Earned Doctorates. It consisted of items used to ascertain information from participants on pre- and postdoctoral activities, as well as basic data on such categories as age, parental education, undergraduate institution and marital status.

**Procedure for Implementation**

The following procedures were followed in carrying out this study:

1) Prior to beginning the actual research, cross-referenced lists of all black female doctorates of education and sciences, between the academic years of 1975 and 1985, were obtained from the Office of the Registrar and Alumni Affairs.

2) A schedule was formulated to administer the research instruments.
3) Each participant was sent an informed consent letter which described the research process. A waiver form was requested from each participant giving the researcher permission to use confidential information about her in completing the research project.

4) The self-administered instruments were mailed to each participant.

5) Two weeks after the initial mailing, a post card was sent out as a reminder to all individuals participating in the study.

6) A 63 percent (n = 50) rate by May 31, 1986, served to determine the cut-off date for return of participant's respondes. This 63 percent rate of return from the original number (67 doctoral graduates from the School of Education and 26 doctoral graduates from Chemistry and Biology) was affected by the presence of two white females, ten packets returned by the United States Postal Service, the refusal of one subject to participate and the researcher's unsuccessful attempt to initially obtain a current mailing address on one subject.

Data Collection

The data for this study were based on the responses from 63 percent (n = 50) of the subjects who participated in this research project. Nine of the black female science doctorates responded, while 41 black female education doctorates responded. Eighty-eight percent of the instruments were mailed and three were hand-delivered to participants employed by the Atlanta University Center.

Statistical Treatment of Data

Fisher's t for testing differences between uncorrelated means was employed in this study.
CHAPTER IV
RESULTS AND DISCUSSION

This chapter presents the analysis of data in this study and a discussion of the research findings. The analysis looks at demographic data and data based on participants' responses. The eleven null hypotheses asserted that there would be no statistically significant differences in the mean levels on item responses of black female doctoral graduates in education and black female doctorates in the sciences in relation to: 1) their perceptions of feminine values, 2) managerial and leadership styles; 3) levels of professional recognition; and 4) levels of professional productivity.

Statistical Analysis

The statistical analysis that was employed to test the hypotheses for this study was Fisher's t. Fisher's t was used to determine if any statistically significant differences existed between the mean levels of the variables for the two groups.

The .05 level of significance was established as the decision rule for acceptance or rejection of the null hypotheses.

The following tables will illustrate the demographic data of this research study on black female doctoral graduates of Atlanta University. The analysis of demographic data is based on percentages.

The data in Table 1 show that the majority, seven (77.7 percent) of black female science doctorates' fathers either terminated their
TABLE 1
EDUCATIONAL LEVELS OF FATHERS

<table>
<thead>
<tr>
<th>Educational Levels of Fathers</th>
<th>Science No.</th>
<th>Science %</th>
<th>Education No.</th>
<th>Education %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Grades K - 7</td>
<td>1</td>
<td>11.1</td>
<td>9</td>
<td>21.95</td>
</tr>
<tr>
<td>Junior High Grades 8 - 9</td>
<td>3</td>
<td>33.3</td>
<td>9</td>
<td>21.95</td>
</tr>
<tr>
<td>Senior High Grades 10 - 12</td>
<td>4</td>
<td>44.4</td>
<td>13</td>
<td>31.71</td>
</tr>
<tr>
<td>Some College</td>
<td>1</td>
<td>11.1</td>
<td>6</td>
<td>14.63</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td></td>
<td></td>
<td>2</td>
<td>4.87</td>
</tr>
<tr>
<td>Masters</td>
<td></td>
<td></td>
<td>1</td>
<td>2.43</td>
</tr>
<tr>
<td>Doctorate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postdoctorate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None Reported</td>
<td></td>
<td></td>
<td>1</td>
<td>2.43</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>99.9</td>
<td>41</td>
<td>99.97</td>
</tr>
</tbody>
</table>

educational pursuits in junior high school or senior high school. Also, the majority, 31 (75.61 percent) of the fathers of black female doctorates in education tended to have terminated their educational pursuit by the end of senior high school.

Table 2 contains information on the black female doctorates' mothers' level of education. The data in Table 2 show that a majority,
TABLE 2
EDUCATIONAL LEVELS OF MOTHERS

<table>
<thead>
<tr>
<th>Educational Levels of Mothers</th>
<th>Science</th>
<th></th>
<th>Education</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Elementary Grades K - 7</td>
<td>2</td>
<td>22.2</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Junior High Grades 8 - 9</td>
<td>1</td>
<td>11.1</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>Senior High Grades 10 - 12</td>
<td>3</td>
<td>33.3</td>
<td>18</td>
<td>43.9</td>
</tr>
<tr>
<td>Some College</td>
<td>3</td>
<td>33.3</td>
<td>3</td>
<td>7.32</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td></td>
<td></td>
<td>9</td>
<td>22.0</td>
</tr>
<tr>
<td>Masters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>4.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None Reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>99.9</td>
<td>41</td>
<td>99.83</td>
</tr>
</tbody>
</table>

Six (66.6 percent) of mothers of the science black female doctorates terminated their education after senior high, while the majority, 27 (65.8 percent) of the mothers of black female education doctorates terminated their education at the senior high school level. Also a relatively high number, nine (22 percent), of the mothers of education doctorate attended college with two (4.9 percent) attaining the doctorate.
Table 3 contains information on sources of undergraduate degrees for the participants. The great majority, eight (88.89 percent) and 34 (82.93 percent), respectively, of these individuals received their baccalaureate education from historically black institutions.

**TABLE 3**

**SOURCES OF UNDERGRADUATE DEGREE GRANTING INSTITUTIONS**

<table>
<thead>
<tr>
<th>Undergraduate Institution</th>
<th>Sciences No.</th>
<th>Sciences %</th>
<th>Education No.</th>
<th>Education %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historically Black Institutions</td>
<td>8</td>
<td>88.89</td>
<td>34</td>
<td>82.93</td>
</tr>
<tr>
<td>Historically White Institutions</td>
<td>1</td>
<td>11.11</td>
<td>7</td>
<td>17.07</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4 contains information on field changes for the participants. There was no reported field-switching in the sciences. However, 29 (70.35 percent) of the individuals in education had changed areas of concentration after receipt of the baccalaureate degree.

Table 5 contains information about the length of time it took participants to attain the doctorate after receipt of the baccalaureate degree. The most salient feature of the data in Table 5 is the fact
<table>
<thead>
<tr>
<th>Undergraduate Field Concentration</th>
<th>Sciences</th>
<th></th>
<th>Education</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>8</td>
<td>88.89</td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1</td>
<td>11.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td></td>
<td>3</td>
<td>7.32</td>
</tr>
<tr>
<td>Sociology</td>
<td></td>
<td></td>
<td>5</td>
<td>12.20</td>
</tr>
<tr>
<td>History</td>
<td></td>
<td></td>
<td>6</td>
<td>14.63</td>
</tr>
<tr>
<td>Social Science/Studies</td>
<td></td>
<td></td>
<td>4</td>
<td>9.76</td>
</tr>
<tr>
<td>Business Administration/Education</td>
<td></td>
<td></td>
<td>3</td>
<td>7.32</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>Drama</td>
<td></td>
<td></td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>Math</td>
<td></td>
<td></td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>Speech Pathology</td>
<td></td>
<td></td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>Education/Elementary and Secondary</td>
<td></td>
<td></td>
<td>12</td>
<td>29.27</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
<td>41</td>
<td>99.62</td>
</tr>
</tbody>
</table>
that the majority, 19 (46.34 percent), of the education doctorates took between 20 or more years to earn their doctorates. The science doctorates took approximately four to 14 years to earn their doctorates.

