

# BLACK MEDICAL STUDENTS' PERCEPTIONS OF THE ACADEMIC ENVIRONMENT AND OF FACULTY AND PEER INTERACTIONS

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**After 10 years of admitting greater numbers of black medical students to North Carolina medical schools, the current study examined perceptions of four classes of black students attending these medical schools. One objective of this study was to gain a sense of how black students perceived the medical school environment. Another objective was to determine those students' levels of negative reactions generated by interactions with faculty and peers. Some of the major findings indicated that black students generally had negative perceptions of the medical school environments, and much of their reported negativism was associated with perceptions of student and white faculty interactions.**

In the early 1970s, resulting from the efforts of civil rights groups that spurred the federal government to apply pressure and make funds available, many predominantly white medical schools began to increase the enrollment of black students. As shown in Table 1,<sup>1</sup> before the 1970s, the enrolled number of black

students at most medical schools was insignificant; Howard and Meharry were the exceptions.<sup>2</sup>

The state of North Carolina's three older medical schools—the University of North Carolina—Chapel Hill, Duke University, and Wake Forest University (Bowman Gray School of Medicine)—exemplified earlier patterns regarding black admissions. For example, although the University of North Carolina School of Medicine admitted and subsequently graduated its first black student in 1950 and 1954, respectively, for about 15 years the normal enrollment of blacks per year was no more than one. (Registrar's Office, University of North Carolina School of Medicine, unpublished data.) The first black medical student at Duke (Registrar's Office, Duke University School of Medicine, unpublished data) enrolled in 1963 (about the same time as at UCLA; an example of how widely blacks were historically excluded from the nation's predominantly white medical schools, and note that such practices were not under the sole domain of predominantly white southern schools). At Bowman Gray, the first black matriculated in 1967 (Registrar's Office, Bowman Gray School of Medicine, Wake Forest University). A fourth school, East Carolina School of Medicine, did not enroll its own freestanding class until 1976; two blacks were in that first class of 32 students (Registrar's Office, East Carolina School of Medicine, unpublished data).

As shown in Table 2, dramatic increases in the number of black students in US medical schools occurred in the 1970s. With such substantial increases

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**TABLE 1. ENROLLMENT OF BLACK STUDENTS IN US MEDICAL SCHOOLS IN SELECTED YEARS BEFORE 1970**

Year	Total Enrollment	Number of Black Students	Percent of Black Students	Percent of Total Black Enrollment in Predominantly White Schools
1938-1939	21,302	350	1.64	12.9
1948-1949	23,670	588	2.59	19.1
1955-1956	28,639	761	2.66	31.0
1968-1969	35,828	782	2.18	37.3

From Reitzes,<sup>1</sup> and The Association of American Medical Colleges

**TABLE 2. ENROLLMENT OF BLACK STUDENTS IN US MEDICAL SCHOOLS FOR SELECTED YEARS 1970-1971 TO 1979-1980**

Year	Total Enrollment	Black Student Enrollment	Percent of Black Students
1970-1971	40,238	1,509	3.8
1971-1972	43,560	2,055	4.7
1974-1975	53,554	3,353	6.3
1977-1978	60,099	3,587	6.0
1979-1980	63,800	3,627	5.6

From The Association of American Medical Colleges

in the number of black students at predominantly white medical schools, a worthy question to address is: what has been the students' perceptions concerning their experiences at these schools?

Notably, the medical school environment appears to be problematic for all students. Funkenstein<sup>3</sup> reported that the academic and social atmosphere in medical schools leads to poor learning experiences and impedes personal development of medical students. He further stated that medical students frequently perceive medical schools as being dehumanizing. These deficits were reportedly a result of overwhelming amounts of material to learn, sharp competition among students, and faculty who do not treat students as adults. Relatedly, if that were the experience of traditional medical students, ie, white advantaged men, what were the impressions of black students who found themselves in such a milieu?

In an effort to address aspects of that question, the current study is related to earlier investigations by Reitzes and Elkhaniyal,<sup>4</sup> Johnson,<sup>5</sup> and Strayhorn.<sup>6</sup> Those investigators surveyed black medical students' perceptions of their medical school environments. Reitzes and Elkhaniyal<sup>4</sup> examined perceived dis-

crimination by black medical students who attended predominantly white medical schools and found that 60 percent reported they had experienced discrimination. Johnson<sup>5</sup> compared the perceptions of minority and nonminority medical students and reported that nonminority students perceived the medical school faculty significantly more favorably than minority students. Strayhorn<sup>6</sup> found that black students at a predominantly white medical school experienced more stress than white medical students.

