

A questionnaire survey of final year medical students investigating their experiences as an undergraduate and their career intentions while studying at one Medical School in Paris

Short title: Medical school in Paris: Experiences of final year and career choice

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Declaration of Interest

The authors report no declarations of interest.

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Ethical approval

This study was approved by Edge Hill University's Faculty of Health & Social Care Research Ethics Committee. Permission to distribute the questionnaire was given by the Professor responsible for final year medical students at Medical school Faculté de Médecine Paris-Descartes.

Contributorship

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The authors would like to thank Professor Michael Goldacre, UK Medical Careers Research Group, Oxford University, for giving us permission to adapt the validated questionnaire. The authors would also like to thank all the medical students who completed the questionnaire.

Abstract

This study explored the factors that influence medical students' career intentions in a French Medical School.

Methods

A validated questionnaire survey designed and used by the Oxford Medical Careers Research Group (Svirko et al, 2013) was adapted to distribute to all final year medical students in one medical school in Paris. The questionnaire consisted of both open and closed questions.

Results

Two hundred and twenty one students completed a questionnaire (51% response rate). Five top specialty choices were: General Medicine (n=25, 11%), Paediatrics (n=20, 9%), Psychiatry (n=16, 7%), Obstetrics & Gynaecology (n=13, 6%), Surgery (n= 10, 5%). Sixty two (28%) were certain about their first career choice. Thematic analysis of qualitative comments generated the following issues: Concern at a lack of recognition and training in General Medicine; Final career destination is dependent on exam mark; Work pressures as a medical student.

Conclusions

Medical students can be under enormous levels of pressure when undertaking their final year at medical school. Strong emphasis placed on final exam grades in determining career destinations and an attitude amongst some respondents that it is harder to study and meet career ambitions in France than other European countries seem to contribute to these reported pressures.

Introduction

The career intentions of UK medical students and their subsequent career destinations has been previously studied (Goldacre et al, 2010; Goldacre et al, 2012; Maudsley et al, 2010; Taylor et al, 2010). Studies have also been undertaken internationally focussing on career intentions of medical students (Burch et al, 2011; Compton et al, 2008; Gibis et al, 2012; Scott et al, 2009; Yeganeh-Arani et al, 2012). However, there is limited published work on the career intentions of European medical students and their experiences as undergraduates. Gibis et al (2012) undertook a nationwide survey of German medical students' career expectations and these findings will be considered later in this paper. Considering the globalisation of medical education and the drive to share practice on curriculum development in medicine both at undergraduate and postgraduate level across Europe, this is somewhat surprising. This study aimed to investigate the career intentions of the DCEM4 (6th and final year) French students in one Parisian medical school and also to gather qualitative accounts about their experiences as undergraduates. French and British doctors work within the same European employment and education legislative structures. However, the undergraduate and professional postgraduate medical career structures are quite different. Specifically, career choice occurs earlier in France, postgraduate placement relies heavily on undergraduate examination performance and there is little opportunity to change speciality once qualified. This study explored the factors that influence medical students' career intentions in a French Medical School and to compare their experiences with those that have been reported elsewhere.

Methods

A validated questionnaire survey designed and used by the Oxford Medical Careers Research

Group (Svirko et al, 2013) was adapted to distribute to all final year medical students in one medical school in Paris. Permission to adapt the questionnaire for use in this study was granted by Professor Michael Goldacre, Oxford University. The questionnaire consisted of both open and closed questions. The students who received the questionnaire were in their 6th year at Medical school Faculté de Médecine Paris-Descartes. Questionnaire translation into French was carried out by a French medical doctor (E Lopez). The questionnaire was delivered by hand to final year students in the medical Faculty prior to a lecture and the anonymous responses collated by two medical students (Y Kalami, I Chatriot). Statistical analysis was carried out using the Chi-squared test. Narrative data were analysed and categorised into common themes (Cohen et al, 2007).

