Shrinking away from psychiatry? A survey of Australian medical students' interest in psychiatry

Gin S. Malhi, Gordon B. Parker, Kay Parker, Kenneth C. Kirkby, Philip Boyce, Peter Yellowlees, Charles Hornabrook, Ken Jones

Objective: We sought to examine the attitudes of newly recruited medical students towards psychiatry and other specialties to determine what factors influence their career choice options.
Method: We surveyed the attitudes of 655 medical students using a 31-item self-report questionnaire.
Results: Australian medical students rated the ability to help patients as the most important aspect of a specialty in determining their choice. Attraction to psychiatry was based on the specialty being interesting and intellectually challenging, and providing a career that promised job satisfaction with good prospects and enjoyable work. Females expressed a greater interest in psychiatry and were more likely to consider pursuing it as a career, principally due to a greater interest in the subject matter and a stronger desire for interaction with patients. The least attractive aspects of psychiatry were its lack of prestige among the medical community and a perceived absence of a scientific foundation.
Conclusion: The attitudes of medical students can perhaps be modified and recruitment into psychiatry enhanced by presenting the reality of psychiatry today – namely the wide range of available therapeutic processes, the predominantly positive outcomes, the interesting and intellectually challenging nature of the subject and its nurturing and accommodating work environment.
Key words: attitudes, career, medical students, postgraduate training, psychiatry.

Australian and New Zealand Journal of Psychiatry 2002; 36:416–423

There appears to be declining interest among medical students and junior doctors in training in psychiatry in western countries [1] that cannot be accounted for solely by the general reduction in interest in medicine as a profession [2]. Recruitment of trainee psychiatrists is dependent upon their attitudes towards both psychiatry

Gin S. Malhi, Senior Lecturer (Correspondence)

School of Psychiatry, University of New South Wales, Sydney, Australia
Email: g.malhi@unsw.edu.au

Gordon B. Parker, Professor and Head

School of Psychiatry, University of New South Wales, Sydney, Australia

Kay Parker, Senior Research Associate

University of New South Wales, Sydney, Australia

Kenneth C. Kirkby, Professor

University of Tasmania, Hobart, Australia

Philip Boyce, Professor

University of Sydney, Sydney, Australia

Peter Yellowees, Professor

Department of Psychiatry, University of Queensland, Brisbane, Australia

Charles Hornabrook Cojoint Lecturer

University of Newcastle, Newcastle, Australia

Ken Jones, Associate Professor

Monash University, Melbourne, Australia.

Received 10 May 2001; revised 20 July 2001; accepted 11 September 2001.

and psychiatric patients, as well as its attractiveness as a specialty [3,4]. Other factors such as personality [5,6], clinical competence [7], cultural background [8,9] and choice of medical school [10,11] also influence attitudes, however, attitudes towards psychiatry and an intention to pursue a career in that specialty are not necessarily correlated [12]. Therefore, presenting a positive view of the specialty and encouraging medical students to consider a career in psychiatry are important components of clinical training [13].

Neilson [14] drew attention to the role of the psychiatry clerkship in influencing medical students to pursue a career in psychiatry, and subsequently several studies have shown that medical students' interest in psychiatry as a career increases during the psychiatry clerkship [15]. One group that followed medical students over a period of several years found that positive attitudes engendered during the psychiatry clerkship were maintained up till the end of final year of training – although reverting during the preregistration year [16–18]. They also found that, in addition to improving attitudes towards psychiatry, the psychiatry clerkship also increased the number of students planning a career in that specialty [16]. The transient nature of clerkship-related attitudinal change has been noted [19–21], with Creed and Goldberg [22] suggesting that any increase in positive attitudes towards psychiatry during and after a psychiatry clerkship merely offsets the decline in interest that occurs at other stages of clinical training. Furthermore, they found no correlation between students' attitudes towards psychiatry and their achievement in postclerkship examinations, whereas Sloan *et al*. [23] found that those students intending to specialize in psychiatry scored significantly better in their examinations.

It might be assumed that as medical students have had little exposure to psychiatry any lack of interest would reflect society's poor image of the discipline, while, for medical graduates, experience, training and role models might more positively contribute. In this paper we pursue the views of recently enrolled medical students regarding psychiatry as compared with a number of other career choices. We use an expanded questionnaire initially developed by North American researchers [24], who surveyed 223 freshman medical students from three South-western medical schools. The questionnaire seeks to rate potential career determinants (e.g. desire for interpersonal contact) and parameters defining career interest (e.g. lifestyle), while also obtaining qualitative data on the image of psychiatry held by the medical students.