After 10 years of admitting greater numbers of black medical students to the University of North Carolina, Duke University, and Bowman Gray, and with East Carolina following the patterns of those older schools, the current study examined perceptions of black students while attending North Carolina medical schools. The objectives were to gain a general sense of how the students perceived the medical school environment, and to identify interactions that those students reported had generated negative reactions within them.

## METHODOLOGY

### Sample

To address the objectives related to the study, a questionnaire was used to elicit information. The questionnaire was administered in 1980; at that time the population of black medical students in North Carolina's four medical schools was 117. Sixty-five percent of the population or 76 students completed and returned questionnaires. Of that number, 28 percent were first-year students, 32 percent were in the second year, 15 percent were third-year, and 25 percent were fourth-year students. Seventy percent of the respondents were male and 30 percent were female. Sixty-eight percent were between the ages of 21

to 25 years and 22 percent were between ages 26 to 30 years. Sixty-two percent attended the University of North Carolina School of Medicine, which ranked fifth nationally in the number of black enrollees at predominantly white medical schools; 18 percent attended Bowman Gray, 16 percent attended Duke, and 4 percent attended East Carolina. Notedly, the percentages of respondents from each school approximated their proportions in the population.

### Questionnaire

The questionnaire was composed of 105 items. Some of the items elicited demographic information but most were structured to assess students' perceptions of interactions with faculty and peers and their perceptions of the medical school environment. The internal consistency of the questionnaire as measured by Cronbach's alpha was .88.

### Procedure

Each black medical student in North Carolina was either personally given or mailed a questionnaire and a stamped, addressed envelope. The questionnaires were coded so that follow-up letters could be sent to students who had not returned the questionnaires within a two-week period. For those not responding to the first follow-up letter within a two-week period, another letter was sent with a second questionnaire and stamped, addressed envelope.

Students were informed that the questionnaires were coded for purposes of identifying nonrespondents. The students, however, were assured that their responses would remain anonymous.

## RESULTS

### Financial Support and Parental Employment Status

Concerning sources of financial support, 74 percent of the respondents reported they received assistance from scholarships; 16 percent received grants; 63 percent had loans; 22 percent received support from their families; and 13 percent were supported by personal incomes.

Regarding the employment status of parents, of 62 valid cases (VCs, the number appropriately responding to the items), 77 percent of the fathers were reported as employed whereas 23 percent were unem-

ployed. For the employment percentage of respondents' mothers, of the 66 VCs, 67 percent of the mothers were employed and 33 percent were unemployed.

### Parental Socioeconomic Status

With regard to parental salary, when adjusting for inflation relative to 1986 costs, 62 students were able to respond to the related item. Twenty-seven percent of the respondents' fathers earned annual incomes below \$9,300 (adjusted for inflation, \$9,975 would be at the poverty level for a family of four); 26 percent earned between \$9,300 and \$17,300 (thus 53 percent earned below \$17,300); 18 percent earned between \$17,300 and \$26,600; 13 percent earned between \$26,600 and \$46,500, and 8 percent had incomes over \$46,500. The fathers' average income range was \$13,300 to \$21,300.

For the 66 students who were able to respond to the item concerning their mothers' incomes, 48 percent of the mothers reportedly had annual incomes below \$9,300; 27 percent earned between \$9,300 and \$17,300; 18 percent earned between \$17,300 and \$21,300; and 6 percent earned over \$21,300. The mothers' average income range was \$6,600 to \$13,300.

Regarding parental education, 35 percent of the respondents (70 VCs) reported that their fathers had not completed high school; 19 percent reported that their fathers completed high school. Eleven percent of the respondents' fathers were reported to have had one to three years of college; 10 percent graduated from college or had some graduate school training; and 27 percent had attained a graduate or professional degree.

Twenty-five percent of the respondents (73 VCs) reported that their mothers had not completed high school and 26 percent were reported to have completed high school. Twelve percent of the respondents' mothers were reported to have had one to three years of college; 25 percent graduated from college or had some graduate school training; and 15 percent had attained graduate or professional degrees.

### Sources of Verbal Behavior that Generated Negative Responses

The students responded to a series five-point scale Likert-type items (eg, in which 4 = Very Often and 0 = Never), which addressed the question of how

often they experienced verbal behaviors from professors that generated negative responses (either internally or externally). Forty percent of the respondents (76 VCs) indicated that white professors' verbal behaviors had generated such responses either very often or often. Forty-seven percent reported that they occasionally experienced negative responses attributed to verbal behavior from white professors.