**TABLE 5**

**BACCALAUREATE TO DOCTORATE TIME SPAN**

<table>
<thead>
<tr>
<th>Baccalaureate to Doctorate Time Span</th>
<th>Sciences</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>3 Years</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>4 Years</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>5 Years</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>6 Years</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>7 Years</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>8 Years</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>9 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Years</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>15 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 25 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 25 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9</td>
<td>99.99</td>
</tr>
</tbody>
</table>
Table 6 contains information on the participants' average ages when doctorates were completed. The average age for all respondents upon completion of the doctorate was approximately 39 years old. The women in science tended to be younger, 29 years old, while the women in education were approximately 42 years old.

TABLE 6
AVERAGE AGES OF SUBJECTS

<table>
<thead>
<tr>
<th>Ages</th>
<th>Sciences</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>26</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>27</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>28</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>29</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>30-35</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>35-40</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>40-45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>99.99</td>
</tr>
</tbody>
</table>
Table 7 contains information about the black female doctorates' postdoctoral educational activities. A slight majority, five (55.5 percent), of the black female doctorates in the sciences had either fellowships or additional course work. An extremely large number, 30 (73.2 percent), of the black female doctorates in education had terminated their academic pursuits upon receipt of the Ph.D. and Ed.D. degrees. Two education graduates reported postdoctoral fellowship participation, seven reported taking additional course work past the doctorate, while two had actually enrolled in degree granting programs (one of the latter categories graduated from the degree granting program).

**TABLE 7**
POSTDOCTORAL EDUCATIONAL ACTIVITIES

<table>
<thead>
<tr>
<th>Postdoctoral Education</th>
<th>Sciences No.</th>
<th>%</th>
<th>Education No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fellowships</td>
<td>4</td>
<td>44.4</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>Course Work</td>
<td>1</td>
<td>11.1</td>
<td>7</td>
<td>17.1</td>
</tr>
<tr>
<td>Degree Programs</td>
<td>2</td>
<td>4.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>4</td>
<td>44.4</td>
<td>30</td>
<td>73.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
<td><strong>99.9</strong></td>
<td><strong>41</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Table 8 contains information about participants' marital status. The great majority, seven (77.78 percent), of black women science doctorates was unmarried, while a slight majority, 22 (53.66 percent), of the black females in education was married; however, a relatively large number, 19 (46.34 percent) of the education doctorates was unmarried.

**TABLE 8**

MARITAL STATUS OF PARTICIPANTS

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Sciences</th>
<th></th>
<th>Education</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Married</td>
<td>2</td>
<td>22.22</td>
<td>22</td>
<td>53.66</td>
</tr>
<tr>
<td>Unmarried (single, widowed or divorced)</td>
<td>7</td>
<td>77.78</td>
<td>19</td>
<td>46.34</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 9 contains information about participants' dependents. The data in Table 9 show that a majority had no dependents, eight (88.89 percent) and 24 (58.54 percent), respectively.
TABLE 9  
NUMBER OF DEPENDENTS

<table>
<thead>
<tr>
<th>Number of Dependents</th>
<th>Sciences No.</th>
<th>Sciences %</th>
<th>Education No.</th>
<th>Education %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>8</td>
<td>88.89</td>
<td>24</td>
<td>58.54</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>11.11</td>
<td>9</td>
<td>21.95</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>4</td>
<td>9.76</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>4</td>
<td>9.75</td>
</tr>
<tr>
<td>Over 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 10 contains information about participants' employment. The data in Table 10 show that the majority of the science doctorates (77.78 percent) was employed in higher education, while the majority, 23 (56.06 percent), of the education doctorates was also employed in higher education. However, a relatively large number, 18 (43 percent), at the education doctorates was employed in elementary and secondary education.

Table 11 contains information about participants' leadership positions. The data in Table 11 show that the majorities in both
### TABLE 10
PARTICIPANTS' EMPLOYMENT STATUS

<table>
<thead>
<tr>
<th>Areas of Employment</th>
<th>Groups</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Elementary/Secondary Education</td>
<td>1</td>
<td>11.11</td>
<td></td>
</tr>
<tr>
<td>Higher Education</td>
<td>7</td>
<td>77.78</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>1</td>
<td>11.11</td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>1</td>
<td>2.44</td>
<td></td>
</tr>
<tr>
<td>Non-Profit Agencies</td>
<td>2</td>
<td>4.88</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>2</td>
<td>4.87</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Elementary/Secondary Education</td>
<td>18</td>
<td>43.96</td>
<td></td>
</tr>
<tr>
<td>Higher Education</td>
<td>13</td>
<td>31.71</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>5</td>
<td>12.20</td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>1</td>
<td>2.44</td>
<td></td>
</tr>
<tr>
<td>Non-Profit Agencies</td>
<td>2</td>
<td>4.88</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>2</td>
<td>4.87</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>41</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 11
SUBJECTS' LEADERSHIP POSITIONS

<table>
<thead>
<tr>
<th>Offices Held</th>
<th>Groups</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>7</td>
<td>77.78</td>
<td></td>
</tr>
<tr>
<td>Non-Administrative</td>
<td>2</td>
<td>22.22</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>2</td>
<td>4.88</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>34</td>
<td>82.93</td>
<td></td>
</tr>
<tr>
<td>Non-Administrative</td>
<td>5</td>
<td>12.19</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>2</td>
<td>4.88</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
groups are holding administrative positions, science and education seven (77.78 percent) and 34 (82.93 percent), respectively.

Table 12 contains information on the participants' salary levels. The data in Table 12 revealed the majority, six (66.66 percent), of the science doctorates received salaries ranging between $22,000 to $50,000 per annum, while the majority, 38 (92.68 percent) of educational doctorates' salaries ranged from $22,000 to over $50,000 per annum.

**TABLE 12**

**PARTICIPANTS' SALARY LEVELS**

<table>
<thead>
<tr>
<th>Salary Ranges</th>
<th>Sciences</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Education</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$15,000/under</td>
<td>2</td>
<td>22.22</td>
<td>1</td>
<td>2.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$15,000 - $22,000</td>
<td>4</td>
<td>44.44</td>
<td>8</td>
<td>19.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$22,000 - $30,000</td>
<td>2</td>
<td>22.22</td>
<td>29</td>
<td>70.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$30,000 - $50,000</td>
<td>1</td>
<td>11.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50,000 - Over</td>
<td>2</td>
<td>4.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None reported</td>
<td>1</td>
<td>11.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td></td>
<td></td>
<td>2</td>
<td>4.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
<td>41</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The preceeding demographic data indicated that the following conclusions may be drawn. The fathers and mothers of these individuals usually terminated their educational pursuits after junior or senior high school.

The vast majority of these individuals received their baccalaureate degrees from a historically black institution. While there was no reported fields switching among the science doctorates, over 70 percent of the education doctorates have matriculated in different field concentrations for their bachelor and doctoral degrees. The science doctorates usually took only eight years to attain the doctorate from receipt of the baccalaureate degrees, while the education doctorates usually needed approximately 19 years to complete doctorate degree requirements from receipt of the bachelors. The average age for all participants upon completion of the doctorate was around 39 years old, while the women in the sciences tended to be much younger, 29 years old.

There were notable differences and similarities in the demographic qualities of the black female doctoral graduates in education and the sciences.

