

# EXPERIENCE OF PSYCHIATRY TEACHING AT MEDICAL SCHOOL INFLUENCES CROATIAN MEDICAL STUDENTS' ATTITUDES TOWARDS CHOOSING PSYCHIATRY AS A CAREER

Martina Rojnic Kuzman<sup>1,2</sup>, Petra Lovrec<sup>1</sup>, Mia Smoljan<sup>3</sup>, Tomislav Kuzman<sup>1,2</sup>,  
Kitty Farooq<sup>4</sup>, Greg Lydall<sup>4,5</sup>, Amit Malik<sup>6</sup> & Dinesh Bhugra<sup>4</sup>

<sup>1</sup>Department of Psychiatry, University Hospital Centre Zagreb, Zagreb, Croatia

<sup>2</sup>Zagreb School of Medicine, Zagreb, Croatia

<sup>3</sup>University Hospital Centre "Sisters of Mercy", Zagreb, Croatia

<sup>4</sup>Royal College of Psychiatrists, London, UK

<sup>5</sup>Department of Mental Health Sciences, University College London, London, UK

<sup>6</sup>Surrey and Borders NHS Foundation Trust, Surrey, UK

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## SUMMARY

**Background:** Reports indicate that the number of students interested in choosing psychiatry as their future profession is constantly decreasing in the last decades. Our aim was to determine the proportion of medical students intending to pursue a career in psychiatry and to define undergraduate education-related factors influencing that choice.

**Subjects and methods:** We report the preliminary findings of a cross sectional quantitative survey of final year Croatian medical students as part of the International Survey Of Student Career Choice In Psychiatry (ISOSCCIP). We surveyed medical students attending their final year at Zagreb School of Medicine in the academic year 2009/2010, using a structured questionnaire examining demographics, students' preferences on future career choice and their evaluations of undergraduate psychiatry teaching.

**Results:** The overall student evaluation of the compulsory psychiatry curriculum was "average". Significantly higher ratings were reported by students who felt more involved in the teaching of the subject. The possibility of psychiatry as a career choice correlated significantly with better evaluation grades of psychiatry lectures. Furthermore, poor evaluation grades predicted a higher likelihood that medical students completely ruled out choosing a career in psychiatry.

**Conclusion:** This is the first survey of this kind in Croatia. Student ratings of medical school psychiatric education and perceived involvement in teaching appears to influence the likelihood of a stated career in psychiatry. Addressing these issues may increase the number of students motivated to pursue psychiatry as their future career choice.

**Key words:** psychiatry – education – students – Croatia - curriculum

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## INTRODUCTION

Psychiatric disorders are among the world's leading health problems due to their high prevalence and their chronic course (World Health Organization 2001). In Croatia, mental disorders are the second most common cause of hospitalizations in the working population (Croatian National Institute of Public Health 2004). It is therefore surprising that there is a worldwide shortage of psychiatrists, which is reflected in the shortage in Croatia (World Health Organization 2008). The practical implications of the shortage of psychiatrists is already evident in some Croatian health and educational medical centers, with reported negative effects on service quality (World Health Organization 2008) and educational services for psychiatry trainees (Mahoney et al. 2004).

The situation is not likely to change in the near future, as surveys continuously report of a low number of students interested in choosing psychiatry as their future profession (Goldacre & Turner 2005, Brockington & Mumford 2002, Sierles & Taylor 1995). Among other factors, psychiatric education during medical school appears to influence future career choice

(Kuhnigk et al. 2007, Maidment et al. 2004, McParland et al. 2003, Vujaklija et al. 2010, Hren et al. 2004).

According to the official curriculum, medical students receive their compulsory education in psychiatry through two main courses: the first placement occurs on their first and third year, each lasting 2 weeks. The main placement occurs in the fourth year and it lasts 3 weeks. In addition, there are at least four optional educational activities which offer education in psychiatry. These additional educational activities are not officially issued by the medical faculty, but are organized by different associations (e.g. the Medical Student Psychiatry Club).