Research ethical approval was granted by Edge Hill University, Faculty of Health & Social Care Research Ethics Committee. Permission and approval to carry out the study was granted at the medical school in Paris by the medical professor in charge of medical students.

Results

Two hundred and twenty one students completed a questionnaire out of a total study population of 430 students. One hundred and forty respondents were female (63%) and 71 were male (32%) (10 did not identify their gender). The median age of respondent at the time of completing the questionnaire was 25 years (range 22 – 36 years). Eighteen (8%) students had studied another diploma before starting medical school.

Respondents were asked to identify their career choice in ranked order. The top 5 specialty

choices were: General Medicine (n=25, 11%), Paediatrics (n=20, 9%), Psychiatry (n=16, 7%), Obstetrics & Gynaecology (n=13, 6%), Surgery (n= 10, 5%).

Only 62 (28%) respondents were certain about their first career choice. More females were certain about career choice (35, 16% (58%)) than males (25, 11% (46%)) (2 missing gender data).

Figure 1 shows how medical students rated the listed factors that impacted on future career choice. One hundred and sixty one (73%) respondents rated personal enthusiasm/devotedness as having a lot of impact. Experience as a student (141, 64 %), acceptable working conditions / working hours (128, 58%), compatibility with family life (134, 61%) and self -assessment of personal qualities(105, 48%) were also rated highly as influential factors on career choice.

Table 1 displays the gender differences in what impacted ‘a lot’ on future career decision. Significantly, more females than males felt that compatibility with family life enthusiasm / devotedness and student experience had an impact on their choice of future career. Significantly more males than females were concerned with respect to the perspective of their career and promotion.

One hundred and nine (49%) respondents felt they were definitely going to practice medicine in France, 81 (37%) respondents felt they would probably practice medicine in France and 16 (7%) were undecided. Fifteen (7%) thought that they would either probably or definitely not practice medicine in France. Ninety two (41.6%) respondents reported that they are considering practicing abroad.

Additional qualitative comments given by respondents to explain their decision to possibly practice abroad were: *family reasons* (9 comments, 4%); *to do humanitarian work* (6, 3%); *to have an improved lifestyle/working conditions/salary* (16, 7%); *to see other medical practises* (5 comments, 2%); *not achieving desired grades* (2, 1%); *to travel* (8, 4%). Some individual reasons were: *Financial / lack of efficiency in the hospitals because of lack, of organization; bad conditions of work, bad working terms; doctors in France are not valued; Rigid medical hierarchy, lots of administration, public hospitals with poor finances, system congested - too pyramid-shaped; Degradation picture of the doctor in the French society; Poor pay; poor respect for doctors.*

Table 2 shows the breakdown of responses for long term career choice of respondents. The majority (40%) felt they would go into private practice which is the norm in France.

Additional comments

Respondents were asked to make additional comments about their career intentions. Thematic analysis of these comments generated the following issues: Concern at a lack of recognition and training in General Medicine; Final career destination is dependent on exam mark; Work pressures as a medical student.

Concern at a lack of recognition and training in General Medicine.

Concerns were reported that General Medicine was not recognised as a specialty on its own in France and yet many doctors will eventually practice within this field:

General Medicine is undervalued of general medicine in France. General Medicine should be recognised like specialisms because people that end up as generalists don't really have much choice and end up having a feeling of failure even though it is quite interesting to do (Questionnaire Respondent (QR202)

Big lack of training in General Medicine (50% of us will become generalists). (QR 73).

