

## MOTIVATIONAL FACTORS INFLUENCING THE DECISION OF SCHOOL GRADUATES TO APPLY FOR MEDICAL SCHOOL

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### ABSTRACT

**Background:** To investigate the factors that influenced the choice for medical school, by first-year medical students in Kordofan University. **Methods:** A self-administered questionnaire was distributed to the first-year students. Demographic information, the grade achieved in the high school certificate examination and the number of times the student took that examination, the most important factor that influenced the decision and the relative importance of each factor on a scale of 1-5 were filled in. **Results:** Of the 200 first year students, 158 students participated and returned a filled questionnaire. Most were females (63.3%). Mean age was 18.06 years. Most students came from families with educated parents. Only about 5% of fathers and 7.6% of mothers were illiterate. The majority came from middle income families (58.23%) and 42.4% had one physician or more in the family. The mean grade in examination was 88.26%. Most students took it more than once (mean 1.85 times). The main motivational factors were the desire to help people (n=144, 91.1%) and the personal preference (n=110, 69.6%). **Conclusion:** Most medical students in this study were females, from middle income families with educated parents. Most students chose medical school to help people in need and to satisfy a personal desire. Family influence played a relatively important role. Only a minority considered the financial gains or social prestige.

**Keywords:** medical education, medical school, motivation theories.

### INTRODUCTION

Choice of a career path is one of the most important decisions taken by high school graduates. Many reasons may play a role in taking such a decision. Factors motivating student to choose the medical school in particular are diverse. They include personal or intrinsic factors, as well as extrinsic factors that can influence the choice of students. These motivational factors were described by Ryan and Deci in the (Self Determination Theory) (1). Studies showed that the factors involved in the choice of a medical career are similar in different countries (2,3,4). They include the desire to help people, personal desire to study medicine, family influence, income and social status, among many others.

In Sudan, medical school is one of the so-called (top colleges). These include medicine, dentistry, pharmacy and engineering. To be admitted into medical school, students have to study English, mathematics, biology, chemistry and physics. The examination is federally administered by the Ministry of Education. Students competing for the limited number of seats have to earn top grades to get in medical schools, usually above 80%. Score in that exam is the sole criterion for admission.

The aim of this study was to investigate the decisive factors that have influenced the choice for medical school, by first-year medical students in Kordofan University.

## METHODS

The first year students of the faculty of Medicine at Kordofan University (batch of 2017) were invited to participate in this study. A self-administered questionnaire was distributed to the 220 students. One hundred and fifty-eight of them (72%) filled and returned the questionnaire. Demographic information was provided in the first section, including age, sex, residence (urban or rural), father residence (inside the country or abroad), father occupation, mother occupation, father highest education attained, mother highest education, family income and whether there are one or more physicians in the family. The second section included information about the grade or score (percentage) achieved in the high school certificate examination, which is federally administered in Sudan, and the number of times the student sat for that examination. Some students do more than one trial to improve their grades in order to get into the desired college, as admission is based solely on student's grades in Sudan. The last section provided first a list of seven factors that could influence the decision to choose the medical school: family desire or advice, personal desire and preference of the medical career and love of medical sciences, influence of peers, obtaining high grades in school certificate examination, expected high income, social status and prestige, and the desire to help people in need. The student is asked to select only one decisive important factor that influenced and determined his/her choice for medical school. Second in this section is the same list of influencing factors, with the opportunity to give a score from 1-5 according to the importance of that factor in making the decision to apply to medical schools. It is understood that many factors may play a role simultaneously. Data were analyzed using an open-source, freely available statistical package (PSPP, GNU.org) to calculate frequencies, means and Student's T-test.

## RESULTS

Of the 220 students in the first year of medicine, 158 participated in this study (72%). They were mostly female (n=100, 63.3%) while males were 58 (36.7%). Male:female ratio was 0.58:1. Mean age was 18.06 years (range 16-23, SD 1.16).

Those living in urban homes were 138 (87.34%), only 20 live in rural areas (12.66%). The majority live in Sudan (139, 87.97%), while 18 (11.39%) live abroad.

More than a third has a father who is a laborer (57, 36.08%) followed by professional father (48, 30.38%). These include physician, engineer, accountant, university professor and teacher, as detailed in table 1. Most mothers were housewives, as shown in table 2.