We assessed the relationship between medical students' experience of psychiatric education during medical school and their attitudes towards choosing psychiatry as a career. Our hypothesis was that a better experience of psychiatry teaching would correlate with the possibility of choosing psychiatry as a career and that dissatisfaction with psychiatric lectures is associated with a higher likelihood that medical students completely rule out choosing a career in psychiatry. To the best of the authors' knowledge, this is the first survey of this kind in Croatia.

## SUBJECTS AND METHODS

This survey was a part of the International Survey Of Student Career Choice In Psychiatry (ISOSCCIP) and involved a quantitative cross-sectional design applied to medical students in 20 countries. We report the findings of the preliminary survey in Croatia which was performed among students of the Zagreb School of Medicine attending their sixth (final) year during the academic year 2009/2010.

Data were collected using an electronic questionnaire specifically designed for the purpose of the study. After we collected e-mail addresses of all relevant students in person, a link was sent to their e-mail address. The students filled out the questionnaire on an online web service site ([www.surveymonkey.com](http://www.surveymonkey.com)) that stores all data in an encrypted, anonymised form. In case of non response, a reminder was sent by the SurveyMonkey system at 4 and 8 weeks.

The survey protocol was approved by the Ethical Committee of the Zagreb School of Medicine and the Ethical Committee of all other participating centres.

### Questionnaire development

The questionnaire consisted of three sections: 1) socio-demographic data; 2) medical school education in psychiatry, which included questions on the structure of the psychiatric curriculum and the students' evaluation of the quality of the compulsory psychiatric education; 3) students' preferences on their future career choice (prior to and during medical school), using a Likert-type scale measuring the response to a statement on choice of psychiatry and the other main specialities, ranging from 1 („definitely decided“) to 5 („no way“). The questionnaire was piloted in the United Kingdom (N=200) and four questions were modified accordingly. The questionnaire was administered in English. Croatian students are considered proficient in English, as English is learned in Croatian elementary and high schools.

### Statistical analysis

Descriptive analysis was used to analyze socio-demographic factors, educational experiences and preferred choices of their future speciality profession. The Kolmogorov-Smirnov goodness of fit test was used to test for the normality of data distribution ( $p < 0.05$  was considered as a significant departure from normality).

Bivariate Spearman correlations were used to compare the responses on the choice of psychiatry compared to other medical disciplines, and to test correlations between students' evaluation scores of different psychiatric teaching modalities. Association between the students' evaluation scores of their clinical psychiatric placements, and other variables describing the structure of the psychiatric curriculum were analyzed using  $\chi^2$ , parametric or non parametric tests, as appropriate.

We evaluated the associations and correlations of the variable “Choice of psychiatry as the student's future profession“ and the students' socio-demographic and education-related factors using non parametric tests or Spearman correlations. In addition, the variable “Choice of psychiatry as the future profession“ was re-coded into a dichotomous variable based on the responses “no way“ and “other“ (range “definitely decided“ to “unlikely“). Binary logistic regression was then used to predict the likelihood of the choice of psychiatry as a future profession from socio- demographic and medical school-related factors. Statistical analysis was done using the SPSS statistical software version 13.0 (SPSS inc., Chicago, IL, USA).

## RESULTS

### Sample description

The questionnaire was sent to 205 final year students of Zagreb School of Medicine in the academic year 2009/2010. In total, 67 students filled out the questionnaire, giving a response rate of 32.7%. There were 52 (78%) females in the sample, with a mean age +/- Standard Deviation (SD) of 25.14 +/- 2.19 years. The majority of students had mothers educated to university level followed by high school and elementary school level (N=34, 51%, N=25, 37% and N=7, 10%, respectively) and fathers educated to high school level followed by university level and elementary school level (N=31, 47%, N=33, 49% and N=2, 3%, respectively).

### Education in psychiatry during medical school

According to our results, students attended between 2 and 10 weeks of education in psychiatry (with the mean +/-SD duration of 3.42 +/- 1.36 weeks) in different placements (Figure 1.a) and settings (Figure 1.b). During that time students observed patients in different stages of their illness (Figure 1.c). During their compulsory placements, the majority of students reported feeling as if they had no responsibilities (N=29, 43%). The rest reported being included in history taking (N=16, 24%) and case discussions (N=20, 30%), and data from 2 persons were not obtained.