We also compare responses of students considering a career in psychiatry with those expressing no interest, to inform us about psychiatry's comparative 'image' in Australia as a potential career choice.

Method

To obtain profession-naïve attitudes about career choices we gathered data from medical students early in their medical education, and administered the survey in the first two months of their commencing university. Six universities contributed, with two accepting only graduate medical student entry (Queensland and Sydney), three principally enrolling undergraduate medical students (New South Wales, Monash and Tasmania) and one (Newcastle) having both graduate and undergraduate entry. At each university, appropriate ethical permission was sought and students were approached in class and asked to complete the questionnaire anonymously.

We used a questionnaire developed for a North American study [24], with only minor modifications to reflect regional issues and obtain some additional details (e.g. sociodemographic, ethnicity and religious data). Background information on the student, any previous university degrees and details on alternative career choices considered by them was obtained. Students were requested to rank their principal determining interest in medicine, with three options (i.e. 'research'; being involved in the 'diagnosis and treatment of disease'; or 'interpersonal interactions with patients'). They were asked to nominate the potential reasons for their choosing a career in one or more of six specific disciplines (i.e. medicine, surgery, psychiatry, paediatrics, obstetrics/gynaecology and general practice), nominate the reasons for and against being attracted to their choice, and to identify the importance of specific factors (e.g. lifestyle, prestige, ability, financial reward, the opportunity for interesting and challenging work, and the ability to help people) in dictating choice of career option.

Preserving the North American questionnaire strategy, students were requested to rate each listed career on a number of variables with five-point rating options assessing attractiveness. In addition, they were asked their high school exam result in English and whether they had been in a school debating team, and asked – in respect to their skills and talents – whether they were more interested in the sciences or the humanities. Finally, they were also given the opportunity to express open-ended views concerning their attitudes towards psychiatry.

Results

Across the six Australian medical schools, 655 students (53.4% female), with a mean age of 20.4 (SD 4.6) years, took part in the survey (see Table 1). The majority (60.2%) of respondents were born in Australia.

When asked to assess the degree to which they, their family, their classmates and other physicians might separately respect the skills and knowledge of doctors in each nominated specialty, the students rated psychiatrists lowest in all four sets. The rank order of the students' mean ratings of their own comparative judgements about specialties were examined by analyses of variance with repeated measures, each specialty being compared with psychiatry. Results indicated that the students respected psychiatrists the least, returning a mean score of 2.0. Surgeons were respected most (1.32), followed by physicians (1.51), paediatricians (1.57), obstetricians and gynaecologists (1.74) and general practitioners (1.95). The only specialty returning significantly different ratings to psychiatry, however, was surgery ($F = 181.8$).

When asked to nominate each career as 'chosen' or as a 'strong possibility' on an ordinal scale, with the option of multiple nominations, psychiatry was the least likely career to be affirmed, receiving

Table 1. Career choice variables for whole sample and comparisons between students who would possibly choose a career in psychiatry and those not interested[a]

Variables	Whole sample (N = 655) Mean or %	SD	Possible career in Psychiatry (N = 104) Mean or %	SD	Not interested in Psychiatry (N = 551) Mean or %	SD	X^2 or t
Enrolled in graduate programme	30.1		26.0		30.9		1.2
Seriously considered career different from medicine	63.7		74.0		61.7		6.1*
Biological sciences	24.8		15.6		26.8		
Phys science/maths/engineer	17.5		14.3		18.3		
Psychology	7.2		19.5		4.4		
Arts/humanities/soc science	14.2		20.8		12.7		
Business/computing	11.8		6.5		13.0		
Healthcare-related	12.0		7.8		13.8		
Other	12.5		15.6		11.8		29.3**
Other possible medical career choices							
Medicine	60.5		56.7		61.2		3.3
Surgery	47.2		32.7		49.9		6.0*
Paediatrics	47.5		49.0		47.2		5.2
Obstetrics/gynaecology	20.3		21.2		20.1		1.4
General practice	40.3		43.3		39.7		2.0
Importance of aspects in choice of specialty							
Ability to help people	1.29	0.6	1.25	0.5	1.30	0.7	0.1
Interesting/challenging	1.35	0.6	1.39	0.6	1.35	0.6	0.9
Ability	1.56	0.7	1.61	0.8	1.55	0.7	0.8
Lifestyle	1.80	0.9	1.63	0.8	1.83	0.9	5.6
Financial reward	2.75	1.0	2.77	1.0	2.74	1.0	0.2
Prestige	3.30	1.1	3.45	1.1	3.27	1.1	0.6
Importance of future career in choosing school	2.38	0.7	2.43	0.7	2.36	0.7	0.9
Ranked most interesting aspects							
Research	9.3		4.9		10.1		2.2
Diagnosis and treatment	44.3		31.1		46.8		6.0*
Interaction patients	63.0		73.8		61.0		4.2
Achievements in school							
English mark	87.8	31.9	87.9	8.2	87.7	34.7	0.1
Debating team	31.6		28.8		32.2		1.5
Interest in science/humanities							
Science	70.7		46.6		75.3		
Humanities	21.4		40.8		17.7		
Both science/humanities	8.0		12.6		7.1		30.9***
Born in Australia	60.2		65.4		59.2		1.0