The results and discussions of the statistical analysis of the respondents' perceptions of family-oriented values versus self-oriented values, managerial and leadership, levels of professional recognition, and levels of professional productivity are presented in the following tables. Each table presents data used in testing each of the null hypotheses.
Table 13 contains information on the participants' self-perception. The first null hypothesis stated that there would be no statistically significant difference between the mean level(s) of women's self-

**TABLE 13**

ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON WOMEN'S SELF-PERCEPTION

<table>
<thead>
<tr>
<th>Education</th>
<th>Groups</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>+15</td>
<td>0</td>
<td>+12</td>
</tr>
<tr>
<td>+5</td>
<td>+13</td>
<td>+6</td>
</tr>
<tr>
<td>+13</td>
<td>+15</td>
<td>+10</td>
</tr>
<tr>
<td>+20</td>
<td>+4</td>
<td>+3</td>
</tr>
<tr>
<td>+19</td>
<td>+3</td>
<td>+13</td>
</tr>
<tr>
<td>+5</td>
<td>+19</td>
<td>+2</td>
</tr>
<tr>
<td>+18</td>
<td>+15</td>
<td>+19</td>
</tr>
<tr>
<td>+23</td>
<td>+13</td>
<td>+14</td>
</tr>
<tr>
<td>+25</td>
<td>+11</td>
<td>+9</td>
</tr>
<tr>
<td>+7</td>
<td>+14</td>
<td>+12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N = 41</th>
<th>N = 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means</td>
<td>12.00</td>
</tr>
<tr>
<td></td>
<td>16.33</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>7.23</td>
</tr>
<tr>
<td></td>
<td>7.31</td>
</tr>
<tr>
<td>Standard Error of the Means</td>
<td>1.129</td>
</tr>
<tr>
<td></td>
<td>2.585</td>
</tr>
<tr>
<td>Difference between the Means</td>
<td>-4.33</td>
</tr>
<tr>
<td>Standard Error of the Difference between the Means</td>
<td>2.821</td>
</tr>
<tr>
<td>t</td>
<td>-1.535</td>
</tr>
</tbody>
</table>
perceptions for black female doctorates who had chosen careers in education over the sciences. The statistical analysis yielded the following data: $t$ computed for education = 1.585. This calculation was based on a one-tail $t$-test, therefore, the null hypothesis should be accepted at the .05 level of significance.

Table 14 contains information on the participants' perception of women's ideal woman.

The second hypothesis stated that there would be no statistically significant difference between the mean level(s) of women's perceptions of women's ideal woman for black female doctorates who had chosen careers in education over the sciences. The statistical analysis yielded the following: $t$ computed for education = 2.137. Therefore, $t$ computed is greater than $t$ alpha which indicates that the null hypothesis should be rejected at the .05 level of significance.

Table 15 contains information on women's perceptions of men's ideal woman.

The third null hypothesis stated that there would be no statistically significant difference between the mean level of women's perceptions of men's ideal women for black female doctorates who had careers in education or the sciences. The null hypothesis was rejected based on a one-tail $t$-test which indicated that $t$ computed was greater than $t$ alpha at the .05 level of significance.

Table 16 contains information on the participants' deterministic scores.
<table>
<thead>
<tr>
<th>Education</th>
<th>Groups</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>+12</td>
<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>+14</td>
<td>+17</td>
<td>+9</td>
</tr>
<tr>
<td>+17</td>
<td>+13</td>
<td>+11</td>
</tr>
<tr>
<td>-1</td>
<td>+8</td>
<td>+4</td>
</tr>
<tr>
<td>+27</td>
<td>+6</td>
<td>+6</td>
</tr>
<tr>
<td>+6</td>
<td>+15</td>
<td>+3</td>
</tr>
<tr>
<td>+17</td>
<td>+18</td>
<td>+17</td>
</tr>
<tr>
<td>+21</td>
<td>+8</td>
<td>+16</td>
</tr>
<tr>
<td>+25</td>
<td>+10</td>
<td>+5</td>
</tr>
<tr>
<td>+20</td>
<td>+13</td>
<td>+18</td>
</tr>
</tbody>
</table>

N = 41

<table>
<thead>
<tr>
<th>N = 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means</td>
</tr>
<tr>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Standard Error of the Means</td>
</tr>
<tr>
<td>Difference between the Means</td>
</tr>
<tr>
<td>Standard Error of the Difference between the Means</td>
</tr>
<tr>
<td>t</td>
</tr>
</tbody>
</table>
### TABLE 15
ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON WOMEN'S PERCEPTION OF MEN'S IDEAL WOMAN

<table>
<thead>
<tr>
<th>Groups</th>
<th>Education</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20</td>
<td>-31</td>
<td>+5</td>
</tr>
<tr>
<td>-20</td>
<td>0</td>
<td>+5</td>
</tr>
<tr>
<td>+16</td>
<td>+24</td>
<td>+5</td>
</tr>
<tr>
<td>-19</td>
<td>-21</td>
<td>+16</td>
</tr>
<tr>
<td>-34</td>
<td>-6</td>
<td>-38</td>
</tr>
<tr>
<td>+3</td>
<td>-15</td>
<td>+6</td>
</tr>
<tr>
<td>-21</td>
<td>+10</td>
<td>-22</td>
</tr>
<tr>
<td>+22</td>
<td>-22</td>
<td>-20</td>
</tr>
<tr>
<td>-31</td>
<td>-26</td>
<td>-19</td>
</tr>
<tr>
<td>-44</td>
<td>-33</td>
<td>+7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difference between the Means</th>
<th>Standard Error of the Difference between the Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>-9.32</td>
<td>-1.44</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>Standard Error of the Means</td>
</tr>
<tr>
<td>18.97</td>
<td>2.962</td>
</tr>
<tr>
<td>2.962</td>
<td>9.063</td>
</tr>
<tr>
<td>7.87</td>
<td>1.440</td>
</tr>
<tr>
<td>5.472</td>
<td>t</td>
</tr>
</tbody>
</table>

N = 41
N = 9
The fourth null hypothesis was accepted based on a one-tail t-test which indicated that $t_{\text{computed}}$ was less than $t_{\alpha}$ at the .05 level of significance.

**TABLE 16**

ANALYSIS OF DATA AND SUBJECTS' DETERMINISTIC RAW SCORES

<table>
<thead>
<tr>
<th>Education Groups</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 31 50 40</td>
<td>27</td>
</tr>
<tr>
<td>46 35 27 35</td>
<td>41</td>
</tr>
<tr>
<td>36 28 49 42</td>
<td>35</td>
</tr>
<tr>
<td>38 33 50 50</td>
<td>52</td>
</tr>
<tr>
<td>38 40 34 27</td>
<td>51</td>
</tr>
<tr>
<td>36 35 36 34</td>
<td>49</td>
</tr>
<tr>
<td>35 42 38 46</td>
<td>28</td>
</tr>
<tr>
<td>25 41 35 38</td>
<td>34</td>
</tr>
<tr>
<td>28 37 28 36</td>
<td>53</td>
</tr>
<tr>
<td>40 53 31 25</td>
<td>36</td>
</tr>
</tbody>
</table>

N = 41

<table>
<thead>
<tr>
<th>Means</th>
<th>37.02</th>
<th>41.11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>7.136</td>
<td>10.484</td>
</tr>
<tr>
<td>Standard Error of the Means</td>
<td>1.128</td>
<td>3.706</td>
</tr>
<tr>
<td>Difference between the Means</td>
<td>-2.379</td>
<td></td>
</tr>
<tr>
<td>Standard Error of the Difference between the Means</td>
<td>3.874</td>
<td></td>
</tr>
<tr>
<td>$t$</td>
<td>0.614</td>
<td></td>
</tr>
</tbody>
</table>
Table 17 contains information on the participants' motivation to achieve.

The fifth null hypothesis relative to motivation to achieve among black female doctorates in education and the science was accepted at the .05 level of significance since $t$ computed was less than $t$ alpha.

**TABLE 17**

**ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON MOTIVATION TO ACHIEVE**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Education</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>53</td>
<td>62</td>
</tr>
<tr>
<td>47</td>
<td>45</td>
<td>63</td>
</tr>
<tr>
<td>66</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>62</td>
<td>56</td>
<td>70</td>
</tr>
<tr>
<td>62</td>
<td>56</td>
<td>64</td>
</tr>
<tr>
<td>60</td>
<td>61</td>
<td>66</td>
</tr>
<tr>
<td>57</td>
<td>54</td>
<td>62</td>
</tr>
<tr>
<td>61</td>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>70</td>
<td>60</td>
<td>61</td>
</tr>
<tr>
<td>67</td>
<td>64</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>

N = 41

| N = 9 |

<table>
<thead>
<tr>
<th>Means</th>
<th>60.70</th>
<th>64.22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>6.738</td>
<td>5.190</td>
</tr>
<tr>
<td>Standard Error of the Means</td>
<td>1.065</td>
<td>1.835</td>
</tr>
<tr>
<td>Difference between the Means</td>
<td>1.548</td>
<td></td>
</tr>
<tr>
<td>Standard Error of the Difference between the Means</td>
<td>2.122</td>
<td></td>
</tr>
<tr>
<td>$t$</td>
<td>0.730</td>
<td></td>
</tr>
</tbody>
</table>
Table 18 contains information on the subjects' need for control. The sixth null hypothesis relative to need for control among black female doctorates of education and sciences was accepted at the .05 level of significance.