### Evaluation of psychiatric education at the Zagreb School of Medicine

Student evaluative ratings included the three main aspects of the psychiatry teaching: lectures, small group work and practical work with patients. According to our findings, the majority of the students graded the compulsory psychiatry education as “average“: (N(lectures)=37, 55%, N(small group work)=28, 42%, N(practical work)=30, 45%). Poor ratings were given by 2 students (3%) for lectures, by 3 (5%) for small group work and by 4 (6%) for practical work; below average rates were given by 11 (16%) persons for lectures, by 14 (21%) for small group work and by 10 (15%) persons

for practical work; above average rates were given by 8 (12%) persons for lectures, by 11 (16%) for small group work and by 9 (13%) for practical work; and the best rates were given by 4 (6%) persons for lectures, by 6 (9%) for small group work and by 9 (13%) for practical work. Responses were not obtained for 5 persons.

We found a significant differences in distribution of evaluation scores between two groups of students: those

students who felt as if they were allocated no responsibility during their psychiatry placements gave significantly lower scores on all teaching aspects compared to those who were engaged in history taking/case discussions (small group work: ordinal  $\chi^2$  Kendall's tau-b 0.333,  $p=0.003$ ; practical work: ordinal  $\chi^2$  Kendall's tau-b 0.256,  $p=0.023$ ) (Figure 2a and 2b).

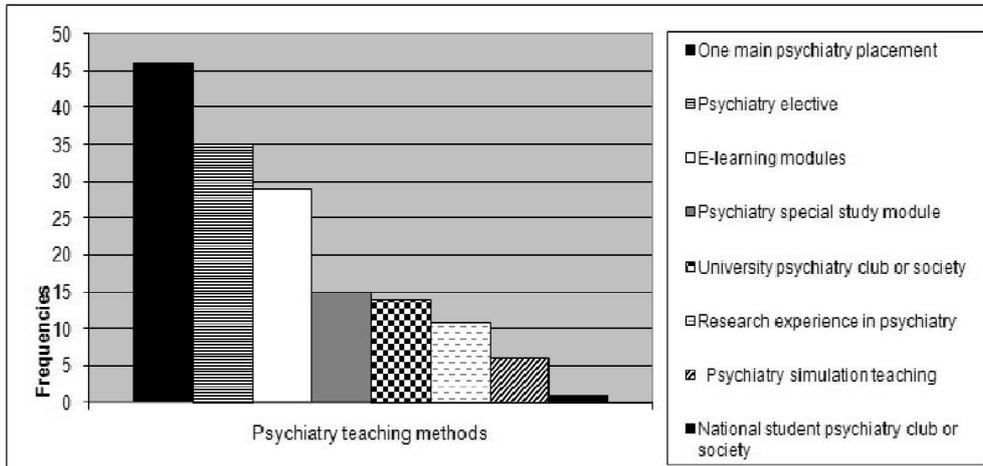


Figure 1.a. Types of compulsory and optional psychiatry placements for students

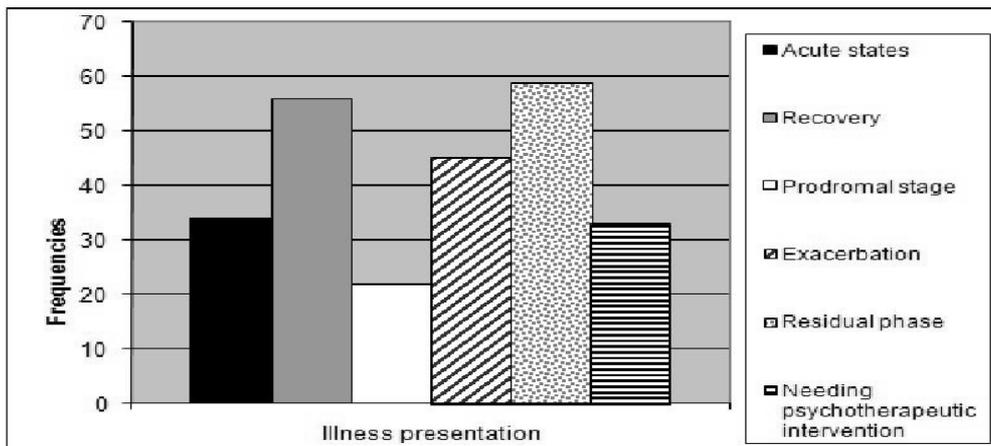


Figure 1.b. Types of clinical settings during the compulsory psychiatry placements

