DOCUMENT RESUME

ED 394 460 HE 029 156

AUTHOR	Frierson, Henry T., Jr.
TITLE	Perceptions of Faculty Preceptors in a Summer Research Program Targeted at Minority Undergraduate Students.
PUB DATE	9 Apr 96
NOTE	20p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, April 8-13, 1996).
PUB TYPE	Speeches/Conference Papers (150) -- Reports - Research/Technical (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Blacks; Higher Education; Institutes (Training Programs); Interpersonal Relationship; Mentors; *Minority Groups; Summer Programs; *Teacher Attitudes; *Teacher Expectations of Students; *Teacher Student Relationship; Undergraduate Students

ABSTRACT

This paper reports the perceptions about students and the personal experiences of 23 faculty who served as preceptors for 32 undergraduate African American and other students of color and minority ethnic groups who participated in a 10-week, summer research program for high-achieving students. Each faculty member preselected the student that they wished to direct before official offers for participation were made. Faculty covered a broad range of disciplines from the humanities to the physical sciences. A significant aspect of the program was the involvement of the faculty in the social sciences and humanities, areas in which apprentice-like experiences are less common than in the sciences. Faculty were interviewed in the 9th and 10th week of the program to obtain their assessment of the program and their experiences, particularly their perceptions about the students and their relationships with them. Findings revealed that mentors' general perceptions about the students were positive, especially when related to a student's ability to conduct research. Mentors' perceptions of their own effort and involvement in the program were also positive. The perceptions of the faculty preceptors in this particular program argues well for the mentoring and involvement of minority undergraduate students in research projects across all disciplines. (Contains 18 references.) (NAV)

Perceptions of Faculty Preceptors in a Summer Research Program Targeted at Minority Undergraduate Students

Henry T. Frierson Jr.

University of North Carolina at Chapel Hill

Presented at the American Educational Research Association Meeting. New York, NY, April 9, 1996.

Perceptions and Assessments of Faculty Preceptors in a Summer Research Program Targeted at Minority Undergraduate Students

Henry T. Frierson Jr.

University of North Carolina at Chapel Hill

The mentor-student relationship process is acknowledged as an important factor for academic success in higher education (Cusanovich & Gilliland, 1991). Earlier studies by Reskin (1979), by Arce and Manning (1984), and by Vaughn (1985) have indicated that mentoring plays a crucial role in the academic, professional, and career development of graduate students. The mentoring process not only provides individuals with support and protection during academic training but also in their professional careers (Frierson, 1990).

The lack of mentoring for students also have implications which may directly and disproportionately affect a considerable number of students of color. Significantly, the number and proportion of Ph.D. recipients and graduate students of color, particularly African Americans, continue to lag (Simmons and Thurgood, 1995). The numbers for African American doctoral recipients have even decreased considerably at some points over the last 20 years and at any time have yet to reach the peak recorded in 1976 (Ries and Thurgood, 1993; Simmons and Thurgood). This discrepancy can be partially attributed to the lack of mentoring that occurs for many African American graduate students (Blackwell, 1981; 1983; 1984; Frierson, 1990; Pruitt and Isaac, 1985).

Blackwell (1983) asserted that an important factor in the Ph.D. crisis for African Americans is the absence of mentor-student relationships for African-Americans pursuing doctoral

degrees. Blackwell (1983; 1984) further contended that African American (and other minority) students have had little opportunity to fully participate in mentor-student relationships and, as a result, operate at a severe disadvantage in graduate level studies. It can be contended that to mitigate the shortage of African American doctoral recipients, the absence and forms of mentoring relationships must be addressed forthrightly (Blackwell, 1981, 1983; Frierson, 1981).

A key to that issue is whether African American and other students of color not only have mentors but successful mentoring-student relationships. Thus a critical question is, how do faculty members who work with African American and other students of color perceive those students' ability and promise? Further, how do faculty perceive the experience of serving as preceptors and possibly mentors of these students?

