

Education

Any education in independent public schools, direct grant schools, private schools, or tutorial colleges was defined as private sector education.

The UCCA application

Candidates may use one or two brackets to indicate equal preference of choice. Bracketing was scored as the preference of the school that was actually in last position. If no brackets were used then the last choice was truly fifth in preference and scored 5; if all five choices were bracketed together the last choice was actually first equal and scored 1. If the applicant had already taken two or more A levels at the time of application the application was classed as "post A level." The date of UCCA application was measured in days after 1 September 1980.

Table I shows the mean and standard deviation (SD) for all variables (or percentage for binary variables) in UK applicants and rejects, and the result of a univariate significance test (unpaired t test or χ^2 squared test) for differences between the two groups.

MULTIVARIATE ANALYSIS

A multiple logistic regression was used to assess the effects of background variables on the likelihood of acceptance at any medical school.^{9 10} For the 946 UK applicants with complete data the prediction equation based on all 24 variables was highly significant ($\chi^2=601.5$, 24df, $p<0.001$). Table I shows the effect of each variable on the relative likelihood of acceptance, variables being ranked from most significant to least significant, significance being assessed after taking effects of all prior variables into account. Only the first six variables reach the conventional 5% level. Taken together the last 18 variables do not significantly improve the fit of the regression equation ($\chi^2=12.4$, 18df, NS).

OTHER FACTORS

Extensive data were collected on personality, career preferences, cultural interests, and attitudes, only a brief resume of which may be given.

Personality—Those accepted and rejected did not differ on the Eysenck personality questionnaire, the state-trait anxiety inventory, or in syllabus boundness. Applicants were more extravert, less neurotic, and less psychotic, and had slightly higher lie (social acquiescence) scores than age-sex norms.

Career preferences and interests in medicine—Those accepted were less interested in learning about physical aspects of disease ($p<0.001$), and were more certain about the nature of an eventual career, were more interested in hospital work ($p<0.05$) and less interested in non-clinical work ($p<0.05$). Those accepted and rejected did not differ in their interest in 24 medical specialties.

Cultural and leisure interests—Those accepted had fewer cultural interests ($p<0.025$).

Attitudes—One hundred and twelve attitudes were analysed in terms of eight principal components. Those accepted were less in favour of the control of medical practice ($p<0.001$).

Discussion

A level grades are the most important factor determining selection, and may well have become more so in recent years.¹¹ The widespread opinion that academic qualifications should only be a partial factor in selection¹²⁻¹⁷ may to some extent be justified by the poor predictive value of A levels for university¹⁸ and medical school¹⁹ performance. The greatest advantage of selection based primarily on A level grades is its lack of bias by irrelevant social factors.

Other factors predicting selection—in particular, a medical parent—are important in that they undermine public confidence in the fairness of the system, but their numerical effect is small. The role of O level achievement is worrying in that it probably has little predictive value for subsequent medical practice. We make recommendations concerning the date of application in a subsequent paper.

Background factors such as schooling, sex, and social class have no direct effects on selection, but may be shown to confer indirect

advantage through educational qualifications and early application.

In interpreting our findings it must be remembered that there are many factors which this study does not consider, since it examines only biases arising after application. Nevertheless, many factors originating in school, home, or peer group affect application and may persuade some potential applicants that application is not worth while or that studying appropriate O and A level subjects may be pointless.²⁰ Such bias may be inferred from the social class distribution of applicants, which is more exclusive than intellectual ability alone would predict.²¹

The mainly negative findings on personality, attitudes, and career preferences are none the less important, since we may conclude that the attitudes and career preferences found in doctors and medical students cannot be ascribed to the selection system.

References

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A patient suffers from night cramps, which are not so frequent as to justify regularly taking quinine. They are, however, severe after working hard in the garden. Could these be related to heavy sodium loss from sweating and, if so, would a drink of normal saline at bedtime be beneficial?

I think it is extremely unlikely that working hard in the garden in the United Kingdom could produce sufficient sodium loss to cause cramp. Painful muscle cramps after exercise are a feature of salt depletion heat exhaustion occurring in people working in hot environments, but the salt depletion usually develops insidiously.¹ Cramp also occurs in some people after unaccustomed exercise in the absence of salt depletion. I would be surprised if a drink of normal saline at bedtime helped, and I suggest trying a dose of quinine on occasions when cramp is expected. There is no need to take it regularly to obtain a beneficial effect.—LINDA BEELEY, consultant clinical pharmacologist, Birmingham.

1 Keatinge WR. Environmental extremes. In: Weatherall DJ, Ledingham JGG, Warrell DA, eds. *Oxford textbook of medicine*. Oxford: Oxford University Press, 1983:6.53.

Corrections

"The Incomplete Houseman"

The price of *The Incomplete Houseman: a Guide for Medical Students and First-year Doctors* is £3, not £5 as stated in the review (8 September, p 621).

Dangers of adding insulin to intravenous infusion bags with fixed needle syringes

In the paper by Dr E Mark Talbot (15 September, p 678) the legend to fig 3 should have read: Distribution of variables of needle length (range 12.5-13.2 mm). . . .