The appropriate selection of medical students is a challenging task. It requires that important assessment criteria principally based upon cognitive skills that include the matriculation and admission test scores of the applicants be fulfilled. Non-cognitive skills are also important, but used to a lower degree include intellectual flexibility, inquisitiveness, critical reasoning, logical thinking, tolerance, ability to cope with uncertainty and problem solving. Other criteria that are also considered important for selection include personal qualities and attitudes of the applicants that reflect directly on doctor-patient relationship. In contrast, such demographic factors as age, gender, race, religion, socio-economic status and schooling should not influence the selection process. The admission criteria adopted at King Faisal University Medical College focus basically on cognitive criteria. Other criteria whether non-cognitive or personal quality assessment are also taken into account through interviews and completed questionnaires.

Key Words: Admission selection, medical education, medical students.

INTRODUCTION
As the number of applicants to medical schools always exceeds the number of available places, there has to be a means of selecting candidates for those places. Applicants are usually well qualified and highly motivated. The task of selection and rejection is always challenging, and fraught with uncertainty. Appropriate selection has been the subject of unending debate among professionals in the field of medical education. It entails the selection of good students who eventually would become good doctors. In spite of a lack of a general consensus in the selection process, a variety of diverse protocols has been suggested.

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A POTENTIAL MEDICAL STUDENT
Places in medical schools continue to be highly sought after though only 52% of applicants have a clear ambition to do medicine.1 These applicants should be encouraged to meet with staff and students of the medical schools they have applied to, and be given a realistic indication of what the medical profession entails devoid of the romantic ideas of the life of a doctor.1 Some applicants are ill informed on the implications of being in a medical school. They are sometimes under pressure from their parents to apply to a medical college, particularly if they obtained high matriculation scores “that should not be wasted by choosing a different course”.2 These students or their parents view medicine as a reward for obtaining a high score at matriculation rather than as a demanding career. Many students who fall into that category are unlikely to do well; they fail or even withdraw from the medical course. Student alienation and disaffection, rather than academic incompetence, is the usual major cause of failure to complete the course of the study.1 The risk of students withdrawing or failing to complete their medical studies, and the high cost of wastage resulting therefrom, can be minimized through proper selection procedures.

COGNITIVE SKILLS
Academic achievements and intellectual ability are both considered important cognitive skills in the selection of medical students. The academic matriculation score remains a major predictor of who will and who will not be selected for medical education.3 Applicants with a strong science background especially in chemistry, physics and biology are believed by some to have a better chance of success in medical schools.4,5 Others argue that the academic score based on science courses should not be the sole parameter for student evaluation, and that it should be complemented by education in humanities or experience in social sciences as well as a proficiency in the English language where English is the medium of instruction for medicine.6 This combination would enhance significantly student perception of the medical educational process.7 The highest predictor of performance in the first year subjects at Dammam Medical College was a combination of secondary school scores and admission test scores in pre-medical subjects.8 Students with a background knowledge of both the humanities and science were found to be twice as likely to complete their medical degree as those who had studied science alone.9 Gunn recommended a broad pre-medical education in such subjects as history, philosophy and literature to enhance students' ability to think for themselves on important issues.10

NON-COGNITIVE SKILLS
The selection of medical students based on their academic achievements alone prevails in many medical schools.11 It is argued, however, that academic achievement should be used only as a filter rather than as the major selection criterion.12 Intellectual abilities or non-cognitive skills are equally important. There is a general agreement that a medical student who would respond well to national health needs should be mentally capable, self-disciplined and emotionally committed to the process of medical education. Non-cognitive skills include intellectual flexibility, inquisitiveness, critical reasoning, logical thinking, tolerance, the ability to cope with uncertainty and problems.1 These skills also have a positive impact on medical education. The student should be motivated, mature, emotionally stable, self-confident, have low anxiety levels, possess good judgment and perception, show a high degree of decisiveness and assertiveness and be moderately extroverted.13-16 Interestingly, these qualities correlated significantly with good clinical performance, but did not correlate with prior academic achievement as measured by grade and cognitive tests.15,17 Applicants for enrollment in medical schools to undertake a course as stressful as medicine should possess good physical and mental health. Disabilities ranging from dyslexia to being carriers of infectious diseases have raised serious concerns in the selection of medical students.18 HIV-positive students and carriers of Hepatitis B are now excluded by the selection committees in many medical schools in the United States and the United Kingdom.19 On the other hand, good athletic or cultural records are positive predictors for student selection. Preference for students with these skills will inevitably increase the number of medical students who can participate in social, athletic or cultural extracurricular activities, and...
are always encouraged in a medical school environment.1

**PSYCHO-SOCIAL FACTORS**

Medical training and a career are emotionally demanding. Psycho-social issues in medicine should therefore, be taken into account in the selection of medical students.20 Selection should be based on the ability of the applicants to cope with their professional demands, and manage their patients with compassion, a trait much appreciated by patients.21,22 Personality and attitudes, as well as tolerance of ambiguity are important predictors of success with doctor-patient relationship.23 Tolerance of ambiguity relates to the ability to make appropriate and justifiable decisions on incomplete data, and be comfortable with those decisions even if they later turn out to be wrong.1 These qualities together with the humanities lead to greater sensitivity, insight and humane understanding among medical students.