This study posed and examined those questions but the focus was on faculty who served as preceptors for undergraduate African American and other students of color who participated in a short-term research program in the summer. This study is part of a series of studies whereby the previous studies have focused on the students' perceptions (Frierson, H.T., Hargrove, and Lewis, 1992; Frierson, 1993; 1994). This study departs from that trend and examines the perceptions of faculty who served as the preceptors to those students who participated in the program. The faculty covered a broad range of disciplines from the humanities to the physical sciences, and a significant aspect of the program is the involvement of faculty in the social sciences and particularly in the humanities. While apprentice-like experiences are common for students in the sciences, such experiences are uncommon for students in the humanities and, to some extent, the social students. Such experiences are less common for undergraduate students and likely to be even rarer for minority undergraduates.

As the number of underrepresented minorities receiving Ph.D. degrees and entering academe has remained quite small (Carter & Wilson, 1995), to increase the number of minority in graduate programs--and subsequently, faculty ranks--outreach efforts had been initiated to encourage African American, Hispanic, and American Indian students to pursue doctoral studies. A suggested approach was to provide a greater number of those students with research experiences as undergraduates (Frierson, 1981). Since the late 1980s, there have been a number of minority student-oriented summer research programs initiated at research universities (Tyler, 1993). The objectives of these programs are often to give students in-depth research experiences, enhance their attitudes toward research, and encourage them to pursue graduate degrees. These programs are frequently termed research mentoring programs. The Summer Pre-Graduate Research Experience (SPGRE) Program at the University of North Carolina at Chapel Hill was established in 1988 to seek to provide minority students with research and mentoring experiences with the hope that a number will choose to pursue graduate studies.

With the number of mentoring and research programs associated with undergraduate summer research programs for students of color, rarely has there been a focus on examining the perceptions of the faculty who work with these students. As implied earlier, the purpose of this study was thus to examine how the faculty perceived their students and their particular experience in the program. Additionally, comparisons were made between science and nonscience faculty to see if differences existed in the perceptions of those two faculty groups. Although most studies of the mentoring process examine effects on or aspects of the students, a study by Brusch (1985) was one of the few found that examine perceptions of mentors. This study will also examine the perceptions of mentors, the focus however, will be on mentors functioning in a program that

targets minority college students.

Methodology

Respondents

As indicated, the faculty research preceptors or mentors were divided into science and nonscience--humanities and social science--categories. Examples of the science areas are disciplines such as chemistry, physics, and environmental science. Of the 28 research faculty, interviews were given to 23 (82%) who served as mentors for 32 of the 38 students. Twelve of the 23 faculty were in science disciplines, and of that group, 10 were males, of which 9 were White and 1 was African American. There were 2 females and both were White. In the nonscience category such as, history, anthropology, and English, there were 11 faculty in that group. Within the nonscience faculty group were 8 males, of which 5 were White, and 3 were African Americans. There were 3 females, and one each was African American, White, and Japanese-American. Moreover, 42% of the science faculty had served previously as mentors for SPGRE students as did 55% of the humanities and social science faculty.

The faculty served as mentors in a 10-week summer research program to students who were high academic achievers (their mean GPA was approximately 3.5) who had completed their junior academic year. Given their grades, stated interests and career aspirations, these students had high potential for admissions to graduate programs. Each faculty preselected the student they wished to direct before official offers for participation were made. Preselections occurred after the faculty reviewed the students' completed application forms and then contacting their prospective student to discuss research and other interests, research projects, and expectations.

Thus, each participating student was contacted personally by their preceptor before officially selected to participate in the SPGRE Program.

Procedure

The 23 faculty research mentors were interviewed in the ninth and tenth weeks of the 10-week program. The purpose was to attain the mentors' assessment of the program and their perceptions of their experiences with the program and, importantly, their perceptions of their students and their relationships with them. During the interviews, the faculty were requested to respond to a series of questions regarding those issues.

Each research preceptors was interviewed by a graduate assistant who worked in the program. The interview schedule contained a mixture of open- and close-ended questions. The questions addressing the preceptors' assessments and perceptions were open-ended. Examples of questions related to perceptions were: 1) "What expectations did you have of your student's ability to carry out research this summer?" 2) "How would you describe the experience your student had this summer?" 3) "Based on what you have seen this summer, would your student be a good prospective graduate student at a major research university?" Examples of questions related to assessment were: 1) "How satisfied were you regarding your student's performance this summer?" 2) "Has serving as a preceptor in this program been a worthwhile experience for you?" 3) "Would you do it again?"