Concerning verbal behavior emanating from black professors, 7 percent (75 VCs) reported that they very often or often experienced behavior that caused negative responses. Twenty-four percent of the respondents indicated that they occasionally experienced negative responses as a result of verbal behavior from black professors; but 69 percent indicated they either never or rarely experienced such responses.

With regard to verbal behavior from peers that produced negative responses, 45 percent (76 VCs) reported that this has occurred very often or often from their interactions with white peers. Thirty-eight percent indicated that this has occasionally occurred. Pertaining to verbal behavior from black peers, 18 percent (76 VCs) indicated that the behavior either very often or often generated negative responses within them, whereas 50 percent reported that this has occasionally occurred.

### **Sources of Nonverbal Behavior that Generated Negative Responses**

Regarding nonverbal behavior that effected negative responses, 57 percent (76 VCs) indicated that nonverbal behavior from white professors very often or often generated negative responses, and 34 percent reported that such behavior occasionally generated negative responses. Related to nonverbal behavior from black professors, 8 percent (75 VCs) indicated they either very often or often experienced negative responses; 20 percent reported that such responses occurred occasionally.

Concerning nonverbal behavior from peers that caused negative responses, 58 percent (76 VCs) reported that nonverbal behavior emanating from white peers has very often or often generated negative responses. Thirty percent reported that nonverbal behavior from white peers occasionally generated negative responses. Sixteen percent (75 VCs) indicated that nonverbal behavior of black peers either very often or often generated negative responses, and 53 percent indicated that such responses occurred occasionally.

### **The Frequency of General Behavior that Generated Negative Responses**

The students were asked how often the general behavior of their medical school professors and peers produced negative responses. Pertaining to the general behavior of white basic science faculty, 36 percent (73 VCs) reported that negative responses were generated either very often (3 percent) or often, and 48 percent indicated that such responses occurred occasionally. Regarding black basic science faculty, 2 percent (50 VCs) indicated that negative responses were generated often. Ten percent reported that negative responses occurred occasionally.

Concerning on-campus white clinical faculty, 38 percent (66 VCs) indicated that the general behavior of those faculty either very often or often was associated with negative responses, and 44 percent reported that negative responses were occasionally produced. Six percent (53 VCs) reported that negative responses were occasionally generated by the behavior of on-campus black clinical faculty; 94 percent indicated that such negative responses rarely or never occurred.

Pertaining to off-campus white clinical faculty, 18 percent (50 VCs) reported the behavior of that faculty either very often or often produced negative responses. Thirty-eight percent indicated that the faculty's behavior occasionally generated negative responses. On the other hand, 8 percent (39 VCs) reported they had negative responses occasionally as a result of black off-campus clinical faculty's behavior; 92 percent reported that such negative responses rarely or never occurred.

Concerning the behavior of white peers, 41 percent (76 VCs) reported that negative responses were generated either very often or often, and 48 percent indicated that such responses were produced occasionally. Regarding the behavior of black peers, 7 percent (74 VCs) indicated that negative responses occurred either very often or often occurred, and 47 percent reported that negative response were occasionally generated.

### **Perceptions Regarding the Degree of Sensitivity Toward Black Students**

The students were asked their perceptions of faculty advisors' and peers' sensitivity to black students' backgrounds and needs. Forty-nine percent (72 VCs) considered the white basic science faculty as being

insensitive or somewhat insensitive. Thirty-six percent of the respondents perceived that faculty to be neither sensitive or insensitive (neutral), whereas 15 percent perceived them to be sensitive. Regarding the sensitivity of black basic science faculty, 8 percent (49 VCs) perceived that faculty as being somewhat insensitive, and 65 percent considered them to be either highly sensitive or sensitive.

For on-campus clinical faculty, 55 percent (59 VCs) of the respondents perceived on-campus white clinical faculty to be insensitive or somewhat insensitive; 7 percent considered that faculty to be sensitive or highly sensitive, and 37 percent perceived them to be neutral. Four percent (53 VCs) indicated that black on-campus clinical faculty were either insensitive or somewhat insensitive, and 74 percent perceived that faculty to be highly sensitive or sensitive.

For off-campus faculty, 42 percent (45 VCs) of the respondents considered off-campus white clinical faculty to be insensitive or somewhat insensitive. Three percent considered that faculty to be sensitive and 47 percent perceived them to be neutral. Three percent of the respondents perceived off-campus black clinical faculty to be insensitive, and 63 percent perceived them to be either highly sensitive or sensitive.