**DEMOGRAPHIC FACTORS**

Students who have relations who are medical doctors were more inclined to choose the same profession than those who had no family members in medicine.24 Demographic data such as age, gender, race, religion, socio-economic status and schooling of applicants to medical schools should not influence the selection process. A study among first year medical students showed that overseas students had initial academic difficulties, but managed to overcome them by the end of the first year.25 The lack of certain qualities or attitudes at the time of application to a medical school is frequently overcome as medical studies progress. This applies to medical students from socially disadvantaged backgrounds who are not very impressive at the time of application. Much benefit can be derived from a wider social range of doctors.2 Gender and religion sometimes have a negative influence on interview ratings in some studies.9,26,27 Candidates who apply to medical schools are usually in their late teens, an age that is hardly ideal for making sound decisions for a life-long commitment to a profession like medicine. In the United States, candidates apply to do medicine only after completing pre-medical college studies. This occurs when applicants are older and a more mature decision making is likely.

**PERSONAL QUALITIES**

Personal quality assessments are commonly practised at many medical schools for the selection of medical students.12,28 Personal qualities are assessed by asking applicants to complete a confidential questionnaire, or by interviews. Interviews rank second only to academic evaluation.29 When conducted in an objective fashion, their ratings are positive predictors of successful clinical performance.30 The interviewers should first be trained for the task of asking questions that are pre-designed professionally, and making an assessment made on model answer sheets.1 The interview would lose significant credibility if these criteria were left to the interviewer’s subjective views. It is also preferable to assign two interviewers to each candidate to elicit two independent ratings for a more objective assessment.33 Single interviewers yield less consistent ratings, and should not be used for definitive evaluations.34

To the best of the author’s knowledge, there are no published studies on the admission criteria in other Saudi Universities for comparative evaluation. However, the current selection to all Medical Colleges in the Kingdom of Saudi Arabia is largely based on a combination of the matriculation score and a national written admission exam.

**ADMISSION CRITERIA AT KING FAISAL UNIVERSITY**

The King Faisal University Medical College opened about 30 years ago. The admission policy of new medical students at that time was based solely on cognitive skills related to the matriculation scores as outlined by Whitehouse in 1977.3 This policy did not address other important admission criteria,1 and resulted in about 50% students dropout from the Medical College. King Faisal University Medical College now believes that high scores in the matriculation exam should be coupled with other evaluation criteria for the proper selection of medical students.12,28 The matriculation score in the new policy constitutes about 30% only of the total evaluation score, and stresses the scientific subjects. This change in the admission policy has resulted in a dramatic reduction in student dropout to less than 5% in the last few years.
Applicants initially submit their certificates on completion of the final year secondary schools and the marks obtained in physics, biology, chemistry and mathematics. Even though a minimum score of 90% in these subjects is a basic prerequisite, about 800 female and over 1000 male students apply. Only a tenth of this total number (about 180) is eventually accepted each year.

Selection of these applicants is based upon a written “Admission Examination” that is composed of two parts. Part One comprises multiple choice questions in four subjects already taught in secondary school: physics, biology, chemistry and mathematics, as well as in Islamic sciences and the English language (English is the official teaching language in the College of Medicine). The score for this exam is 35 marks. Part Two measures the IQ, personal capabilities and general knowledge of the students, with a 30 mark score. These parameters are considered mandatory by many centers. Evaluation is conducted by a specialized organization called the “Saudi Center for Assessment and Evaluation for Higher Education”. The total score of this exam (65 marks) is added to the final year secondary school score (35 marks), making a total score of 100. Students with the highest scores are scheduled for an interview that is preceded by the completion of a detailed “Questionnaire Form”. This questionnaire, evaluated by a psychiatrist comprises five headings: (i) the principal motivation for becoming a medical student; (ii) preliminary knowledge on the nature and duration of medical education and the teaching process in the Medical College as compared to the Secondary School; (iii) aspirations and positive attributes in the applicant’s personality; (iv) negative and weak points in the applicant’s personality; and (v) any volunteer activities engaged in by the applicant and lessons learnt from them.

The interview is carried out by two or more Faculty members, and lasts 45-60 minutes with each applicant. Conduct of the interview by a group rather than an individual allows for maximum objectivity in the selection process. The interview focuses on the following non-cognitive criteria: (i) personal awareness of the applicant of the major health problems in the Saudi community; (ii) expression, listening and communications skills of the applicant; and (iii) personal characteristics of the applicant as general interests, motivation, discipline, respect for others, self-respect, self-esteem, and ability to work in a team.

In accordance with many medical schools in the United States and the United Kingdom, all nominated students have to pass a medical check-up before being accepted in the College of Medicine.

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