The mentors' interview responses were categorized as either positive, moderate, or negative. Categorizations were based on contextual or overall responses to interview questions related to the interview questions.

To gain a quantitative view of any existing differences, a simple positive response index scale ranging from 0 to 1.0 was used to assign numerical values for the students' overall responses to the interview questions related to the four topics. The value 1.0 was assigned to an overall positive response; 0.5 for moderate or neutral responses; and 0.0 for responses that were negative in context. The following is an example of a positive response from faculty respondents: *"I would strongly recommend that our department select her. She is very smart and enthusiastic."* Another example of a positive response is, *"Excellent. Incredible!"*--as regards a preceptor's response concerning her satisfaction with the overall performance of her student. An example of a moderate or neutral response is, *"I didn't have any fixed expectations. I hoped it would be challenging and stretch their interest."* Finally, an example of a negative response is, *"I wouldn't recommend her. She doesn't have dedication or reliability."*

Percentages were derived from the ratings and were used as indices of the level of positive perceptions and attitudes the research preceptors displayed around the key topics. As percentages were used, the test for significance between two proportions was employed to discern whether statistical significance existed in any of the examined areas when the responses of science and humanities/social faculty were compared.

Results

The results of the overall perceptions of the preceptors are shown in Table 1 and Table 2. As seen in Table 1, the mentors general perceptions of their students were quite positive, the total mean positive response index (PRI) was 82.8%. The most positive perceived area, with a mean PRI of 91%, was related to the students' ability to conduct research. With a mean PRI of

69%, the least positive perceived area was the preceptors' initial expectations of the students' ability to carry out research during the summer.

Table 1 goes about here

Regarding the mentors' perceptions of their own effort and involvement in the program, the responses were overwhelmingly positive as demonstrated by an overall mean PRI of 96.3%. Table 2 shows the mean PRI for each category.

Table 2 goes about here

When the responses of faculty in the sciences were compared with those in the humanities and social sciences concerning the general perceptions of their students, some differences were observed as shown in Table 3. Overall, the perceptions of the humanities/social science faculty were more positive than that of their science counterparts. The mean cumulative total PRI for the humanities/social science mentors was 87.5% compared to 76.8% for their science counterparts, and the difference between the two faculty groups was significant. In the specific categories, the most significant difference was observed in the area of initial expectations of students. The humanities/social science mentors had a PRI of 83%, compared to 50% for the science preceptors regarding their initial expectations of the students of the students ability to do research. When that particular category is removed, the mean PRI difference is narrowed: 82.1% for the science preceptors and 88.3% for those in the humanities and science social sciences.

Thus, the major contributor to the variance for the cumulative response total is the faculty's perceptions regarding the initial expectations they had of their students.

Table 3 goes about here

Regarding the mentors' perceptions of their experiences and assessment of the SPGRE Program, the overall response was quite positive, as shown in Table 2. Although, the humanities/social science mentors had more positive responses, as shown in Table 4, the overall difference between the science and humanities/social science mentors was small and not significant as indicated by the difference in the cumulative mean PRI between the two faculty groups.

Table 4 goes about here

Discussion

The most important aspects of the results are the positive perceptions of both science and humanities/social science faculty regarding their students and of their particular experiences in the program. The faculty had overwhelmingly positive perceptions of the students under their direction. Moreover, their assessments of the program and the perceptions of their experiences in it were unequivocally positive. In truth, the faculty is the key to the success of these short-term research programs, particularly those that target minority students. A most notable point is that the program involved undergraduate minority students, for whom the program could either

encourage or reinforce their interest in pursuing graduate studies, or deter them from such thoughts altogether. If the faculty does not participate and participate in a positive fashion, such programs cannot exist, let alone succeed.

The perception of the faculty preceptors in this study argues well for the mentoring and involvement of minority undergraduate students in research projects across all disciplines, not just the sciences as conventional thought might dictate. Accordingly, a significant observation was the more positive perceptions displayed by the humanities/social science faculty compared to their science counterparts. Given the nature of research training in the sciences, whereby the apprentice method is the common mode, conventional wisdom may suggest that the humanities and social science faculty would be less positively disposed toward involvement with a program that called for close contact with and mentoring of undergraduate students. Humanities scholars in particular see scholarly work as a solo enterprise for the most part, the notion of involving undergraduates in research may appear initially as an anathema to many.