[a]Comparisons controlled for gender.

*p < 0.05, **p 0.01, ***p < 0.001.

responses of 1.4% and 14.5%, respectively. Comparable data for other specialties were 12.6% and 48.9% for medicine, 10.6% and 36.9% for surgery, 2.8% and 17.8% for obstetrics/gynaecology, 9.5% and 38.3% for paediatrics and 5.1% and 35.6% for general practice.

Interested versus not interested in psychiatry

We then compared the 104 (15.9%) students who nominated psychiatry as either a 'strong possibility' or their 'chosen career' with the remaining 551 students who indicated no interest at all in psychiatry as a career choice. Gender was the only sociodemographic variable that distinguished students interested in psychiatry from those not (69.2% vs 50.5% female). Hence, all analyses of group comparisons by univariate analyses of variance for continuous measures and chi-squared analyses for categorical variables were controlled for gender. Significant F values were reported at the $P < 0.01$ level after making a Bonferroni correction. Logistic regression analyses were conducted to identify predictors of students interested in a career in psychiatry, with reported statistics including: Wald (W), Odds Ratio (OR), and 95% Confidence Interval (CI). Secondary analyses examined for interactions between gender and interest in psychiatry, and further examinations of the significance of gender on aspects of career choice, were conducted by comparing responses of male and female students in separate analyses.

Table 1 reports comparisons across a variety of career choice variables. Those interested in psychiatry were more likely to have previously considered a career other than medicine, most distinctly psychology and the arts/humanities. They were less likely to have considered other health care-related careers such as dentistry, pharmacy and veterinary science, the biological sciences or careers in business. These differences in possible alternative careers possibly reflected their demonstrated greater interest in the humanities as compared to the sciences.

Predictably, students considering psychiatry as a possible career tended to be more likely to be interested in 'interpersonal interaction with patients' and were less likely to be interested in 'diagnosis and treatment'. However, there were interactions with gender. Females were more likely than males to be interested in 'interpersonal interaction with patients', within both psychiatry (80.6% vs 58.1%, $\chi^2 = 5.7$, $p < 0.05$) and for alternative career choices (69.1% vs 52.6%, $\chi^2 = 15.5$, $p < 0.001$). In regard to the impact of 'diagnosis and treatment' issues, females were generally less interested than males, both in those considering psychiatry (25.0% vs 45.2%, $\chi^2 = 4.1$, $p < 0.05$) and alternative career choices (38.9% vs 54.9%, $\chi^2 = 13.9$, $p < 0.001$).

Perhaps not surprisingly, those considering psychiatry were less likely to consider surgery as a career and, on examining for interaction with gender, males were more likely than females to consider surgery as a career, whether considering psychiatry (48.4% vs 26.4%, $\chi^2 = 4.7$, $p < 0.05$) or not (60.9% vs 39.7%, $\chi^2 = 24.6$, $p < 0.001$). While there were no differences between groups on likelihood of choosing other career specialties, interactions with gender also extended to paediatrics as well as obstetrics and gynaecology. Females not considering psychiatry were more likely than males to consider paediatrics (56.5% vs 38.4%, $\chi^2 = 18.1$, $p < 0.001$) and obstetrics and gynaecology (29.2% vs 11.2%, $\chi^2 = 27.1$, $p < 0.001$) as possible career choices. There was a non-significant trend for a higher proportion of students interested in psychiatry to be born in Australia.