**Table 1: Father occupation**

Occupation	number	percentage
<b>Professional</b>	48	30.38
<b>Laborer</b>	57	36.08
<b>Clerk</b>	19	12.03
<b>Businessman</b>	19	12.03
<b>Retired</b>	8	5.06
<b>Deceased</b>	6	3.80
<b>Total</b>	158	100

**Table 2: Mother occupation**

Occupation	number	percentage
<b>Professional</b>	42	26.58
<b>Laborer</b>	3	1.9
<b>Clerk</b>	7	4.43
<b>Housewife</b>	106	67.09
<b>Total</b>	158	100

Most students come from families with educated parents. Only about 5% of fathers and 7.6% of mothers are illiterate. One hundred and twenty-seven fathers (80.4%) and 109 mothers (68.4%) have high school or higher education. Table 3 shows the educational level of parents.

**Table 3: Educational level of parents:**

	Father		Mother	
Ed. level	number	percentage	number	percentage
<b>Illiterate</b>	8	5.06	12	7.59
<b>Basic</b>	23	14.56	37	23.42
<b>High school</b>	54	34.18	57	36.08
<b>College</b>	52	32.91	42	26.58
<b>Post graduate</b>	21	13.29	10	6.33

The majority come from middle income families (92, 58.23%), defined as a monthly income of 1001-5000 Sudanese pounds (SDG). Forty-two (26.58%) come from low-income families (1000 SDG or less per month) and 24 (15.19%) come from high-income families (more than 5000 SDG/month).

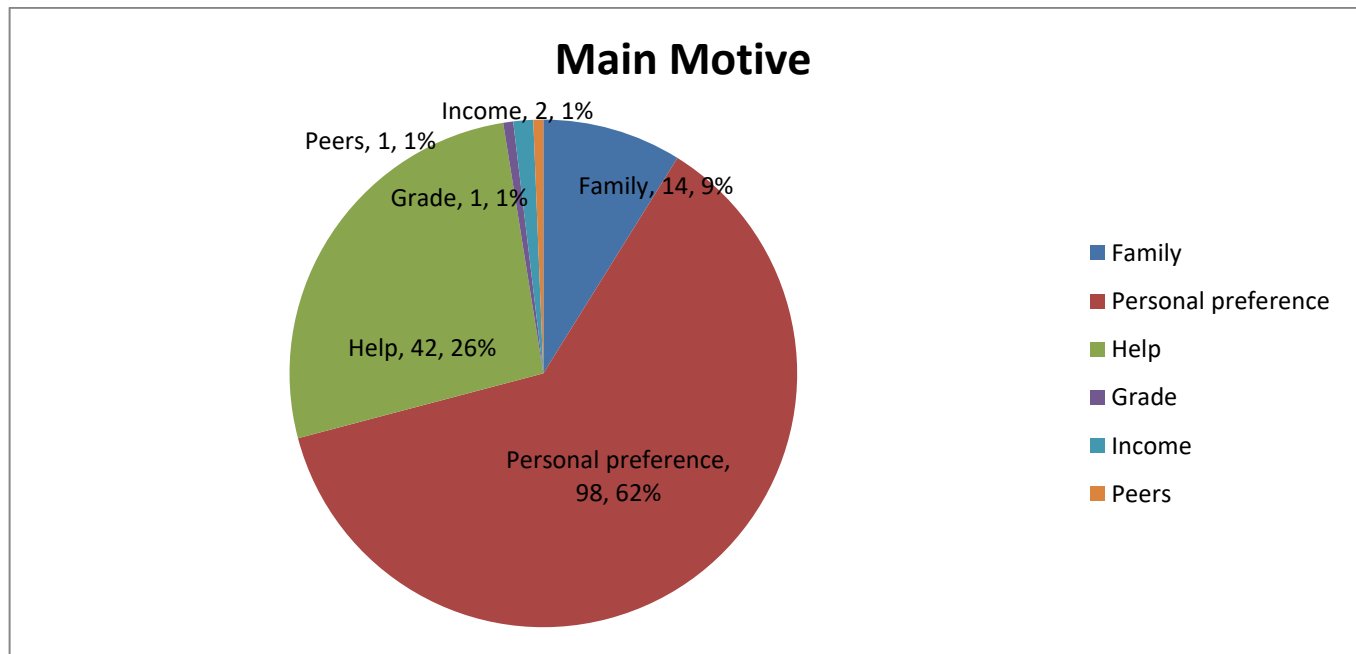
Sixty-seven (42.4%) has one physician (39, 24.68%) or more (28, 17.72%) in the family.