With regard to white faculty who were student advisors, 26 percent (68 VCs) of the respondents considered the advisors to be insensitive. Thirty-two percent considered the advisors to be sensitive, and 41 percent perceived them to be neutral. Nine percent (44 VCs) perceived black faculty advisors as being either insensitive or somewhat insensitive, whereas 82 percent considered them to be either highly sensitive or sensitive.

Regarding peers, 50 percent (76 VCs) considered their white peers to be either insensitive or somewhat insensitive to black students' backgrounds and needs. Ten percent perceived their white peers as sensitive, and 40 percent considered them to be neutral. Seven percent (73 VCs) of the respondents perceived their black peers as either insensitive or somewhat insensitive, and 78 percent perceived them as either highly sensitive or sensitive.

### **Perceptions of Positive Treatment From Faculty**

The students were asked to respond to the question: How often are black medical students treated positively by white and black faculty? Thirty-two percent (75 VCs) believed black students were treated posi-

tively by white faculty either very often or often. Forty-nine percent indicated that they felt black students had been occasionally treated positively by white faculty. With regard to treatment from black faculty, 85 percent (71 VCs) believed black students had been treated positively, and 14 percent indicated they believed positive treatment had occasionally occurred.

### **Feelings of Being Ignored by Laboratory Instructors**

The students were asked to what extent they felt ignored in laboratories by faculty or assistants. Thirty-two percent (76 VCs) of the respondents indicated that they either very often or often experienced being ignored by white faculty and white laboratory assistants. Twenty-nine percent reported they occasionally experienced being ignored by white faculty or laboratory assistants. On the other hand, 7 percent (59 VCs) indicated that they occasionally experienced being ignored by black faculty or black laboratory assistants. Ninety-three percent reported that they either never or rarely experienced being ignored by black faculty or assistants.

### **Perceptions of Biased Grading**

The students were asked whether they experienced biased grading. Thirty-two percent (65 VCs) reported they had either very often or often experienced biased grading practices. Thirty-seven percent indicated they occasionally experienced biased grading practices. Twelve percent reported they rarely experienced biased grading, and 18 percent indicated they never experienced such practices toward them.

### **Perceptions of Racially Biased Comments and Actions in Clinical Settings**

The students were asked whether they experienced racially biased comments and actions in clinical settings from faculty and house staff (residents and interns). Thirty-two percent (54 VCs) reported they had either very often or often experienced racially biased comments and actions from white faculty. Thirty-three percent reported they occasionally experienced such comments and actions from white faculty. Related to black faculty, 100 percent (40 VCs) indicated they either never or rarely experienced racially biased comments and actions from black faculty. Concern-

ing house staff in general, 25 percent (48 VCs) reported they experienced racially biased comments and actions from that group. Thirty-three percent of the respondents indicated they occasionally experienced such action from house staff.

### **Stress in Relation to Academics and Finances**

The students were asked how often they experienced stress in relation to academics and finances. Sixty-four percent (76 VCs) indicated they either very often or often experienced stress that stemmed from academics, and 33 percent reported they occasionally experienced stress that was associated with academics. With regard to finance, 53 percent (76 VCs) reported that area to be very often or often related to stress. Twenty-six percent of the respondents indicated that finances were occasionally a source of stress.

### **Satisfaction With Choice of Medical School**

The students were asked how satisfied, overall, they were with their choice of medical school. Seventy-six percent (76 VCs) of the respondents indicated they were either very satisfied or satisfied with their choice.

## **DISCUSSION**

The results indicated that high levels of expressed negativism by the respondents were associated with white faculty behavior. Various forms of behavior by white faculty were often cited as causes of negative responses. This was in sharp contrast to perceptions of black faculty behavior. The behavior of black faculty, for example, was cited far less as causes of negative responses. But it should be noted that the number of black faculty is quite small; indeed, the percentage of black clinical faculty has been approximately 1.7 percent nationally, since 1978, and the specific percentage for basic science faculty is even smaller.<sup>7</sup> Thus, one implication is that there is the need for more black faculty at predominantly white medical schools. The presence of such faculty would act to reduce and offset the degree of overall negativism experienced by black medical students. (But also acknowledged are the importance of other obvious needs such as role modeling and mentoring.)

The results further suggest that black students often feel alienated within the medical school environment. In addition to being related to adverse levels of stress,

feelings of alienation and accompanying negativism can have depressing effects on academic performance. Many black students probably perceive medical schools as unfriendly or unsupportive environments, and thus further evidence that the presence of black faculty, who are more likely to be perceived as being supportive, is critical.