### TABLE 18

**ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON NEED FOR CONTROL**

<table>
<thead>
<tr>
<th>Education</th>
<th>Science</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td>33</td>
<td>34</td>
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<tr>
<td>39</td>
<td>26</td>
<td>39</td>
</tr>
<tr>
<td>47</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>34</td>
<td>43</td>
<td>35</td>
</tr>
<tr>
<td>36</td>
<td>49</td>
<td>47</td>
</tr>
<tr>
<td>32</td>
<td>42</td>
<td>34</td>
</tr>
<tr>
<td>31</td>
<td>36</td>
<td>36</td>
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<tr>
<td>38</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>33</td>
<td>45</td>
<td>38</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 41</td>
<td>N = 9</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Means</td>
<td>37.19</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>6.764</td>
</tr>
<tr>
<td>Standard Error of the Means</td>
<td>1.069</td>
</tr>
<tr>
<td>Difference between the Means</td>
<td>-2.36</td>
</tr>
<tr>
<td>Standard Error of the Difference between the Means</td>
<td>4.911</td>
</tr>
<tr>
<td>t</td>
<td>0.481</td>
</tr>
</tbody>
</table>
Table 19 contains information on the subjects' concerns for people. The seventh null hypothesis stated that there would be no statistically significant difference between the mean levels of concern for people for black female doctorates who have chosen careers in education over sciences. The statistical analysis yielded the following data: \( t \) computed for education equals -0.638 and \( t \) alpha at the .05 level of significance equals 2.021. This calculation was based on a one-tail t-test. Therefore, \( t \) computed for education and sciences is less than \( t \) alpha which indicates that the null hypothesis should be accepted at the .05 level of significance.

Table 20 contains information on the subjects' self-actualization. The eighth null hypothesis was accepted at the .05 level of significance since \( t \) computed for education and the sciences was less than \( t \) alpha.

Table 21 contains information on the subjects' stress levels. The ninth null hypothesis was accepted at the .05 level of significance since \( t \) computed was less than \( t \) alpha.

Table 22 is a summary of the findings nine hypotheses stated above (Tables 13 through 21).

Tables 23-A through 23-C contain information about subjects' professional recognition.

The first measure of recognition, memberships held in honorary societies, indicated that very large percentages of both science and education doctorates had been inducted into these selected groups although a slightly higher percentage of black female scientists reported held memberships in these societies.
TABLE 19
ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON CONCERN FOR PEOPLE

<table>
<thead>
<tr>
<th>Education</th>
<th>Groups</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>51</td>
<td>64</td>
</tr>
<tr>
<td>52</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>68</td>
<td>65</td>
<td>55</td>
</tr>
<tr>
<td>58</td>
<td>56</td>
<td>70</td>
</tr>
<tr>
<td>54</td>
<td>52</td>
<td>53</td>
</tr>
<tr>
<td>58</td>
<td>54</td>
<td>68</td>
</tr>
<tr>
<td>61</td>
<td>58</td>
<td>54</td>
</tr>
<tr>
<td>58</td>
<td>57</td>
<td>58</td>
</tr>
<tr>
<td>60</td>
<td>54</td>
<td>60</td>
</tr>
<tr>
<td>70</td>
<td>73</td>
<td>51</td>
</tr>
</tbody>
</table>

| N = 41 | N = 9 |

| Means | 58.46  | 60.88  |
| Standard Deviation | 6.764  | 10.288 |
| Standard Error of the Means | 1.069  | 3.638  |
| Difference between the Means | -2.42  |       |
| Standard Error of the Difference between the Means | 3.792  |       |
| t     | 0.638  |        |
### TABLE 20
ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON SELF-ACTUALIZATION

<table>
<thead>
<tr>
<th>Education</th>
<th>56</th>
<th>59</th>
<th>71</th>
<th>67</th>
<th>66</th>
<th>60</th>
<th>62</th>
<th>64</th>
<th>73</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>41</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Means</td>
<td>62.78</td>
<td>61</td>
<td>64</td>
<td>59</td>
<td>59</td>
<td>60</td>
<td>61</td>
<td>75</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>6.326</td>
<td>7.297</td>
<td>2.553</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Error of the Means</td>
<td>1.000</td>
<td>2.553</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference between the Means</td>
<td>-1.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Error of the Difference between the Means</td>
<td>2.742</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>0.686</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- The table presents raw scores for education and science groups.
- The means, standard deviations, and other statistical measures are calculated for two groups: Education (N=41) and Science (N=9).
TABLE 21
ANALYSIS OF DATA AND SUBJECTS' RAW SCORES ON STRESS

<table>
<thead>
<tr>
<th>Education</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>42</td>
</tr>
<tr>
<td>81</td>
<td>67</td>
</tr>
<tr>
<td>50</td>
<td>50</td>
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<td>58</td>
<td>84</td>
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<tr>
<td>59</td>
<td>50</td>
</tr>
<tr>
<td>68</td>
<td>61</td>
</tr>
<tr>
<td>61</td>
<td>40</td>
</tr>
<tr>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>45</td>
<td>68</td>
</tr>
<tr>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>72</td>
<td>56</td>
</tr>
<tr>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>70</td>
<td>38</td>
</tr>
<tr>
<td>70</td>
<td>50</td>
</tr>
<tr>
<td>73</td>
<td>50</td>
</tr>
<tr>
<td>55</td>
<td>56</td>
</tr>
<tr>
<td>58</td>
<td>56</td>
</tr>
<tr>
<td>59</td>
<td>40</td>
</tr>
<tr>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>38</td>
<td>44</td>
</tr>
</tbody>
</table>

N = 41

Means 56.39 52.00
Standard Deviation 12.619 16.317
Standard Error of the Means 1.995 5.770
Difference between the Means -4.39
Standard Error of the Difference between the Means 6.105
\(t\) -0.719
<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>Statistics</th>
<th>Standard Deviation</th>
<th>M</th>
<th>DIFF</th>
<th>Error of Difference in the Means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women's Self-Perception</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>12.00</td>
<td>7.23</td>
<td>1.129</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>16.33</td>
<td>7.31</td>
<td>2.585</td>
<td>-4.33</td>
<td>2.821</td>
</tr>
<tr>
<td><strong>Women's Perception of Women's Ideal Woman</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>12.04</td>
<td>7.452</td>
<td>1.133</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>18.55</td>
<td>7.485</td>
<td>2.828</td>
<td>-6.51</td>
<td>3.046</td>
</tr>
<tr>
<td><strong>Women's Perception of Men's Ideal Woman</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>-9.32</td>
<td>18.97</td>
<td>2.962</td>
<td>-7.87</td>
<td>1.440</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>-1.44</td>
<td>27.19</td>
<td>9.063</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deterministic</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>37.02</td>
<td>7.136</td>
<td>1.128</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>41.11</td>
<td>10.484</td>
<td>3.706</td>
<td>-2.379</td>
<td>3.874</td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>60.70</td>
<td>6.738</td>
<td>1.065</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>64.22</td>
<td>5.190</td>
<td>1.835</td>
<td>1.548</td>
<td>2.122</td>
</tr>
<tr>
<td><strong>Need for Control</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>37.19</td>
<td>6.764</td>
<td>1.069</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Concern for People</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>58.46</td>
<td>6.764</td>
<td>1.069</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>60.88</td>
<td>10.288</td>
<td>3.638</td>
<td>-2.42</td>
<td>3.792</td>
</tr>
<tr>
<td><strong>Self-Actualization</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>62.78</td>
<td>6.326</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>9</td>
<td>64.66</td>
<td>7.297</td>
<td>2.553</td>
<td>-1.88</td>
<td>2.742</td>
</tr>
<tr>
<td><strong>Stress</strong></td>
<td>Education vs.</td>
<td>41</td>
<td>56.39</td>
<td>12.619</td>
<td>1.995</td>
<td>-4.39</td>
<td>6.105</td>
</tr>
</tbody>
</table>
TABLES 23A-C
MEASURES OF PROFESSIONAL RECOGNITION