The mean grade (score) obtained in the high school certificate examination was 88.26% (SD 0.82, range 81-99.62). On average, students sat more than once (mean 1.85 times) for the examination. Only 60 students (37.97%) sat for a single trial of the

examination. Sixty-seven students (42.41%) took the examination twice, 25 (15.82%) took the examination three times, and 6 (3.8%) took it four times.

The main motivational factors influencing the students' choice are shown in figure 1.

**Figure 1: Main motivating factors:**



**Table 4: Relative importance of motivational factors:**

Factor	Not important at all	Slightly important	Relatively important	Important	Absolutely important
Family	29	32	49	29	<b>19</b>
Desire to help	0	3	11	32	<b>112</b>
Personal preference	37	9	1	10	<b>100</b>
Peers	61	34	37	18	<b>8</b>
High grade	54	38	38	20	<b>8</b>
High income	68	38	29	13	<b>10</b>
Social status/prestige	78	37	18	18	<b>7</b>

The relative influence of each motivational factor is shown in table 4. Only two factors affected the decision of the majority as important or absolutely important: the desire to help people (144, 91.1%) and the genuine personal desire to study and practice medicine (110, 69.6%). Three factors are either not important at all or only slightly important to the majority of students: influence of peers (95, 60.1%), financial factors or expected high income (106, 67.1%) and social status or prestige (115, 72.8%). The family factor showed no clustering towards a certain majority, it rather affected most students to a certain variable degree.

## DISCUSSION

The results of this study showed that students at the faculty of medicine, university of Kordofan, have chosen to study medicine for multiple reasons. The motivating factors that affected their decision were the same reported elsewhere (5,6,7). Highest among these factors are the desire to help people in need and the personal desire to study and practice medicine with genuine love for the subject of human biology and a career in medicine. This has been reported in other studies done in various locations (5-7). Other factors were influential in making the decision to choose medical school, including the influence of family and peers. But factors such as income or social status and prestige played only a minor insignificant role for most students. This is not explained by the family income of these students, and in contrast with findings by other investigators in other places such as West Indies (7) and Ireland (6). Most student come from either low or middle income families. One would expect that financial factors would play a major role in the decision to become a doctor. However, this study showed that students in this university prefer to pursue the medical career for reasons other than material gains. Although being a doctor provides the professional a high social status and prestige in this part of the world, this study showed that students in Kordofan do not give this factor a significant weight in their decision to study medicine. This may reflect a new definition of social status determinants for the new generation. Computer science, business and petroleum engineering, among many others, might be the new-age symbols of high status. However, prestigious medical status may play a background subconscious role in the choice of students to become doctors. Although most students choose medicine to help people, they could have chosen

nursing instead, to help people in need. However, only a few number of students apply for nursing school as a first choice career. It is considered as a low-status low-income profession (8).

Motivation of these students was high, evidenced by the persistence and repeated trials of the high school certificate examination to obtain a higher score. Whatever the motivating factors, this study showed that students' choice for medicine was a conscious deliberate one.

This study included only the newly admitted batch in the faculty of medicine. They represent only a small fraction of medical students and graduates. A larger study is needed to verify the trends in different batches and larger numbers of students and graduates. Other studies may follow up these students to investigate their medical school performance, career choices in terms of medical specialty, location of practice (rural/urban and home/abroad) and the fees they charge for their services. Some studies showed that academic performance in medical school is not perfectly predicted by the previous score in A-levels (9). This raised the question whether medical schools should base the selection process on other factors such as learning style, interviews and personal statements. A study in Utrecht, The Netherlands, argued that intrinsic motivational profiles are associated with better study efforts (10). Those motivated by, and selected based on, examination scores only may later regret the decision to enter medical school (11). Furthermore, this study did not investigate the ethnic background of students, which was shown in some studies to play a role in students' choices (12,13). Follow up studies are also needed to investigate performance in pre-clinical and clinical stages of medical school (14). Furthermore, the retention of medical graduates in medical practice needs to be investigated, as all students in this study are young, mostly teenage, school leavers and their admission was based on examination scores only. Personality, previous study (graduate entry) and many other factors may play a more important role than examination score in this regard (14,15).

## CONCLUSION

Most medical students in this study were females less than 20 years of age, from middle income families with educated parents. Most students chose medical school to help people in need and to satisfy a personal desire. Family influence plays a relatively important role. Only a minority considered the financial gains or social prestige.

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