

The effect of personal illness experience on career preference in medical students

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Summary. Medical students have a wide degree of personal experience of serious illness in themselves and those close to them. In about 4% of cases these experiences have influenced the choice of career specialty. However, formal statistical analysis within a large group of medical students could find no evidence for a relationship. It is suggested that this is due to the inadequacies of statistical methodology, which cannot demonstrate strong relationships in a minority of subjects, when the majority show no relationship. Almost half of the students gave reasons for particular career preferences, but in most cases these appeared to be strongly idiosyncratic.

Key words: *Career choice; *students, medical; *attitude to health

Introduction

The career preferences of medical students are of interest both intrinsically and because they allow the possibility of rational planning of future manpower within the health service (Hutt *et al.* 1979). The extensive studies of Parkhouse (e.g. Parkhouse *et al.* 1983) have given detailed information over a number of years on changes in career preference as students pass through medical school and beyond, and on longer-term secular changes in the popularity of different specialties within medicine (Donnan 1976). In addition,

other studies have related particular career preferences to differences in personality (Mowbray & Davies 1971), attitudes (Walters 1982) and other characteristics of students (Kosa 1969). Studies also suggest that medical student career preferences have a reasonable long-term stability (Egerton 1985; Rothman 1985), and one retrospective survey suggested that about 30% of doctors have finally decided upon their future career before leaving medical school (Hutt *et al.* 1981).

Informally, it is often found that a number of doctors and students report seminal personal experiences of particular illnesses, either in themselves or in close friends or relatives, and that subsequently they enter the specialty relevant to that illness. The present paper describes a study of medical students which assesses the degree of personal experience of a number of fairly common diseases and relates those experiences to career preferences.

Method

A questionnaire was distributed to all first-year preclinical, first-year clinical and final-year clinical students at Guy's Hospital Medical School, London during March 1985. The questionnaire asked a number of questions about background and interest in various clinical and preclinical subjects and then asked about experience of 20 illnesses and about the attractiveness of 26 specialties of medicine. Finally, students were asked whether 'anything else has influenced your decision or feelings about which specialty you would like to go into'.

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Table 1. Rate of medical student reporting of experience of illness in 'a close relative, or friend or someone important to [them]'

Amputation	5.8%
Appendicitis	41.3%
Blindness	12.6%
Cancer	46.6%
Chronic bronchitis	18.9%
Cot death	4.4%
Deafness	22.8%
Diabetes	30.1%
Fracture	54.4%
Heart disease	40.3%
Hysterectomy	30.6%
Leukaemia	9.2%
Mental illness	25.7%
Mental subnormality	6.3%
Parkinson's disease	11.2%
Pneumonia	18.0%
Serious road traffic accident	18.9%
Serious arthritis	21.4%
Stroke	37.4%

Results

The questionnaire was returned by 202 students, a response rate of 59%, with no difference in rate between the 3 years.

Table 1 shows the percentages of students answering that they had 'a close relative, a friend, or someone important to [them]' who had suffered from some of the 20 conditions. On average students had experienced 4.7 of the 20 conditions in those close to them (SD=3.3, interquartile range=2-6; range=0-14). There were no differences between years or sexes in the incidence of such experiences.

The 26 career specialties are shown in Table 2, and the student's interest on each was assessed on a 5-point scale from 'Definite intention to go into this' to 'Definite intention not to go into this'. For purposes of statistical analysis the five scale

Table 2. Shows the percentage responses of the attractiveness to students of 26 possible careers, and the percentage of students responding that each specialty was their first choice of a career. All percentages have been rounded to the nearest whole per cent.

	Definite intention to go into this	Very attractive	Moderately attractive	Not very attractive	Definite intention not to go into this	1st choice
Accident and emergency	2	14	54	21	10	3
Anaesthetics	1	7	23	42	28	1
Armed forces	2	5	10	16	67	2
Cardiology	4	22	39	18	18	5
Community medicine	2	9	25	35	30	1
Dermatology	1	8	22	51	19	0
Ear, nose and throat	1	7	33	41	18	2
Endocrinology	1	5	31	40	24	0
Forensic medicine	2	15	33	25	26	2
General medicine	4	35	38	14	9	11
General practice	14	39	24	12	11	36
Geriatrics	1	4	18	38	39	1
Laboratory medicine (including haematology and microbiology)	3	6	15	25	52	1
Medical research	5	10	25	22	39	2
Neurology	15	31	34	20	0	1
Obstetrics and gynaecology	5	25	40	17	13	5
Ophthalmology	8	26	44	22	0	0
Orthopaedics	2	8	25	31	24	2
Paediatrics	4	35	36	14	11	9
Pathology	2	10	23	30	35	1
Pharmaceutical industry	1	2	17	27	54	1
Psychiatry	4	17	19	26	34	5
Radiology	1	10	26	35	30	1
Radiotherapy	0	4	18	42	37	0
Surgery	6	19	20	16	30	10
Urology	1	3	26	38	32	0

points were scored as 5, 4, 3, 2 and 1. Students were also asked which one of the categories they would choose as their first career preference. Women were less likely to want to go into cardiology ($P < 0.05$), neurology ($P < 0.01$), surgery ($P < 0.01$) and medical research ($P < 0.05$) and more likely to want to go into general practice ($P < 0.05$) and radiotherapy ($P < 0.05$). A number of specialties became less popular as students passed through medical school (anaesthetics, $P < 0.01$; cardiology, $P < 0.01$; paediatrics, $P < 0.01$; and surgery, $P < 0.01$) and only one, general practice, became more popular ($P < 0.01$). There were no significant interactions between sex and year.