Of note, there was no significant difference between those interested or not in psychiatry in terms of their final high school English results and involvement in formal debating at school.

Comparisons were made between students considering psychiatry as a career and those not interested, on ratings of aspects of specialties (expanding medical frontier, contact with physician from that specialty and degree to which contact served as a good role model) and perception of respect for practitioners within those specialties from various perspectives (students and their family, classmates and other physicians). Lower ratings indicate greater weighting and items are reported significant at the P = 0.01 level. Students interested in psychiatry had a greater respect for psychiatrists than those not interested (1.69 vs 2.07, df = 1, 621, F = 8.4), but did not differ significantly in their perception of respect held by other physicians, classmates or family for psychiatrists. Conversely, students not interested in psychiatry had greater respect for paediatricians (1.55 vs 1.70, df = 1, 621, F = 7.2) and perceived other physicians to have greater respect for obstetricians/gynaecologists (2.05 vs 2.26, df = 1, 613, F = 7.1). In regard to other aspects of the specialties, those interested in psychiatry were more likely to rate psychiatry as an expanding medical frontier (1.95 vs 2.58, df = 1, 610, F = 27.3) and to have had more contact with a psychiatrist (3.80 vs 4.15, df = 1, 615, F = 10.4).

Predictors (selected from Table 1) of a career interest in psychiatry were examined by logistic regression, identifying three significant variables – having previously considered a career as a psychologist (OR = 3.83, CI = 1.7–8.7); or being less interested in science (compared to the humanities) (OR = 0.37, CI = 0.2–0.6); and in being female (OR = 1.86, CI = 1.0–3.4).

Group comparisons of attractiveness ratings for the six medical specialties across a variety of career aspects, in which lower scores reflect increasing attractiveness, showed that students interested in psychiatry as a career rated the following specialty aspects as significantly more attractive (at 0.01 level) than those not interested: work enjoyment (2.04 vs 3.13, df = 1, 619, F = 87.3); interesting subject matter (1.31 vs 2.46, df = 1, 627, F = 85.7); job satisfaction (1.98 vs 2.89, df = 1, 627, F = 68.6); lifestyle (2.36 vs 3.12, df = 1, 624, F = 52.0); bright and interesting future (2.03 vs 2.81, df = 1, 617, F = 51.4); intellectual challenge (1.36 vs 2.05, df = 1, 625, F = 38.6); association with colleagues (2.22 vs 2.67, df = 1, 610, F = 15.2); degree to which it advances understanding/treatments (2.41 vs 2.80, df = 1, 615, F = 13.2); degree of help to patients (2.31 vs 2.67, df = 1, 618, F = 9.7); financial reward (2.26 vs 2.50, df = 1, 619, F = 7.0); and extent to which it draws upon training (2.85 vs 3.12, df = 1, 618, F = 6.6).

A logistic regression analysis of the 11 aspects of psychiatry rated significantly more attractive, identified four variables as significant predictors of interest in psychiatry: lifestyle (W = 12.5, $p < 0.001$, OR = 0.62, CI = 0.5–0.8); job satisfaction (W = 6.3, $p < 0.12$, OR = 0.68, CI = 0.5–0.9); interesting subject matter (W = 25.1, $p < 0.001$, OR = 0.38, CI = 0.3–0.6); and enjoyable work (W = 7.3, $p < 0.007$, OR = 0.67, CI = 0.5–0.9).

Qualitative data for those provisionally choosing psychiatry suggested a wish to help people with emotional problems, enjoying interactions with people, enjoying books on psychology and psychiatry and perceiving that psychiatry involved more reasonable work hours. Reasons for rejecting psychiatry were that it lacked satisfactory outcomes and was thus clinically frustrating, that it involved too many abstract concepts necessitating more thought than action, and that dealing with psychiatric patients was by its very nature 'dangerous'. Furthermore, many students judged that psychiatry would be too stressful and may cause them to have psychological problems, and that they were not suited to the career in terms of their personality or past experiences.