I can't imagine that someone that wished to be surgeon or anaesthesiologist and then finds themselves a generalist because of a failure is necessarily happy in the long term? (QR 157)

Many doctors accepted that they may end up practising in General Medicine. However, there was frustration reported that they were not exposed to this during undergraduate studies:

We do not have a very good idea of medicine outside hospitals in particular general medicine (QR77)

Final career is dependent on exam mark

Respondents expressed frustration regarding the over reliance and influence of exam grades and their influence on career pathways. Some respondents felt that their personal interests and motivations were overridden ultimately by exam grade:

Choice of specialties and town are not dependant on individuals' motivation but on final exam. Choice of career uncertain as it is dependent on exam (QR 191)

By default I might end up being a general medic, whilst I want to be a surgeon. Unfortunately I will probably end up in general medicine as I won't get good marks in my exam (QR 218)

Work pressures as a medical student

Some respondents articulated the feelings of pressure they felt they were working under as a final year medical student:

I find the medical school (especially 5th and 6th years) inhuman which causes a psychological, social and physical impact. Excessive anxiety linked to the uncertainty to do what one likes sometimes being far from the city (separating couples for example).... Career Choice: no, I can't think that far ahead -things are too uncertain, in our personal lives, the changes in public hospitals. Therefore my choice is based on intellectual and human interest, for the moment. One always will have to compromise. The principal is to choose what is. (QR 120)

There was some view expressed that suggest that students felt they were working in a more difficult medical education system with fewer opportunities compared to other countries:

The fact that there is not any harmonization in Europe for medical studies is unacceptable: Very hard to study in France. Easier in other countries where the selection is made on financial ground (QR 157.)

It is unfair that just because a French (student) has 70 points less than the 300 mark (in the exam) they are "condemned" to choose a specialty that does not please them whilst they are not (necessarily) inherently less competent (than others)... whereas in other countries they (students) can choose what (speciality) they want! Of course we know the rules and they are the same for everyone, but they have their limits ... (QR 77)

Why are medical studies so difficult in France over the years? Why as we work much more than our Swiss neighbours or Germany or Spain ... in our studies, we have a large chance of not getting the specialty we would like to do? Especially when you know that the ECN (exam) is in 6th year - the aim (then) is to have the most low-key placements possible,... is it not completely absurd, because in D4, we start to have a better overview (of medicine) and the training is actually becoming more interesting? (QR 77)

It is extremely difficult to succeed at the exam in France for a lot of specialties, in contrast to the other notably European countries the European diplomas are recognized and foreign diplomas are accepted in France: it is unfair. Consequently there is a feeling of injustice and frustration etc. (QR 157)

I did medicine to be surgeon, my hospital trainings reinforced me in this decision. I invest in these placements while working the hours of the doctors completely voluntarily. I regret therefore that participation and diligence in training is not rewarded anymore - that hospital placements don't contribute to our evaluation - a system should be found to value this practical aspect of our training. (QR 169)

These work pressures coincided with some feeling that it was far too early in their training to make any kind of career decision: *Far too early to choose a career after 3 years cause you cannot have real opinion on your speciality* (QR 21)

Discussion

This survey has limitations; the data relates to one medical school and it could be argued that medical students who wanted to voice their opinions or concerns may have been more likely to complete the questionnaire. The average age of final year medical students who took part in this survey was 25. That is higher than UK but similar to the average age of German final year medical students who took part in Gibis et al's (2012) study.

Data reported in our study demonstrates the strong emphasis or reliance placed on final exam grades in determining career destinations. In France, the choice of a medical speciality depends solely on ranked position obtained in final examinations. The continuous evaluation of medical knowledge during 6 years of medical study or medical practice has no direct impact on the ranked position in the final examination. It is therefore no surprise that qualitative findings here suggest that there are many final year medical students who are under enormous levels of pressure when undertaking their final year at medical school. Many respondents felt that exam results were the main influencing factor on career pathways.

The significant emphasis on exam success at the end of six years of study impacting heavily on ultimate career pathways is in contrast to the UK undergraduate system, where summative assessments are regularly taken at various stages through the medical degree. Our study also

demonstrates that there is an attitude amongst some respondents that it is harder to study and meet career ambitions in France than other European countries. It would be unwise to draw direct comparisons between, for example, France and UK medical education systems and their relative merits. However, it is still of interest to report such attitudes amongst students.