<table>
<thead>
<tr>
<th>A. Memberships Held in Honorary Societies</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 - 5 Memberships</td>
<td>7</td>
<td>78</td>
</tr>
<tr>
<td>None Held</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Memberships Held in Professional Organizations</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 - 5 Memberships</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>6 - 10 Memberships</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>11 - 20 Memberships</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>None Reported</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>99</td>
</tr>
</tbody>
</table>
TABLE 23 - Continued

<table>
<thead>
<tr>
<th>Groups</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 - 5 Memberships</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>6 - 11 Memberships</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>None Reported</td>
<td>6</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

A much larger majority of the education doctorates held memberships in professional organizations, while 33 percent of the black female scientists reported no professional affiliations.

These data show the majority of science doctorates held no memberships in offices, while black female doctorates in education belonged to professional organizations to a much greater extent than their cohorts in the sciences.

Tables 24A-D contain information about subjects' professional productivity. Although over 80 percent in both categories had never written or published a book, more black doctorates in education had written more books than their colleagues in the sciences.
TABLE 24A-C
MEASURES OF PROFESSIONAL PRODUCTIVITY

<table>
<thead>
<tr>
<th>A. Number of Books Written and Published</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 Book</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>2 Books</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4 Books</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>None Reported</td>
<td>8</td>
<td>89</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Number of Articles Written</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 - 5 Written</td>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td>6 - 10 Written</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>11 - 20 Written</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>21 and Over Written</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>None Reported</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>
TABLE 24 - Continued

<table>
<thead>
<tr>
<th>Groups</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Number of Workshops Facilitated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 - 5 Workshops</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>6 - 10 Workshops</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>11 - 20 Workshops</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>21 and Over Workshops</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>None Reported</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

D. Number of Research Grants Generated and Received

<table>
<thead>
<tr>
<th>Groups</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1 - 5 Grants</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>6 - 10 Grants</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>None Reported</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>
Using articles written and published as measures of productivity, the percentages above (Table 24B) suggest that the vast majority of black female doctorates in Biology and Chemistry have written from one to 20 articles. Yet, over half or 60 percent of the black females in Education have never reportedly written or published articles.

In Table 24C, these cohorts appeared to have conducted a relatively equal number of works. In Table 24D, the number of research grants generated and received by black female doctorates in the sciences was higher than the figure produced by those in education.

Null hypotheses numbers ten and eleven could not be tested by the kind of data obtained and presented. However, Table 25 contains information about the subjects' professional participation and affiliation. The data in Table 25 show the following findings:

1) More science doctorates held memberships in honorary societies (78 percent to 68 percent).

2) More education doctorates held memberships in professional organizations.

3) More education doctorates held committee memberships and offices in professional organizations.

4) More education doctorates had written books, 15 percent to eleven percent.

5) More science doctorates had written more articles, 67 percent to 37 percent.

6) The groups were approximately equal in the total number of workshops for which they had served as facilitators.

7) More science doctorates generated and received more grants, 66 percent to 34 percent.
TABLE 25
SUMMARY OF FINDINGS FOR PROFESSIONAL RECOGNITION AND PROFESSIONAL PRODUCTIVITY

<table>
<thead>
<tr>
<th>Variables</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. (%</td>
<td>No. (%)</td>
</tr>
<tr>
<td><strong>Memberships in Honorary Societies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 Honorary Membership</td>
<td>7 (78)</td>
<td>28 (68)</td>
</tr>
<tr>
<td>None Held</td>
<td>2 (22)</td>
<td>13 (32)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (100)</td>
<td>41 (100)</td>
</tr>
<tr>
<td><strong>Professional Organization Membership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 Memberships</td>
<td>3 (33)</td>
<td>18 (44)</td>
</tr>
<tr>
<td>6 - 10 Memberships</td>
<td>1 (11)</td>
<td>18 (44)</td>
</tr>
<tr>
<td>11 - 20 Memberships</td>
<td>2 (22)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>None Reported</td>
<td>3 (33)</td>
<td>4 (10)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (99)</td>
<td>41 (100)</td>
</tr>
<tr>
<td><strong>Committee Memberships &amp; Office Held</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 Memberships/Office</td>
<td>2 (22)</td>
<td>27 (66)</td>
</tr>
<tr>
<td>6 - 10 Memberships/Office</td>
<td>1 (11)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>None Reported</td>
<td>6 (67)</td>
<td>13 (32)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (100)</td>
<td>41 (100)</td>
</tr>
<tr>
<td><strong>Number of Books Written</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Book Written/Published</td>
<td>1 (11)</td>
<td>4 (10)</td>
</tr>
<tr>
<td>2 Books Written/Published</td>
<td>0 (0)</td>
<td>2 (5)</td>
</tr>
<tr>
<td>4 Books Written/Published</td>
<td>0 (0)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>None Reported</td>
<td>8 (89)</td>
<td>34 (83)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (100)</td>
<td>41 (100)</td>
</tr>
<tr>
<td><strong>Number of Articles Written</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 Articles Written</td>
<td>5 (56)</td>
<td>15 (37)</td>
</tr>
<tr>
<td>6 - 10 Articles Written</td>
<td>1 (11)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>11 - 20 Articles Written</td>
<td>0 (0)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>21 - More Articles Written</td>
<td>1 (11)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>None Reported</td>
<td>2 (22)</td>
<td>25 (61)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (100)</td>
<td>41 (100)</td>
</tr>
<tr>
<td><strong>Workshops Facilitated</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 Workshops</td>
<td>2 (22)</td>
<td>20 (49)</td>
</tr>
<tr>
<td>6 - 10 Workshops</td>
<td>2 (22)</td>
<td>3 (7)</td>
</tr>
<tr>
<td>11 - 20 Workshops</td>
<td>1 (11)</td>
<td>1 (2)</td>
</tr>
</tbody>
</table>
TABLE 25 - Continued

<table>
<thead>
<tr>
<th>Variables</th>
<th>Science</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Workshops Facilitated continued</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 - More</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>None Reported</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>99</td>
</tr>
<tr>
<td>Grants Generated and Received</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 Grants</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>6 - 10 Grants</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>None Reported</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>99</td>
</tr>
</tbody>
</table>

The general conclusion one can draw from the data provided above is that the two groups were approximately equal to their professional participations, affiliations and productivity.

Discussion

The black female doctorates in this sample from Atlanta University in the field concentrations of Administration, Biology, Chemistry and Counseling are very similar to women doctorates in general and black male earned doctorates. The black women doctorates provided data which addressed such categories as demographic characteristics; family-oriented
versus self-oriented feminine values; managerial and leadership styles; professional recognition and professional productivity.

The demographic data indicated that for these women, disproportionately extended lengths of time were used for them to attain Ph.D.'s or Ed.D.'s after the receipt of baccalaureate degrees relative to other doctorate recipients. These extended time periods appear to be exacerbated by financial difficulties, childcare and childbirth problems and the basic need to become financially independent early.

Subsequently, these individuals are generally much older, upon conferment of the degrees, than other doctorates. It can also be assumed, from the advanced ages of the education graduates, relative to other doctorates, that these individuals can be categorized as mid-career professionals.