Sex differences in rating career aspects

In separate supplementary analyses comparing male and female students, the females were more likely than males to express an interest in psychiatry as a career (20.7% vs 10.6%, $\chi^2 = 12.2$, $p < 0.001$), and likely to rate 'interesting subject matter' more highly than did males (2.16 vs 2.43, df = 637, t = – 2.9, $p < 0.01$). In choosing a career they were less interested than males in its prestige (3.06 vs 3.51, df = 645, t = 5.2, $p < 0.01$) and its financial reward (2.52 vs 2.94, df = 646, t = 5.5, $p < 0.01$) and less concerned by the degree to which psychiatry could help people (1.38 vs 1.22, df = 645, t = 3.1, $p < 0.001$). They ranked 'interaction with patients' as more important than males (71.5% vs 53.2%, $\chi^2 = 23.1$, $p < 0.001$) and 'diagnosis and treatment' as less important (36.0% vs 53.8%, $\chi^2 = 20.7$, $p < 0.001$). If they had not undertaken medicine, they were more likely to have considered health-care related fields, psychology and arts/humanities. They indicated a greater interest in humanities compared to science, with the reverse being true for males.

Discussion

The attitude of medical students towards psychiatry is of importance, being germane to the recruitment of prospective psychiatrists [25]. A question therefore arises: what characterizes students interested in pursuing a career in psychiatry, and at what point during their training are these intentions formed? If these characteristics and their influencing factors can be determined, then suitable strategies can be developed and incorporated into the teaching curricula of medical schools. This seemingly parochial objective can be argued as benefiting the whole profession, as psychiatry is interpersonally focused – involving understanding peoples' thoughts and problems, and helping them come to terms with the stigma and many losses associated with mental illness. It requires empathy, sophisticated communication skills and a genuine motivation to care. Such characteristics benefit all doctors and in particular general practitioners – (the largest specialty) and one that perhaps requires the greatest versatility. Thus, an interest in psychiatry is not as insular an objective to foster or to weight as it may first appear.

Our survey demonstrates that approximately one-sixth of current Australian first year medical students (15.9%) are open to the possibility of pursuing a career in psychiatry. This is clearly fertile ground and yet the eventual 'yield' is relatively poor [26,27]. It is therefore important to identify and reinforce positive attributes of the specialty throughout undergraduate training and at the same time address student misconceptions.

In our survey, students who were interested or uninterested in psychiatry were similar in terms of age, size of community of origin, place of birth and religious background. The only sociodemographic and background variable that significantly distinguished our two groups was gender, with many more females entertaining a possible career in psychiatry – an observation that supports Shelley and Webb's [19] finding that women were more likely to entertain pursuit of a psychiatric career. In keeping with this, Alexander and Eagles study [28] examining gender-based attitudes towards psychiatry, found that females were more likely to have a more positive attitude and were more likely to improve in their clinical abilities during a psychiatry clerkship [29]. Our data assisted in identifying reasons for a greater interest in psychiatry by females. The greater interest among women towards psychiatry can be partly explained by the fact that their attraction to the specialty is interest-driven and so, when choosing a profession they are less interested in career aspects such as prestige and financial reward – in which psychiatry ranks poorly. Furthermore, it seems that women are perhaps less focused on outcome – as a proxy measure of competence/achievement or job satisfaction – and instead gain satisfaction and fulfilment from the process rather than the end goal. Hence their relative lack of interest in the degree to which patients can be helped (an aspect that is erroneously held to be poor) or in diagnosis and treatment and their ascription of greater importance to interaction with patients. These differences, along with their preference/affinity for the humanities and health-care-related fields, including psychology, can perhaps be attributed to the stronger 'nurturing' instincts among women and their seemingly innate ability to communicate (girls mastering speech much earlier than boys) resulting in a more complete understanding of interpersonal issues. However, another important reason, not elicited by our survey, as to why women favour psychiatry, is that perhaps it is more permissive in achieving a balance between family life and the pursuit of specialization [5]. Since gender was a significant difference between our groups, and clearly an important influence, it was controlled for in all subsequent comparisons.

In tune with other studies that have found that students with a background in the humanities are more likely to take an interest in psychiatry [30], our results suggest that students interested in psychiatry had they not pursued medicine would have seriously considered careers in psychology, arts, humanities and social sciences.