In the UK, evidence suggests there are bottlenecks and a high frequency of changes in career path at postgraduate level (Brown, 2010). Svirko et al (2013) concluded in their survey of newly qualified UK medical graduates that they focus on two or more specialties as potential career destinations compared to previous cohorts who have participated in this survey. What is not reported in the UK are the frustrations amongst medical students that the challenges they face are not encountered to the same extent in other countries. Dahlin & Runeson (2007) have argued that existing evidence in the UK relating to levels of stress and burnout amongst medical students is unreliable. Dahlin & Runeson (2007) argue that a systematic review needs to be undertaken to identify the contributory factors within the clinical and academic role of the medical student.

Our study has shown that the top five choices are: General Medicine, Paediatrics, Psychiatry, Obstetrics & Gynaecology and Surgery. A national survey using closed questions of German medical students published in 2012 showed their top specialty choices as internal medicine, family medicine, paediatrics and surgery (Gibis et al, 2012). Students who took part in this latter study also reported a concern that there is a lack of training in General Medicine despite the fact that many will subsequently end up practising within this specialty. It should be noted that private practice is often the norm in France, much more so than in the UK. In the UK, far more doctors become General Practitioners than initial medical school career intentions would

suggest. This imbalance between medical school career intentions and the ultimate specialty destination has been reported extensively (Scott et al, 2009).

It must be of some concern that just over half of the respondents had not yet made a definite decision to practise medicine in France. It would be interesting to compare this figure with other medical schools across Europe. Life style choices seem to be quite influential factors in informing career choice. A recent study conducted by Sharma et al (2012) on emigrant doctors in New Zealand revealed that they had higher job satisfaction than their UK-based contemporaries, and few wanted to return. The predominant reason for staying in New Zealand was a preference for the lifestyle there.

In the UK, Goldacre et al (2012) report a diverse number of factors that influence doctors in deciding why they are attracted to certain specialties. This study here highlights key factors in career choice amongst French medical students but as discussed earlier these factors are tempered by frustrations that ultimately exam grade will have the biggest impact on career destination. Personal enthusiasm and devotedness had most impact which fits in well with the notion of academic success being the biggest influence on reaching that career goal. Experience as a student, acceptable working conditions and /working hours that are compatible to family life also rated highly.

Goldacre et al (2010) reported in the UK that issues of work-life balance were the single most common factor, particularly for women, in not pursuing the surgical specialties, emergency medicine, the medical hospital specialties, paediatrics, and obstetrics and gynaecology.

Competition for posts, difficult examinations, stressful working conditions, and poor training were mentioned but were mainly minority concerns. In Germany, Gibis et al (2012) reported that the vast majority of their respondents stated that they viewed work and family life balance as an influence on career choice, as was the case in our study.

Findings in the UK suggest that medical students may well delay their career intentions in pursuing a role in General Practice (Maudsley et al, 2010). This is further backed up when considering Lambert & Goldacre's (2007) study that gathered the views of new doctors on career advice. They reported structured career advice should be targeted at doctors in the first couple years of professional practice rather than medical school.

Conclusion

French medical students can be under enormous levels of pressure when undertaking their final year at medical school. Strong emphasis placed on final exam grades in determining career destinations and an attitude amongst some respondents that it is harder to study and meet career ambitions in France than other European countries seem to contribute to these reported pressures. Strong competition in meeting career intentions is reported extensively elsewhere so it is certainly not a phenomenon only seen in the French system. However, what is different in France compared to, for example the UK, is that career intentions and influences are underpinned by the notion that ultimately career pathways are formed as a result of final exam grading at the end of 6 years of undergraduate medical study.