The conventional wisdom was not supported however by the responses of the humanities and social sciences faculty research preceptors. This observation certainly has implications for re-examining the use of the mentoring process in the humanities and the feasible application of mentoring programs to promote scholarly research.

A most interesting result was the contrast in the modest initial expectations of the students' ability to be able to do research with the subsequent highly positive view of the students actual ability to conduct research. The difference between those two perceptions for the science faculty was striking. Concerning their perceptions of initial expectations of the students' ability to do research, the science faculty likely believed that the students would have had little previous

opportunity to engage in activities related to the sophisticated research that many of the faculty conduct. Consequently, their expectations of the students would be modest at best. Although a proportion, 42%, of the science preceptors had previous SPGRE students, their expectations were indeed modest regarding what they believed the students could accomplish. A slightly higher proportion, 55%, of the humanities and social science mentors had SPGRE students in the past and likely had positive experiences with those students. Thus based on experiences with previous SPGRE students and without the concern whether students could manipulate expensive laboratory equipment, expectations of humanities/social science preceptors were more positive than their science counterparts. Significantly, it was noticed that expectations of faculty who had not had a SPGRE student in the past were usually low or modest. On the other hand, the expectations of those who had previous SPGRE students were generally quite high, regardless of the faculty's discipline. The finding was important given that previous experiences with SPGRE students may have primed those faculty to have high initial expectations of the abilities of their students. Significantly, those expectations were generally either met or exceeded.

The overall positive perceptions of the faculty who participated as preceptors in the SPGRE program are indeed encouraging. Such findings give added validity to the value and need for such programs. Despite these observations and the strong favorable arguments that can be presented, however, efforts and threats to terminate research programs, short- and long-termed, targeted at minority students and having mentoring implications, are unrelenting. The Women and Minority Participation in Graduate Education (WMPGE) Program from the Department of Education, a program that supported more than 70 summer research programs for minority and women undergraduate students has been terminated. The National Science Foundation's

Research Careers for Minority Scholars with more than 45 programs, providing five years of support for research training, has been terminated as well, as has the Department of Energy's research program for undergraduate minority students. Additionally, minority initiative programs for minority students from the Environmental Protection Agency are unfunded this year and are in danger of being eliminated entirely. With the exception of the Department of Education's WMPGE program, those programs provided support primarily for students involved in science research, thus the humanities and social sciences have been generally ignored. Now even the chances of students in the sciences gaining mentoring and research experiences are being severely restricted and students in the humanities and social sciences will be, for all intent, ignored further. This is depressing, particularly given the affinity, as this study indicates, for humanities and social science faculty to enjoy and relish the role of mentors to academically talented undergraduate minority students.

The thought of faculty, particularly those in the humanities, relishing such roles is uplifting and offers optimism, despite the current political times, for the possibility of further efforts to provide a wide range of mentoring and research experiences for undergraduate students of color. Such opportunities would increase the options of students and their chances of pursuing graduate studies--65% of SPGRE students have pursued or are pursuing graduate studies, and that proportion does not include the 20% who have enrolled in graduate professional programs such as medicine and law. The availability of research and mentoring programs targeting African American, American Indian, and Hispanic students would provide opportunities that would serve to effectively increase the number of students from underrepresented groups attaining terminal graduate degrees and becoming members of the research community and the academy. These

programs can serve to help address areas where substantial attention is needed to fill a long existing void.

References

Arce, C.H. and Manning, W.H. (1984). Ford Foundation Report: Minorities in academic careers: The experiences of Ford Foundation Fellows. New York, N.Y.

Blackwell, J. E. (1981). Mainstreaming outsiders: The production of Black Professionals. Bayside, N.J.: General Hall, Inc.

Blackwell, J. E. (1983). Networking and mentoring: A study of cross-generational experiences of Blacks in graduate and professional schools. Atlanta: The Southern Educational Foundation.

Blackwell, J.E. (1984, October). Increasing access and retention of minority students in graduate and professional schools. Paper presented at the Educational Testing Service's Invitational Conference on Educational Standards, Testing, and Access in New York, N.Y.