In choosing a medical specialty, students interested or uninterested in psychiatry did not differ in rating the various aspects considered to be important in making such a choice. They ranked from most important to least important the ability to help people, an interest in the specialty, ability within the specialty, the lifestyle associated with it, the financial reward it offered and the prestige it bestowed. Those not interested in psychiatry were significantly more likely to choose surgery, underscoring perhaps the widely held perception that these two specialties are poles apart. As anticipated, those interested in psychiatry ranked interaction with patients higher. However, and somewhat surprisingly, this difference was not significant, whereas the greater affinity for diagnosis and treatment expressed by those not interested in psychiatry was significantly different to that shown by those interested in psychiatry. One reason may reflect a lack of awareness of psychiatry's growing biological focus. This is increasingly aligning it with other specialties and, furthermore, as psychologists and other mental health professionals compete with psychiatrists for providing psychotherapeutic treatments, psychiatry has progressively become less attractive [31], especially to those interested in patient interaction and psychotherapeutic means of treatment. Patient interaction and the lifestyle psychiatry offers are important influences in

recruiting students into psychiatry [30], distinguishing, along with many other factors, those interested or not in psychiatry, in terms of their attractiveness ratings of aspects of psychiatry. It is of note, however, that the two aspects of psychiatry not rated as significantly more attractive by those interested in psychiatry were its prestige and scientific foundation. Overall, such data suggest that psychiatry has an image problem.

Prestige is a complex issue and one that has perhaps little impact, as it was ranked the least important aspect of any specialty in determining choice. However, psychiatry's scientific foundation is an important issue as it is possible that a perceived lack deters medical students from considering it as a career option. In some cultures, such is the bias within society that students fail to even acknowledge psychiatry as a medical specialty [8,9]. Indeed, in one Arabian medical school almost 10% of medical students were unaware of the existence of psychiatric disorders [8]. Chandarana [32] suggested that students with limited knowledge of psychiatry are likely to rely more on the views of others than their own when considering career choice. We therefore asked students to rate their views of psychiatry and psychiatrists and the perceptions of classmates, family and other physicians. Predictably, those interested in psychiatry had greater respect for that specialty than those not interested, however, other physicians, classmates and family were not perceived to respect psychiatry differently. Noteworthy, is the fact that those interested in psychiatry had significantly more contact with psychiatrists and yet did not rate them as significantly better role models, whereas, those not interested in psychiatry, even in the absence of greater contact, rated obstetricians/gynaecologists and surgeons as significantly better role models. These findings are in keeping with Cutler's [33] observation that students who had seriously considered and then rejected a career in psychiatry were negatively influenced by the low status accorded psychiatry by physicians in other departments – a finding not unique to this study [34]. These observations raise important issues concerning the timing of exposure of medical students to psychiatric teaching and how psychiatry should be taught. Students have been found to develop more positive attitudes towards psychiatric patients as they progress and become more likely to appreciate psychiatric pathology as disabling and serious, however, they are also more likely to view psychiatric treatments as ineffective and psychiatry as less challenging [35].

Teaching behavioural sciences early in the curriculum as part of a comprehensive programme has been shown to be an effective way of influencing the attitudes of medical students towards psychiatry [36]. The timing of this intervention is particularly important, as any significant change in attitude is more likely to occur early in the curriculum prior to clinical placement [35]. However, direct contact with psychiatric patients is far more effective in producing attitudinal change than didactic teaching [37] and so clinical clerkships are important in consolidating the attitudes of those interested and perhaps dispelling the doubts of those that are less so. To this end it is essential that psychiatrists involved in teaching are motivated and that clinical teaching is presented in an interesting and engaging manner with emphasis on the diverse treatment options available and the fact that the majority of psychiatric cases have a good outcome. Clearly at present this is not being achieved, as many junior doctors do not feel confident managing psychiatric patients [38].

Some researchers have advocated that young doctors' perceptions of psychiatry be enhanced by psychiatrists providing additional training in the preregistration year [22], as it is important for all doctors to appreciate psychiatric illnesses and their management. In this context, the relationship of psychiatry with other specialties, and in particular general practice, is interesting as it also has relevance to the recruitment of psychiatric residents. Thompson [38], examining medical career choices in the UK, described a decline in the popularity of general practice and suggests that this is likely to decrease the number of entrants into psychiatry. However, in our study, interest in psychiatry did not correlate with a career interest in general practice or its perception. Furthermore, achievements in school such as the standard of English attainment and involvement in a debating team did not distinguish those interested in psychiatry. This suggests that medical students' interest in psychiatry and recruitment into the specialty is not currently differentially influenced by verbal skills, and is more likely to reflect other determinants.