Word count: 2795

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Figure1 - Factors which have an impact on future career choice

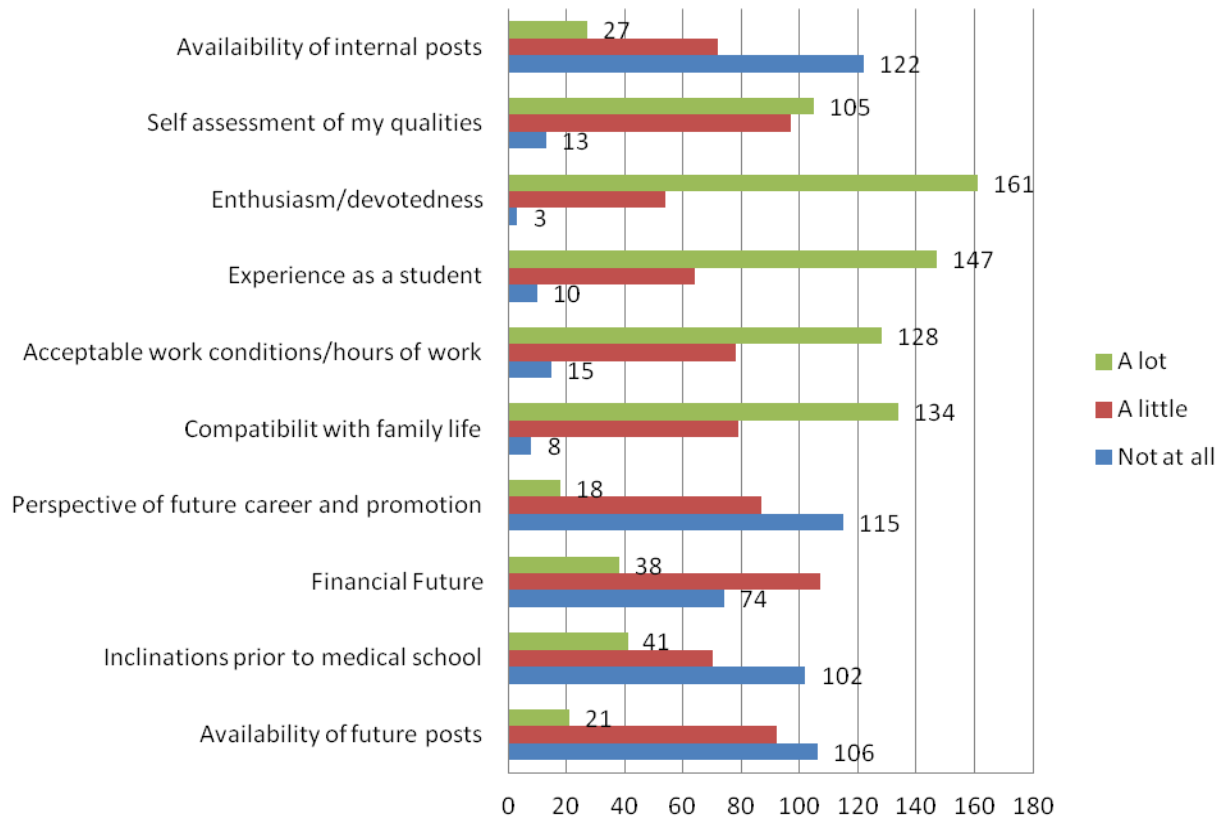


Table 1: Gender differences in factors impacting on career choice

	Male (71)	Female (140)	P Value
Wanting a compatible career and family life.	35 (50%)	93 (66%)	<0.05
Acceptable working hours and conditions	36 (51%)	86 (61%)	NS
Student experience	39 (55%)	101 (72%)	<0.05
Enthusiasm/devotedness	43 (61%)	112 (80%)	<0.01
Desire before med school	9 (13%)	31 (27%)	NS
Financial future	17 (24%)	20 (14%)	NS
Perspective of career and promotion	12 (17%)	5 (4%)	<0.01

Table 2 : Long-term career choice

Long Term Career Choice	Number of Responses	Response Percent
Clinical Post without Research or Teaching	29	13.3%
Clinical Post with Teaching Responsibilities	67	30.7%
Clinical Post with Research	15	6.9%
Clinical Post with Research & Teaching	50	22.9%
University Post	19	8.7%
Private Practice	87	39.9%
Undecided	42	19.3%