Financial difficulties that impact upon these individuals could be lessened if responsive and responsible university officials provided an efficacious and equal system of financial aid distribution, thereby, possibly, eliminating or decreasing the overly lengthy time periods required to attain the doctorate for black females.

With respect to marital status, a slight majority of the individuals in Education is currently married and cohabitating with a spouse, while an overwhelming majority of the black female doctorates in Biology and Chemistry is unmarried, single, widowed or divorced.

With regard to the number of dependents reported by these female doctorates, a majority reported no children or one child. The state
of motherhood could have been impacted on by other responsibilities, although the literature tends to suggest that the lowered fertility rate among black women is associated with higher levels of educational attainment as a factor in causality.

Although these individuals earned higher salaries than the average black female, their salary levels were not comparable or compatible with those received by black or white male doctorates.

Lastly, these women doctorates tended to cluster in public elementary/secondary schools and higher education. This factor appears to be congruent due to a majority of the individuals selecting Education as a field choice.

Traditionally, most women have tended to cluster in career fields labelled as "feminine-oriented," i.e., nursing, teaching, and social work. This clustering phenomenon appears to also be manifested in this study's disproportionately high number of black female doctorates that have matriculated and subsequently graduated from Atlanta University's School of Education.

Although the literature reveals evidence of differences between females that select nontraditional or masculine-oriented career fields over areas that women conventionally enter, the individuals in this study displayed no such differences as evidenced by their scores on the MIFV and MMI. The lack of empirically based differences could have been impacted upon by the sample itself. Astin stated that the
acquisition of the doctorate, in itself, demonstrates that these individuals are unique and pioneering in many ways.¹

¹Astin, Woman Doctorate in America, p. 26.
CHAPTER V
AN OVERVIEW OF THE STUDY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The academic and career experiences of the achieving black female professional have not been examined to any great extent—especially those of the black female earned doctorate. Thus, the purpose of this study was to compare selected psychological and occupational characteristics of black female doctoral graduates who had chosen careers in the sciences at Atlanta University between the academic years of 1975 and 1985.

The selected psychological and occupational variables investigated were feminine values, managerial and leadership styles, professional recognition, and professional productivity.

The subjects, psychological, and occupational variables were operationally defined as follows:

1) Black female doctoral graduates was operationally defined as those individuals who had received the Doctor of Education in Administration and Supervision or the Doctor of Philosophy in Biology, Chemistry, or Counseling between the academic years of 1975 through 1985. Additionally, the terms doctorate and Ph.D. were used interchangeably and also connoted those who had earned the Ed.D. degree.

2) Feminine values was operationally defined as the scores shown by the subjects on the Maferr Inventory of Feminine Values. The sub-test areas of the MIFV are: Women's Self-Perception, Women's Ideal Woman, and Women's Perception of Men's Ideal Woman.

-133-
3) Managerial and leadership styles was operationally defined as scores shown by the subjects on the Meta-Motivation Inventory. The sub-test areas of the MMI are: Deterministic, Motivation to Achieve, Need for Control, and Concern for People.

4) Professional recognition was operationally defined as the receipt of postdoctoral fellowships, memberships in professional and honorary societies, and offices held in these organizations.

5) Professional productivity was operationally defined as the number of articles published, number of papers presented to professional organizations, number of books published as sole or senior author, consultation work, and number of research grants received.

6) Employment situation was operationally defined as employment in areas of training, types of employment, places of employment, length of employment, income and position title.

Perceived by the author, the research was primarily to be significant in generating future research on this population, in being used to create pre-screening instruments for pre-doctoral applications to Atlanta University, and to possibly aid Atlanta University in ascertaining information on its terminal degree graduates.

The assumptions made in this research was that the participants in this study would be basically similar to other black female earned doctorates in terms of age, marital and employment status, southern origin, and number of dependents.

A major limitation of this study as experienced by other researchers was the unwillingness of subjects to be completely agreeable to respond to items addressing information considered private.

Chapter IV focused on the review of the available literature and was summarized in the following manner.
The literature tended to support the notion that black females are older than other recipients of the doctorate. The field choices, education and the humanities of blacks and women appear to account for the above average ages, especially relative to Asian white men.

Although there are minor differences in accounting for the exact location of undergraduate institutions attended by black Ph.D.'s, there virtually was no disagreement in the literature that the majority of blacks received their undergraduate education from historically black colleges and universities.

The literature shows that blacks matriculate in and received doctoral degrees in education to a great extent. It also shows that most blacks required longer time spans to complete the doctorate, from receipt of the baccalaureate degree, when compared to all groups, especially Asians. Again, this could be accounted for by the heavy concentration of blacks in the field of education.

The research data appeared to show that blacks and females are employed to a great extent in higher education, primarily in historically black colleges, and to a much lesser extent in business and industry.

The literature on black and white female doctorates tended to show that, the higher the educational level, the lower the fertility rate, when compared with women in the general population.

The research tended to show that black female doctorate holders are not as research oriented, and, therefore, not as prone, as other
colleagues to publish books or articles.

The more recent research on the motive to achieve in black women appeared to conclude that they are more similar than dissimilar to white females in the internalization of traditionally feminine values relative to educational attainment and career goals.

To summarize, although there are many pitfalls and barriers and little support for highly educated black females in administrative positions, whether in academia or industry, these women by sheer determination, strong need to achieve and solid family backgrounds, continue to fight the vestiges of ignorance, sexism and racism to reach their individually perceived "pot of goal."

The research designs employed for this study were the survey research technique and the *ex post facto* research technique. The initial population consisted of 91 black female doctorates who had earned terminal degrees, between the academic years 1975 through 1985 in the following disciplines: counseling, administration, biology and chemistry. Instruments used for this project were the Male-Female Role Research Inventory of Feminine Values, Meta-Motivation Inventory and a Demographic Questionnaire.

The analysis of data was based on a 63 percent (n = 50) return rate of the original number (91), while Fisher's *t* for testing differences between uncorrelated means was employed to statistically analyze the data.
Findings

The summary and analysis of the findings emanating from this research study yielded the following results:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women's Self-Perception</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Women's Perception of Women's Ideal Woman</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>Women's Perception of Men's Ideal Woman</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>Deterministic</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Motivation to Achieve</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Need for Control</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Concern for People</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Self-Actualization</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Stress</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Professional Recognition</td>
<td>Null hypothesis accepted</td>
</tr>
<tr>
<td>Professional Productivity</td>
<td>Null hypothesis accepted</td>
</tr>
</tbody>
</table>

The summarization of this study's findings, when the feminine values, managerial and leadership styles, professional recognition and professional productivity levels of black female doctorates in education were compared to those found in black female doctorates in the sciences, only two of the eleven areas were found to be statistically significantly different.
Conclusions

1) There was no statistically significant difference between Women's Self-Perception in black female doctorates who had chosen careers in education or the sciences.

2) There were statistically significant differences between Women's Perception of Women's Ideal Woman in black female doctorates who had chosen careers in education or the sciences.

3) There were statistically significant differences between Women's Perception of Men's Ideal Woman in black female doctorates who had chosen careers in education or the sciences.

4) There was no statistically significant difference between the Deterministic scores in black female doctorates who had chosen careers in education or the sciences.

5) There was no statistically significant differences between the Motivation to Achieve in black female doctorates who had chosen careers in education or the sciences.

6) There was no statistically significant difference between the Need for Control in black female doctorates who had chosen careers in education or the sciences.

7) There was no statistically significant differences between Concern for People in black female doctorates who had chosen careers in education or the sciences.

8) There was no statistically significant difference between Stress scores in black female doctorates who had chosen careers in education or the sciences.

9) There was no statistically significant difference between Self-Actualization scores in black female doctorates who had chosen careers in education or the sciences.

10) There was no statistically significant difference between Professional Recognition levels in black female doctorates who had chosen careers in education or the sciences.