Specialty preferences in the first year of medical school are somewhat predictive of future career choices [39]. To the extent that this is so, then the selection processes of medical schools need to be considered if an increase in recruitment into psychiatry is to be achieved [40]. However, if teaching and constructive clerkships can produce significant enduring attitudinal changes then these aspects of medical curricula also need to be reexamined. In practice, a combination of the two is probably required along with a focus on identifying those students interested in psychiatry and what it has to offer.

Our multivariate analysis, while restricted to only a limited set of predictor variables, contained in the database, provided an intuitively acceptable profile of those most interested in a career in psychiatry – being more interested in the humanities (than science), having

previously considered a career in psychology and being female. The first two variables suggest that psychiatry is continuing to attract psychologically minded individuals, while females were differentially attracted to the interpersonal components. These factors perhaps need to be incorporated into recruitment strategies along with a greater focus on students that seek an interesting and intellectually challenging career providing ample patient interaction. This pattern of attitudes is clearly suited to many of the current roles within psychiatry. However, as stated earlier, the recent trend towards biological psychiatry has created a need for psychiatrists who are perhaps equally interested in diagnosis, treatment, science and research. In this respect, our study is useful as it profiles the strengths of psychiatry at the present and identifies aspects that need enhancing in the future. In essence, psychiatry and psychiatrists need to appeal to a much broader audience and this could be achieved, in part, by impressing upon students that psychiatry is an enjoyable career option, offering job satisfaction and good prospects. As psychiatrists, we are aware of the benefits and drawbacks of our profession, and have timely access to potential recruits. Hence we are suitably poised to carry forward such messages. The challenge we face, however, is to communicate our message to our 'target' audience in an effective and efficient manner so as to reduce the likelihood of future shrinkage of psychiatric recruitment.

Acknowledgements

We thank Dr Feifel, Chris Boyd, Kerrie Eyers and Emmy Giannolopoulos and Stan Catts for his help.

References

1. Sierles FS, Taylor MA. Decline of U.S. medical student career choice of psychiatry and what to do about it. *American Journal of Psychiatry* 1995; 152:1416–1421.
2. Kondo DG, Judd VE. Demographic characteristics of US medical school admission committees. *Journal of the American Medical Association* 2000; 284:1111–1113.
3. Pan P-C, Lee PWH, Leih-Mak FF. Psychiatry as compared to other career choices. A survey of medical students in Hong Kong. *Medical Education* 1990; 28:361–371.
4. Weissman SH, Haynes RA, Killian CD, Robinowitz C. A model to determine the influence of medical school on students' career choices: psychiatry, as case study. *Academic Medicine* 1994; 69:58–59.
5. Mowbray RM, Davies BM, Biddle N. Psychiatry as a career choice. *Australian and New Zealand Journal of Psychiatry* 1990; 24:57–64.
6. Zeldow PB, Daugherty SR. Personality profiles and specialty choices of students from two medical school classes. *Academic Medicine* 1991; 66:283–287.
7. Kelly B, Raphael B, Byrne G. The evaluation of teaching in undergraduate psychiatric education: student's attitudes to psychiatry and the evaluation of clinical competency. *Medical Teacher* 1991; 13:77–87.
8. Soufi HE, Raoof AMS. Attitude of medical students toward psychiatry. *Medical Education* 1992; 256:48–41.
9. Razali SM. Medical school entrance and career plans of Malaysian medical students. *Medical Education* 1996; 30:418–423.
10. Weissman SH, Haynes RA, Killian CD, Robinowitz C. A model to determine the influence of medical school on student's career choices: psychiatry, a case study. *Academic Medicine* 1994; 69:58–59.
11. Williams C, Milton J, Strickland P *et al.* Impact of medical school teaching on preregistration house officers' confidence in assessing and managing common psychological morbidity: three centre study. *British Medical Journal* 1997; 315:917–918.
12. Creed F, Goldberg D. Students' attitudes towards psychiatry. *Medical Education* 1987a; 21:227–234.
13. Zimny GH, Lindbergh SS. Influence of factors before and during medical school on choice of psychiatry as a specialty. *American Journal of Psychiatry* 1986; 143:77–80.
14. Neilson R. Choosing psychiatry: the importance of psychiatric education in medical school. *American Journal of Psychiatry* 1980; 137:428–431.
15. Augostinos M, Schrader G, Chynoweth R, Reid M. Medical students' attitude toward psychiatry: a conceptual shift. *Psychological Medicine* 1985; 15:671–678.
16. Wilkinson DG, Greer S, Toone BK. Medical students' attitudes to psychiatry. *Psychological Medicine* 1983; 13:185–192.
17. Wilkinson DG, Greer S, Toone BK. Medical student's attitudes to psychiatry at the end of the clinical examination. *Psychological Medicine* 1983; 13:655–658.
18. Sivakumar K, Wilkinson G, Toone BK, Greer S. Attitudes to psychiatry in doctors at the end of their first post-graduate year: two-year follow-up of a cohort of medical students. *Psychological Medicine* 1986; 16:457–460.
19. Shelley RK, Webb GT. Does clinical clerkship alter students' attitudes to a career choice of Psychiatry? *Journal of Medical Education* 1986; 20:330–334.
20. Araya RI, Jasresic E, Wilkinson G. Medical students' attitudes to Psychiatry in Chile. *Journal of Medical Education* 1992; 20:449–455.
21. Galletly CA, Schrader GD, Chesterman HM, Tsourtos G. Medical students attitudes to psychiatry: lack of effect of psychiatric hospital placement. *Medical Education* 1995; 29:449–451.
22. Creed F, Goldberg D. Doctors' interest in psychiatry as a career. *Medical Education* 1987b; 21:235–243.
23. Sloan D, Browne S, Meagher D *et al.* Attitudes toward psychiatry among Irish final year medical students. *European Psychiatry* 1996; 11:407–411.
24. Feifel D, Moutier CY, Swerdlow NR. Attitudes toward psychiatry as a prospective career among students entering medical school. *American Journal of Psychiatry* 1999; 156:1397–1402.
25. Das MP, Chandrasena RD. Medical students' attitude toward psychiatry. *Canadian Journal of Psychiatry* 1988; 33:783–787.
26. Yellowlees P, Vizard T, Eden J. Australian medical students' attitudes towards specialties and specialists. *Medical Journal of Australia* 1990; 152:587–592.
27. Ney PG, Tam WWK, Maurice WL. Factors that determine medical student interest in psychiatry. *Australian and New Zealand Journal of Psychiatry* 1990; 24:65–76.
28. Alexander DA, Eagles JM. Attitudes of men and women medical students to psychiatry. *Journal of Medical Education* 1986; 20:449–455.

