

# Intellectual and Attitudinal Characteristics of Medical Students Selecting Family Practice

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Family practice residents were compared with residents in internal medicine, surgery, obstetrics-gynecology, and pediatrics in terms of cognitive and non-cognitive characteristics. Family practice residents were in most instances significantly different from the other four groups. On non-cognitive measures they scored higher on affiliation need and lower on aggression and materialism. Their scores on several cognitive measures were among the highest of the five groups. These results were contrary to others from earlier studies. However, if the trend reported here is confirmed on other samples, it is the more intellectually gifted and idealistic physician who is currently being attracted to the practice of family medicine.

There is a need for more family practice and primary care physicians. What influences physicians to choose this career pathway in medicine?

A number of investigators have reported on personality factors related to the choice of medical specialty. Bruhn and Parsons<sup>1</sup> found considerable agreement in medical students' perception of the characteristics associated with various medical specialists. They perceived the typical general practitioner to be deeply interested in people, aggressive, energetic, patient, and friendly. Yufit<sup>2</sup> found general practitioners to be a heterogeneous group with no distinguishing personality or attitudinal characteristics. Otis, of the University of New Mexico, found medical students interested in general practice to be, in fact, concerned about practical matters such as money, disinclined toward theoretical values, and low on cognitive measures such as the MCAT (unpublished data). In addition, they were more often married at the time of their graduation from medical school than were other physicians.

The purpose of this study was to examine the current validity of this family practice stereotype and to compare medical school graduates choosing this type of practice with

graduates choosing other major specialties.

## Procedure

In Spring 1972, 118 volunteers from the third and fourth-year classes at Baylor College of Medicine participated in a group testing session. They were told that the purpose of this project was to investigate variables predicting success in medical school and medical practice, and to investigate the relationship between these variables and subsequent specialty choice. The students were paid for their participation and gave their informed consent.

All volunteers completed the entire Edwards Personal Preference Schedule (EPPS),<sup>3</sup> the Eysenck Personality Inventory (EPI),<sup>4</sup> and the Birkman Vocational Interest and Attitude Survey.<sup>5</sup> In addition, the depression, psychopathic deviate, and ego strength scales from the Minnesota Multiphasic Personality Inventory (MMPI),<sup>6</sup> the capacity for status, tolerance, intellectual efficiency, communality, and sociability scales from the California Psychological Inventory (CPI),<sup>7</sup> a self-derogation scale<sup>8</sup> and an impulsivity scale<sup>9</sup> were administered. Scores for the four subtests of the Medical College Admissions Test (MCAT) and the undergraduate grade point averages (GPAs) were obtained.

The results reported here concern 83 men who subsequently chose residencies in internal medicine (n=26), surgery (n=28), family practice (n=11), obstetrics-gynecology (n=10),

and pediatrics (n=8). The number of women was too small for statistical comparison, as was the number of men in eight other specialties (eg, pathology, radiology, urology).

All statistical analyses were single factor analyses of variance for unequal sample size. When F ratios exceeded the .10 level of probability, differences between pairs of means were tested for significance with t-tests for uncorrelated means.

## Results

The means for all significant non-cognitive and cognitive variables for the five specialty groups are shown in Table 1. This table reveals that the family practice residents differed from the other four groups of specialty residents on the non-cognitive variables in a number of ways. They scored higher on the need for affiliation, and their mean score on this variable was significantly higher than the mean score of the residents in surgery and internal medicine. They were also among the least aggressive, differing significantly from every group except the pediatric residents, and they were less materialistic than any other resident group. They viewed other people as being less dominant than did any other group, and they differed from all groups except the pediatric residents in this respect. They also viewed other people as being less materialistic than did any other group and differed significantly from the surgeons, who scored highest in this characteristic. In addition, though none of these differences achieved statistical significance, the family practice residents scored higher on the needs for autonomy, intraception (empathy), and nurturance scales of the EPPS, and lower on the exhibition and change scale than any other group. They were also lowest on the psychopathic deviate scale of MMPI and lowest on the capacity for status and the sociability scale of the CPI. On the Birkman interest variables they scored higher than any other group on the

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Table 1. Mean Scores for Five Medical Specialty Groups on Cognitive and Non-Cognitive Variables