11) There was no statistically significant difference between the Professional Productivity levels in black female doctorates who have chosen careers in education or the sciences.
Implications

The following implications were drawn from this study:

1) The motivation to achieve among the black female education and science doctorates in this study was high relative to the scores obtained from the norming population for the Meta-Motivation Inventory. There were no statistically significant differences among these groups, both groups appeared to be equally and highly motivated to achieve.

2) The concern for people scores of the participants in this study show that black female doctorates, regardless of career choice or advanced academic pursuits exhibits high levels of concern for people. It is not clear whether this external locus of control on their motivation to achieve is the result of advanced study or whether their academic pursuits are the result of a strong concern of people.

3) The similarities in the stress scores of these individuals indicate that the low stress levels experienced by these black female doctorates imply that these women have acquired higher than average levels of maturity and stress coping mechanisms.

4) The parents of these individuals terminated their academic pursuits in either junior or senior high school. This might imply that for black female doctorates in education or sciences, achievement motivation from the home may be influenced by factors other than parental educational attainment as a strong belief in self.

5) That the majority of black female doctorates receive their baccalaureate degrees from historically black institutions implies that historically black colleges and universities enable these individuals to successful pursue and enter into doctoral level programs.

6) That the absence of some sex role models in the sciences possibly serve to inhibit or deter program entrance and completion for black females, while the presence of some sex role models in education impacts positively on doctoral education for this group of women. The limited numbers of black females in the sciences may reflect early kindergarten through twelfth grade career orientation or familiarity with education as a field choice, limited information about careers in science or influence of women teachers upon black females to chose careers in education.
7) That black females in education or sciences are influenced to produce scholastically by demands of their particular field choice, nature of their job requirements, opportunities to write or publish and employment status in either a four-year college, historically black institution or major research institution.

8) That too few black female pre-doctoral aspirants are channelled into or encouraged to enter masculine-oriented training areas or professions, i.e., chemistry. Efforts to increase the representation of black men and women in the sciences have not reached fruition in terms of long-range enrollment goals.

9) The large number of black female education graduates may reflect trends in educational profiles for blacks in higher education. The limited number of black female doctorates in the sciences may reflect the double jeopardy status of black females. The underrepresentation of these individuals indicates this area's inability to attract and support black females in the sciences.

10) That financial needs and difficulties are salient factors impacting upon program completion for a majority of black female doctorates. The limited resources of historically black institutions may explain why many black females have chosen to attend majority white institutions.

11) That women in the sciences will have much longer time spans to contribute to their fields than women in education based on their ages upon completion of the doctorate.

12) That black female doctorates evidence very low participatory rates in postdoctoral fellowships and education.

13) There was no statistically significant differences in the self-actualization levels of women in education and the sciences. Yet, the high self-actualization scores of these two groups, relative to the norming population of the instrument, indicates that these black female doctorates display highly positive self-concept levels.

**Recommendation**

1) That concerted efforts be made to recruit, counsel and financially support black females interested in entering traditionally male-oriented areas, i.e., chemistry.
May 1, 1986

Dear ________________:

I am currently conducting a doctoral research study to assess the personal, educational and occupational characteristics of black female graduates of the School of Education and the Sciences. You are indeed a highly select group of individuals, worthy of identification and study.

I invite you to take part in this study. I am acutely aware that, as a doctoral degree holder, you are busy and that asking you to complete these instruments may be an imposition on your time; however, your cooperation is of the utmost importance in this study. I appreciate your taking the time to respond to the instruments that are being sent to your home. You have my personal assurance that the information from this study will be held in the strictest of confidence. To insure confidentiality, please do not reveal your name, social security number or the exact name of your place of employment. Additionally, no numbering system is being used on the test protocols.

Again, I would like to give my appreciation for your cooperation and empathy in this research project; your serious answers and cooperation will determine the validity of this research.

Cordially yours,

Virginia Sanford-Williams
Doctoral Candidate
Instruction Sheet

Enclosed you will find:

1) The MAFERR Feminine Values Inventory, which consists of three (3) photocpied sheets. In the top right had corner of each of these sheets, you will find the designation: Form A, Form B, or Form C. Complete directions for responding to the MIFV are spelled out at the top of the page.

2) The Meta-Motivation Inventory which consisted of four carboned pages. Please follow the directions on page three (3), but do not complete the self-profile and do not tear the instrument apart. Completion of the demographic data is entirely optional although the section on stress should be completed.

3) A Demographic Sheet on black female doctoral graduates of Atlanta University. Please answer or respond to these items as accurately as possible.

Thank you ever so much for your efforts. You will find a self-addressed-stamped envelope to use in returning your completed instruments. If additional information is required, please feel free to contact me at P. O. Box 475, Zebulon, Georgia, 30295 or at (404) 762-6175 in Atlanta.
Demographic Sheet

All the information you provide will be treated as confidential.

1. Date of birth: ____________ month/day/year

2. Marital status: ____________________ or ____________________
   married  not married (including widowed or divorced)

3. Number of dependents: ____________

3. Please indicate by circling the highest grade attained, the education of:

   Your father: None 1 2 3 4 5 6 7 8  9 10 11 12
      Elementary School  High School

   Your mother: None 1 2 3 4 5 6 7 8  9 10 11 12

   Your father: 1 2 3 4 College  M.A., M.D., Ph.D. Postdoctoral
      Graduate

   Your mother: 1 2 3 4 M.A., M.D., Ph.D. Postdoctoral

Education

4. High school last attended:
   (School Name) (City) (State)

   Year of graduation from high school:

5. List in the table below all colleges and graduate institutions that you have attended including two-year colleges. List chronologically, and include your doctoral institution as the last entry. Chart continued on the following page.
<table>
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<th>Institution Name</th>
<th>Location</th>
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<th>Major Field</th>
<th>Minor Field</th>
<th>Degree (If Any)</th>
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</table>

6. Enter below the title of your doctoral dissertation:

7. Name of the department (or interdisciplinary committee, center, institute, etc.) and school or college of the university which supervised your doctoral program: ___________________________
8. Age
A. Upon college entrance: ______________
B. Upon completion of the bachelor's degree: ______________
C. Upon completion of the master's degree: ______________
D. Upon completion of the doctoral degree: ______________

9. Please check each source from which you received some support during graduate study. Check as many sources as apply.

- NSF Fellowship _____
- NSF Traineeship _____
- NIH Fellowship _____
- NIH Traineeship _____
- NDEA Fellowship _____
- Other HEW _____
- AEC Fellowship _____
- GI Bill _____
- Other Federal Support _____
- Woodrow Wilson Fellowship _____
- University Fellowship _____
- Teaching Assistantship _____
- Research Assistantship _____
- Educational fund of industrial or business firm _____
- Other institutional fund _____
- Own earnings _____
- Spouse's earnings _____
- Family contributions _____
- Loans (NDSL direct) _____
- Other loans _____
- Other (specify) _____

10. Please check the space which most fully describes your status during the year immediately preceding the doctorate.

- A. Held fellowship _____
- B. Held assistantship _____
- C. Held own research grant _____
- D. Not employed _____
- E. Part-time employment _____
- F. College or university, teaching _____
- G. College or university, nonteaching _____
- H. Elementary or secondary school, teaching _____
- I. Industry _____
- J. Other _____

Postgraduate Activities

11. Postdoctoral Education

- Postdoctoral fellowship _____
- Postdoctoral research assistantship _____
- Traineeship _____
- Other study _____
What was the field of your postdoctoral appointment? 

Title of your research 

Primary Source of Support 

12. Employment (immediately following graduation)

Had signed a contract or made definite plans 

Negotiation with a specific organization, or more than one 

Sought appointment but had no specific prospects 

Employment other than 1, 2, 3 

Military Service 

Employment (Current)

What is your type of employer?