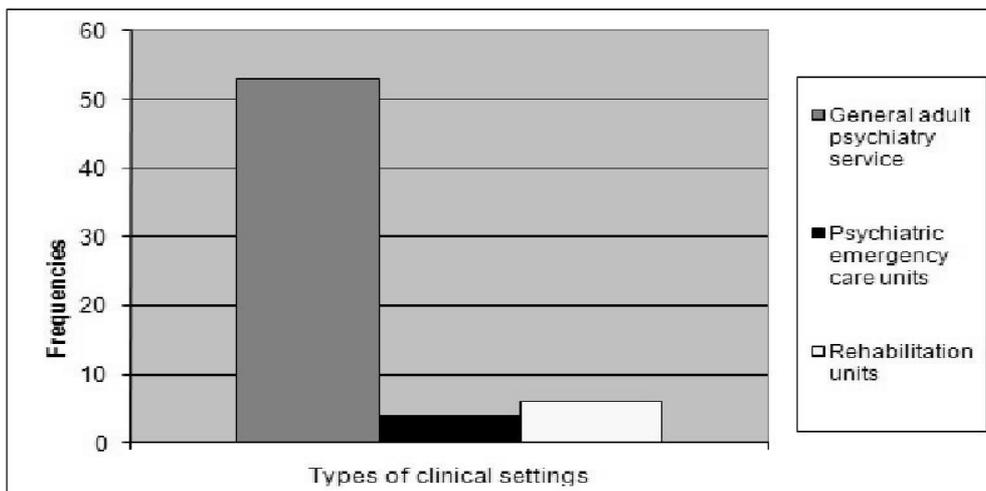
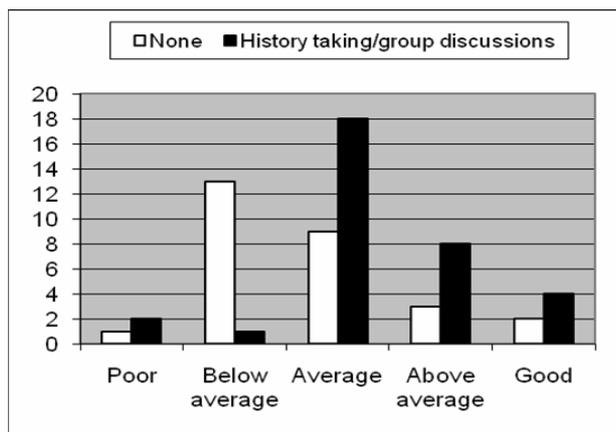
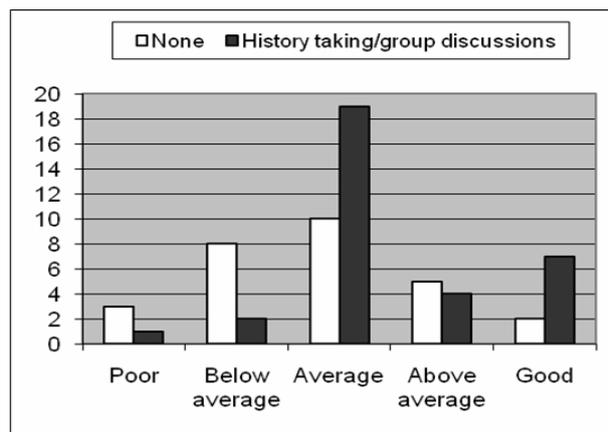