Busch, J.W. (1985, Summer). Mentoring in graduate schools of education: Mentors' perceptions. American Educational Research Journal, 22, 257-265.

Cusanovich, M. and Gilliland, M. (1991). Mentoring: the faculty-graduate student relationship. Council on Graduate School Communicator, 24, 1-2.

Frierson, H.T. (1981). Minority participation in R&D: Developing an undergraduate feeder system. Journal of Negro Education, 50, 401-406.

Frierson, H.T. (1990, March). The situation of Black educational researchers: Continuation of a crisis. Educational Researcher, 19, 12-17.

Frierson, H.T., Hargrove, B.K, and Lewis, N.R. (1992, April). Mentors' race as a factor affecting student attitudes and perceptions in a short-term research program. Paper presented at the American Educational Research Association Meeting in San Francisco.

Frierson, H.T. (1994, April). Soft vs. hard sciences: implications in mentoring African American undergraduates. Paper presented at the American Educational Research Association Meeting in New Orleans, LA.

Frierson, H.T., Hargrove, B.K, and Lewis, N.R. (1993, April). Gender and type of college attended: Effects on African American students' perceptions in a summer research program. Paper presentation at the American Educational Research Association Meeting in Atlanta, GA.

Cusanovich, M. and Gilliland, M. (1991). Mentoring: the faculty-graduate student relationship. Council on Graduate School Communicator, 24, 1-2.

Pruitt, A.S. (1986). Discrimination in recruitment, admission, and retention of minority graduate students. Journal of Negro Education, 54, 526-530.

Simmons, R.O. and Thurgood, D.H. (1995). Summary Report 1994: Doctorate Recipients from United States Universities. Washington, D.C.: National Academy Press.

Reis, P. and Thurgood, D.H. (1993). Summary Report 1992: Doctorate Recipients from United States Universities. Washington, D.C.: National Academy Press.

Reskin B. (1979). Academic sponsorship and scientists' careers. Sociology of Education, 52, 129-146.

Tyler, M.D. Enhancing the Minority Presence in Graduate Education V: Summer Research Opportunity Programs: Voices and Visions of Success in Pursuit of the Ph.D. Washington, D.C.: Council of Graduate Schools (1993).

Wilson, R. and Carter, D. (1995). Minorities in higher education: Fourteenth annual status report. Washington, D.C.: American Council on Education.

Table 1

Degree of Positive Response Indices of Preceptors' Perceptions of Their 32 Students

Categories	Percentage of Positive Responses
Expectations of Students	69%
Interactions With Students	88%
Students Ability to Conduct Research	91%
Satisfaction With Students' Performance	83%
Perception of Students' Experiences	86%
Perception of Students as Prospective Graduate Students	81%
Cumulative Mean Response Index	82.8%

Table 2

Degree of Positive Response Indices of Preceptors' Assessment of the Program

Categories	Percentage of Positive Responses
Worthwhile Experiences as Preceptors	98%
The Effort as a Preceptor for the Program was Worth it	96%
Would be a Preceptor in the Program Again	96%
Cumulative Mean Response Index	96.3%

Table 3

Comparing Positive Response Indices of Science and Humanities/Social Science Preceptors' Perceptions of Their Students

Categories	Percentage of Preceptors' Positive Responses		
	Science*	Hum/Soc-Sci**	z
Expectations of Students	50%	83%	1.85 (p=.032)
Interactions With Students	86%	89%	n.s.
Students' Research Ability	86%	94%	n.s.
Satisfaction With Students' Performance	79%	86%	n.s.
Perception of Students' Experiences	82%	89%	n.s.
Students as Prospective Graduate Students	79%	83%	n.s.
Cumulative Mean Response Index	76.8%	87.5%	1.95 (p=.025)

*14 students were directed by science preceptors

**18 students were directed by humanites/social science preceptors

Table 4

Comparing Positive Response Indices of Science and Humanities/Social Science Preceptors' Assessment of the Program

Categories	Percentage of Preceptors' Positive Responses		
	Science	Hum/Soc-Sci	z
Worthwhile Experiences as Preceptors	96%	100%	n.s,
The Effort was Worth it	92%	100%	n.s
Would be a Preceptor Again	96%	96%	n.s.
Cumulative Mean Response Index	94.4%	98.5%	n.s.