29. Fabrego H, Ulrich R, Keshavan M. Gender differences in how medical students learn to rate psychopathology. *Journal of Nervous and Mental Disease* 1992; 182:471–475.
30. Lee EK, Kaltreider N, Crouch J. Pilot study of current factors influencing the choice of psychiatry as a specialty. *American Journal of Psychiatry* 1995; 152:1066–1069.
31. Kirchner JE, Owen RR. Choosing a career in psychiatry. *American Journal of Psychiatry* 1996; 153:1372.
32. Chandarana PC, Loncke M, Conlon P. Factors influencing medical students' intentions to choose psychiatry as a career. *Canadian Journal of Psychiatry* 1989; 34:425–429.
33. Cutler J. Choosing a career in psychiatry. *American Journal of Psychiatry* 1996; 153:1372–1373.
34. Balon R, Franchini GR, Freeman PS, Hassenfeld IN, Keshavan MS, Yoder E. Medical students' attitudes and views of psychiatry: 15 years later. *Academic Psychiatry* 1999; 23:30–36.
35. Calvert SHS, Sharpe M, Power M, Lawrie SM. Does undergraduate education have an effect on Edinburgh medical students' attitudes to psychiatry and psychiatric patients? *Journal of Nervous and Mental Disease* 1999; 187:757–761.
36. Singer P, Dornbush RL, Brownstein EJ, Freedman AM. Undergraduate population education and attitudes of medical students toward psychiatry. *Comprehensive Psychiatry* 1986; 27:14–20.
37. Wolff G, Pathare S, Craig T, Leff J. Public education for community care. A new approach. *British Journal of Psychiatry* 1996; 168:441–447.
38. Thompson DJ, Sims ACP. Malaise in psychiatric recruitment and its remedy. *Psychiatric Bulletin* 1999; 23:227–229.
39. Weintraub W, Plaut SM, Weintraub E. Recruitment into psychiatry: increasing the pool of applicants. *Canadian Journal of Psychiatry* 1999; 44:473–477.
40. Stoudemire A. Quo vadis, psychiatry? Problems and potential for the future of medical student education in psychiatry. *Psychosomatics* 2000; 41:204–209.