The relation between the 20 experiences of illness and the 26 career preferences was studied in the first place by considering all 520 possible correlations between the pairs of illnesses and careers. A total of 45 correlations were significant at the 0.05 level of significance, of which 39 were positive and six negative. If ratings of illness and career preference were independent then these values could be compared with an expected rate of 26 correlations significant at the 0.05 level, of which half should be positive and half should be negative. However, the ratings of careers are not statistically independent of one another, as neither are the reports of illness experience. The career ratings were therefore rotated to 26 orthogonal principal components, and the illness experiences were rotated to 20 orthogonal principal components. Of the 520 intercorrelations only 28 (5.4%) were significant at the 0.05 level,

close to the expected value of 26. Only the first eight principal components of career preference were probably of importance using a criterion of an eigenvalue greater than unity, as were the first eight components of illness experience. However, of the 64 possible correlations between these factors, only seven were significant at the 5% level, again similar to chance expectations of 3.2. Indeed the only substantively significant correlation was between the first principal component of illness and the first principal component of career preference ($r = 0.212$, $P = 0.007$), indicating that the greater the degree of illness experience then the greater the degree of commitment to a career in general. Finally, a canonical correlation between the 20 illnesses and the 26 careers revealed no significant correlation (Wilk's Lambda = 0.0165, $P = 0.123$).

A total of 99 (49%) students made specific comments on their reasons for career choice, which are summarized in Table 3. In particular eight (3.9%) commented that they had been influenced by personal experiences of illness. The relatively small number of cases means that analysis by year of study would not be worthwhile. Examples of influences may be quoted briefly: 'Suffering from eczema and my inadequate treatment makes me want to go into dermatology'; 'My brother is a quadriplegic following a diving accident ... the GP has a big role to play in this [problem]' (general practice chosen as career); 'My friend who died of leukaemia and his doctors' (laboratory medicine chosen as career); 'My friend who had an abortion' (obstetrics and gynaecology chosen as career). The overwhelming majority of influential experiences were in others, although occasional examples did occur in students themselves (as in the case of eczema quoted above). Given that many students would not apply to medical school unless personally in good health (and many schools also would not accept them) this is not a surprising finding.

Discussion

Medical students have a large pool of personal experience of illness in those close to them (although there is no reason to believe that it is greater than in non-medical students), 94% reporting at least one such event from what was

Table 3. Reasons given by students for their particular choice of careers

Reason	n	%
Personal experience of illness	8	5.8
'Careers in Medicine' talks	3	2.2
Subject of BSc degree	6	4.4
Relatives	7	5.1
Peers/friends/colleagues	8	5.8
Teachers/lecturers	11	8.0
Negative feelings about medicine	5	3.6
Put off hospital medicine		
by clinical training	20	14.6
Religion	3	2.2
Instinct or 'feelings'	11	8.0
Feel disadvantaged or have		
less choice as a woman	11	8.0
Compatibility with outside interests	6	4.4

of necessity a fairly limited and randomly chosen list. Such experiences might well be of use in teaching students about the responses of patients, doctors and relatives to serious illness. Despite the extent of such experiences, there is no general statistical evidence that the specific nature of such illnesses bears any overall relation to the likelihood of students wishing to enter particular careers, although those with greater illness experience do seem to be more certain of the nature of their career.

However, such a conclusion is at odds with the finding of some 4% of students who reported very specific influences of particular illness experiences upon their career choices. Since in addition nearly half of the students could report some factor which had specifically influenced them in choosing a career, we should not conclude that illness experience has no influence upon career choice, but rather that although it is of minimal specific importance in the majority of students, it is of substantial importance in a minority of students. The influence in that minority probably cannot be demonstrated by conventional statistical techniques due to the effect being submerged in the variability resulting from the far larger majority in whom there is no such relationship. Career preference may perhaps best be construed as a mass of idiosyncratic factors, each of great importance in a small number of students, but of little importance on aggregate, and thereby defying conventional statistical analysis, which assumes homogeneity of response in populations.

Amongst the heterogenous reasons given in Table 3 for particular career choices, the commonest response, that of being put off a career in hospital medicine by clinical training itself, deserves some comment. Typical comments were: 'Surgeons' attitudes to patients' interests has put me right off surgery'; 'The hospital is a slightly unreal world which threatens to swallow up you and your life totally—no thanks!'; 'The apparent hospital rat-race has put me off hospital medicine'. The responses are not dissimilar to

occasional reports of senior hospital doctors near the end of their careers and lives (e.g. quoted in Daniels [1987]; 'Don't do what I've done. The world is much bigger than any hospital'). At present we have no specific evidence on the prevalence of such views beyond the anecdotal; the problem would probably repay further study.

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