Further, because many black medical students at predominantly white medical schools are likely to be in environments they perceive as being psychologically isolating, they may be particularly susceptible to stresses related to negative interactions. Relatedly, students' academic performances can be adversely affected if such stress-associated factors occur over sustained periods.<sup>8</sup>

Another significant implication is the need for greater awareness and sensitivity by white faculty. Schools concerned with the well-being of all students should attempt to address forthrightly those factors that generate large levels of negativism and feeling of alienation in black students. Keeping in mind Funkenstein's<sup>3</sup> contention that medical students in general associate negative experiences with medical schools, the payoff from such efforts would result in all students benefiting from a more supportive environment.

A finding deserving attention is the wide variance of the respondents' socioeconomic levels. For example, 21 percent of the respondents' fathers earned over \$26,500, but 27 percent earned less than \$9,300 (the poverty level for a family of four is \$9,975). Moreover, 23 percent of the fathers were unemployed (that category could also include those retired or disabled). For the mothers, 33 percent were unemployed and 48 percent had incomes below \$9,300, whereas 24 percent had incomes over \$17,300. Additionally, 35 percent of the fathers and 25 percent of the mothers had not completed high school. Consequently, a large portion of the respondents came from homes where the parents had relatively little education and money.

By contrast, in addition to the 21 percent whose fathers earned over \$26,500, 37 percent of the fathers had bachelor's degrees, with 27 percent receiving graduate or professional degrees. Further, 40 percent of the mothers had bachelor's degrees, with 15 percent receiving graduate or professional degrees.

As shown by the almost dichotomous socioeconomic levels of the respondents, the disparities between the students is obvious. At one end, there is a large proportion of respondents who came from backgrounds where parents have little education and

low incomes. At the other end, the opposite is evident. Generally, students either came from backgrounds where parents had little or modest financial resources and low or modest educational attainment, or from backgrounds where parents had adequate financial resources and relatively high education attainment. A greater percentage of the respondents, however, were in the former category.

Thus, minority students who enroll in North Carolina's medical schools generally come from two diverse socioeconomic backgrounds. One of which is accompanied by adequate financial support, which, given common wisdom, purportedly lends to higher probabilities of socioeconomic success, of which medical education would be but one of many possible avenues. The other, however, suggests that the chances of those students even matriculating in schools of medicine would be slight, at best.

Moreover, within the total medical education milieu, disparities between students are even more pronounced. For example, given the makeup of the average medical school class, many of the respondents' peers were from backgrounds where the parents have attained high educational status and have access to adequate to substantial financial resources. For example, 42 and 25 percent of the students' fathers in the 1980 University of North Carolina School of Medicine's entering class, respectively, had graduate or professional degrees or had completed college, whereas only 11 percent had not completed high school (compared with 35 percent for the survey respondents' fathers) (RY Lyons, unpublished data, January 1981).<sup>5</sup> Further, 42 percent of the entering University of North Carolina students' combined parental annual income exceeded \$53,000. Additionally, most of the faculty probably reflected backgrounds similar to the more traditional medical students. Because of such disparities, there was little probability that many of the respondents had much in common with the backgrounds and experiences of most of their peers and faculty. Those circumstances, compounding the usual pressures associated with medical schools, could readily generate some of the alienated feelings expressed by the respondents, particularly those who had less resources at their disposal.

## CONCLUSIONS

Regarding black students' perceptions of medical school environments, if the results of this study are representative, there is cause for considerable concern. Related to the students' responses, the degree of

negativism is alarming. To provide more positive and productive learning experiences, the schools should be aware of the feelings of alienation harbored by many minority students. The schools should therefore make serious efforts to address those sources related to the students' feelings of alienation. Despite the respondents' expression of satisfaction with their choices of medical schools (this may have more to do with satisfaction of career choice rather than school selection), schools should not take that as a sign that similar students find the medical school environment satisfactory and thus little needs to be done.

Many minority medical students are unique people who have overcome tremendous odds. Indeed, many of the respondents have backgrounds that would seemingly militate against the high educational levels that have already been accomplished. The schools should thus genuinely appreciate the distances covered by those students.

The major purpose of the current study was to examine the perceptions of black medical students in North Carolina, but the results are probably generalizable to a broader population of black medical students. Further, the questionnaire's items may be applied to a number of similar investigations. For example, examining item-response differences that could be attributed to ethnicity or gender. Such studies and others addressing similar issues are certainly needed.

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