Four-year college or university 
Junior or community college 
Elementary or secondary school 
Foreign government 
Federal government 
State or local government 
Nonprofit organization 
Industry or business 
Self-employed 
Other 

12A. What is your basic annual salary (before deductions for income tax, social security, etc.)? 

13. What percent of time do you devote to the following activities?

Management or administration of:

Research and development 
Other than research and development 
Both 
Basic research 
Applied research 
Development 
Design
Teaching ____
Consulting ____
Other ____

14. If acadmically employed:

Do you hold a tenure position? ____

What is the rank of your position, i.e., Assistant Professor?

______________________________

Year granted __________

Professional Activities

15. Please list the titles of all book written.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

16. Please list the titles of all articles written.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

17. Please list all research grants generated and received.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
18. Please list all consulting activities by workshop titles or speech titles (current).

19. Please list all honorary societies which you were inducted into.

20. Please list the names of professional organizations which you belong to.

21. Do you receive professional publications?

22. Please list all committee memberships or offices held in professional organizations.
APPENDIX B

VITA

VIRGINIA SANFORD-WILLIAMS

Post Office Box 304
Zebulon, Georgia 30295
404/567-3110
SS # 257-72-1663
EDUCATION

September 1981 to Present
Atlanta University


Projected graduation date July 25, 1986.

- Georgia Professional Counseling/Marriage and Family Practice License applied for.

- TCT in school counseling will be taken during the fall of this year.

- Regular proctor for Educational Testing Service.

- Graduate Assistant with a research project on Vocational Education Needs of 9th and 10th grade students in conjunction with Carver Comprehensive High School.

- Represented Atlanta University in discussions with Educational Testing Service on possible revisions for The Graduate Record Examination (GRE).

- Certification received on Usage of the DSM III from the Atlanta University School of Social Work.

- Work study for three years with The Atlanta University Office of the Registrar, working primarily with admissions and records.

- Student member American Association for Counseling and Development.

January 1979 to March 1979
Georgia State University

Completed 15 quarter hours of coursework in Gerontology.

- Member of Georgia Gerontology Society.

September 1976 to December 1977
Tuskegee University

Master of Education conferred in May 1978, coursework was completed in December 1977. Specialty area: Student Personnel Services.
Presented two position papers at Alabama Personnel and Guidance Association (American Association for Counseling and Development) Annual Fall Workshop on "Minority Group Counseling" and "Values Clarification."

Participation in the Student Personnel Internship Program through the Office of Student Affairs for two years.

Supervised internship in the Office of the Registrar.

Supervised internship in the Office of Placement and Development.

August 1971 to August 1975
Tuskegee University

Received Bachelor of Science in Social Work with minors in Sociology and English.

Participation in the Freshman's Honor Program.

Received Certification in Drug Abuse Counseling.

Internship with the Lee County Headstart Agency located in Auburn, Alabama.

Internship with The Tuskegee Veteran's Administration Hospital with the Social Work Department.

CAREER PROGRESSION

Career Plans

Short-term Objective: To obtain a supervisory position in an academic or social service setting with emphasis on personal growth and development through counseling dialogue.

Long-term Goal: To achieve licensure as an Applied Psychologist in the State of Georgia and subsequently to establish a private practice in Child Psychology.

July 1984 to August 1985
University of Transkei, South Africa

Senior Lecturer attached to the Psychology Department. As Acting Director and Senior Lecturer of the Guidance Centre, my duties entailed conducting research on the acquisition of study skills appropriate for a university setting, teaching study skills to the experimental group in this project, academic counseling, facilitating workshops with other
university departments to determine their needs for academic remediation for first-year students, and coordinating freshman orientation week. Additionally, I was responsible for teaching first-year psychology courses, conducting practicals for third-year and Honors B.A. Interviewing Skills.

October 1982 to June 1983
DeKalb Economic Opportunity Authority
JTPA Testing Unit
Testing Specialist

As a Testing Specialist for the Unit, my responsibilities included intake interviewing on a bi-weekly basis, conducting individual and group vocational counseling sessions, managing the client load for the Projects with Industry Program, Discovery Learning In-School Enrichment Program, Career Works, and DeKalb Tech's Adult Basic Education Program. With the Projects with Industry Program (Bobby Dodd Center), I was responsible for referring emotionally and physically handicapped individuals for on-the-job training and placement services, after screening using the Wechsler scales and various interest inventories; the Discovery Learning Program required the usage of the Wide Range Achievement Test and the Revised Strong-Campbell Interest Inventory with a student population of 14 to 16 year olds to ascertain the effectiveness of remediation tools and the need for further career counseling. The administration of the General Clerical Examination and a typing speed test were the basic requirements for entrance into the Career Works Program and administration of the Test of Adult Basic Education was needed before referring individuals to DeKalb Tech. Additionally, I was responsible for procuring restricted testing materials from various publishers.

December 1979 to July 1981
East Alabama Mental Health Agency
Children's Therapist

As Children's Therapist for the Phenix City Office of EAMHA, my job requirements included primarily family therapy with identified clients (children 1½ to 15 years) and other family members, intake interviews for initial screening, acting as a consultant for Lee County Hospital, weekly case staffing, supervision of two Auburn University graduate students, testing for the Russell County Department of Pensions and Securities, testing and court appearances for the Russell County Juvenile Court; acting as a consultant with the Russell County Headstart Program conducting staff development workshops and administering standardized tests; performing contract work with the Russell County School System, contract work with the Russell County Special Education Department to test and conduct family therapy with identified clients, conducting behavioral observations for the Phenix City School System's multi-handicapped center, and supervising a summer camp program for behaviorally disordered children.
- Received staff development training on the use of the DSM III.

- Received First Aid Training from the Auburn-Opelika Chapter of the American Red Cross.

August 1978 to December 1979
Piedmont Area Community Action Agency
Program Director-Summer Feeding and Recreation Program
Assistant Program Director/Social Services Coordinator-Aging Program
Equal Opportunity Officer

As the Program Director my duties encompassed initial program start-up, interviewing, testing and selection of program staff, supervision of four field monitors and 58 site managers, selection of the feeding and recreation sites for a seven county area, staff training and development, budget preparation, and acting as an agency contact with the U. S. Department of Agriculture.

As the Assistant Program Director/Social Service Coordinator, my responsibilities entailed Title XX participant eligibility determination, all Title XX reporting, conducting staff workshops for site managers of Title XX requirements, preparation of program evaluation tools, planning and coordinating a Health Fair for all aging sites, preparation of a community resources manual, home visits and telephone outreach for clients, functioning as a site manager when needed, and attending statewide staff development workshops on planning for the Aging. My adjunct duties as the agency Equal Opportunity Officer required preparation of an annual Affirmative Action Plan to meet federal funding requirements, preparation and review of oral and written questions used in the agency interview process, conducting workshops for supervisory staff on selection and supervision of staff members.

- Received certification from the Georgia State Department of Labor on Interviewing Techniques, Staff Supervision, and Certified Public Management.


- Selected by the agency to attend The National Black Caucus on the Aging in Jackson, Mississippi.

- Member Georgia Gerontology Society.

- Received a commendation from the CETA program for the hiring and training of disadvantaged persons.

- Numerous certificates received from various organizations on planning for the Aging.
- Received a certificate from the American Red Cross for sponsoring a local Blood Drive.

January 1978 to August 1978
Pike County Middle School
Seventh Grade Science Teacher

As a seventh grade teacher my responsibilities included preparation of daily and weekly lesson plans, keeping daily attendance records, responsibility for a seventh grade homeroom, planning extracurricular activities for my homeroom, attending weekly staff meetings, playground and bus duty.

- Attended a workshop on "Reality Therapy" conducted by William Glasser.

- Provisional Teacher certification in the Behavioral Sciences.

References will be provided on request.
BIBLIOGRAPHY

Books


**Journals/Periodicals**


Gilbert, Lucia A. "Dimensions of Same-Gender Student-Faculty Role-Model Relations." Sex Roles 12 (1985):122


Unpublished Sources


Newspaper Articles