	Surgery (n = 28)	Internal Medicine (n = 26)	Family Practice (n = 11)	Obstetrics- Gynecology (n = 10)	Pediatrics (n = 8)	F ratio	p
<b>Edwards Personal Preference Schedule</b>							
Affiliation	13.68 <sup>a*</sup>	13.27 <sup>a</sup>	17.73 <sup>b</sup>	14.90 <sup>ab</sup>	14.75 <sup>ab</sup>	2.62	0.05
Aggression	14.89 <sup>a</sup>	13.31 <sup>ac</sup>	10.64 <sup>b</sup>	14.20 <sup>a</sup>	10.38 <sup>bc</sup>	3.59	0.01
<b>Birkman Attitudes</b>							
<i>Dominance</i>							
Others	72.18 <sup>a</sup>	66.85 <sup>a</sup>	49.09 <sup>b</sup>	74.60 <sup>a</sup>	66.25 <sup>ab</sup>	2.42	0.10
Self	24.32 <sup>a</sup>	32.46 <sup>ab</sup>	42.54 <sup>b</sup>	28.20 <sup>ab</sup>	48.75 <sup>b</sup>	2.05	0.10
<i>Materialism</i>							
Others	73.82 <sup>a</sup>	61.92 <sup>b</sup>	45.64 <sup>b</sup>	62.40 <sup>ab</sup>	58.38 <sup>ab</sup>	2.36	0.10
Self	60.71 <sup>a</sup>	45.96 <sup>b</sup>	32.91 <sup>c</sup>	53.70 <sup>ab</sup>	49.38 <sup>ab</sup>	2.59	0.05
<b>Medical College Admissions Test</b>							
Verbal	572 <sup>a</sup>	614 <sup>b</sup>	609 <sup>ab</sup>	562 <sup>a</sup>	580 <sup>ab</sup>	2.73	0.05
General information	564 <sup>a</sup>	613 <sup>b</sup>	584 <sup>ab</sup>	588 <sup>ab</sup>	585 <sup>ab</sup>	2.76	0.05
Science	559 <sup>bc</sup>	605 <sup>a</sup>	600 <sup>ac</sup>	548 <sup>b</sup>	594 <sup>abc</sup>	2.98	0.05

\*Means sharing the same alphabetical superscript do not differ significantly from each other.

social service, personal contact, and thought scales.

There were no significant differences in intellectual characteristics between the family practice residents and any other group, except that they scored significantly higher than residents in obstetrics-gynecology on the science subtest of the MCAT. Table 1 shows that the significant F ratios for the verbal, general information, and science subtests of the MCAT were due almost entirely to the differences between those choosing internal medicine and the other four specialty groups. Residents in internal medicine scored higher on these subtests than any other group. They also scored higher on the MCAT quantitative subtest although these means are not tabled since the F ratio was not significant across the five groups. In every instance the medical residents scored significantly higher than the surgical residents, and for the verbal and the science MCAT subtest they scored significantly higher than the obstetrics-gynecology residents. In no instance did the family practice residents differ significantly from the highest scoring group, the residents in internal medicine. In addition, the family practice residents had the highest college GPA of the five groups, although this difference was not significant.

On only one variable were the

family practice residents in this study similar to those in other studies. Nine of the eleven, or 82 percent, were married, as compared to 52 percent of the other four groups.

### Discussion

These results are noteworthy since they are contrary to the results of earlier studies. It appears that family practitioners of the future may differ from the general practitioners of the past. These family practice residents were not aggressive, nor were they highly materialistic; the Birkman materialism score is a percentile score based on a large heterogeneous group, and the family practice residents were far below the population average of 50. In addition, they were among the highest scoring groups on all the measures of pre-medical school intellectual performance.

In most of the literature it has been reported that a negative image of the general practitioner develops during the course of medical school training and persists into medical practice. However, more recent studies, including the one reported here, indicate that a change is occurring in medical students' attitude toward family practice.<sup>10</sup> This increase in perceived status may, in turn, be encouraging more highly qualified physicians to select a career in family practice.

These results must be viewed tentatively since the analyses are based on data from graduates of only one medical school. With this qualification, it appears that it is the intellectually gifted and idealistic physician who is now choosing family practice.

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