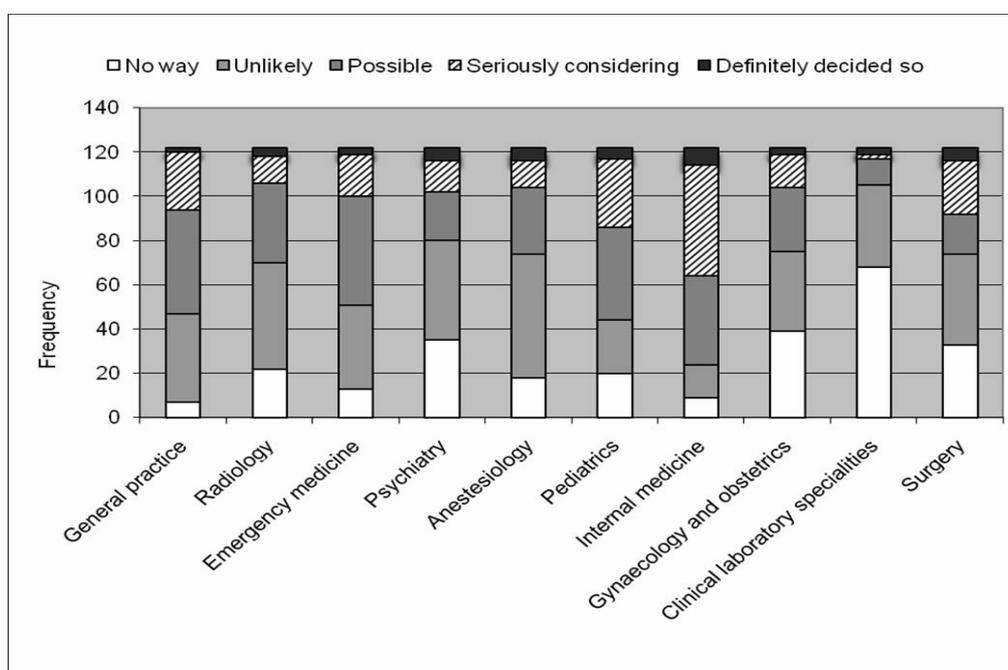
Figure 1.c. Types of patients encountered during the compulsory psychiatry placements. Data are shown as frequencies



**Figure 2a.** Differences in distribution of evaluation scores of small group work between students who were involved in history taking/group discussions during compulsory psychiatric placements and those who were not actively involved. Data are shown as frequencies



**Figure 2b.** Differences in distribution of evaluation scores of practical work between students who were involved in history taking/group discussions during compulsory psychiatric placements and those who were not actively involved. Data are shown as frequencies



**Figure 3.** Preferred future career choices of the final year students of Zagreb medical school

### The choice of the future residency training

Prior to medical school, 10 students (16%) had a clear idea of a future career choice. Choices included surgery (N=5, 8%), pediatrics (N=2, 3%), general practice (GP, N=1, 2%) and psychiatry (N=2, 3%). By their final year at medical school, psychiatry was a definite choice for 4 students (6%), while 19 students (30%) had excluded psychiatry completely. Figure 3 illustrates the preferred future career choices of final year medical students. The possibility of psychiatry as a career choice correlated significantly with better evaluation grades of psychiatry lectures (Spearman correlation coefficient =0.311, p=0.014).

Furthermore, we found that poor evaluation grades predicted a higher likelihood that medical students

completely rule out choosing a career in psychiatry (OR=3.221, CI 5-95%=1.314-7.896, p=0.011).

### DISCUSSION

At the end of medical school, almost a third of students surveyed would not choose psychiatry for their future profession. Laboratory diagnostics and general practice were ranked first and second place as the least popular specialty choices, respectively among this sample of Croatian medical students. Psychiatry was ranked the third least popular specialty choice. These results are therefore in accordance with previous studies among medical students (Mahoney et al. 2004, Goldacre & Turner 2005, Brockington & Mumford 2002, Sierles &

Taylor 1995). This is also a possible explanation for the overall shortage of psychiatrists in Croatia (World Health Organization 2008) although this may also reflect an overall reported decrease in number of doctors in the country (Bagat & Sekelj Kauzlaric 2006). However this low uptake may predict a more significant future shortage of psychiatrists in the country.

Some studies have shown that the organization of courses or exposure to patients that respond well to treatment can enhance the choice of a specific career path (Mihalynuk et al. 2006, Schwartz et al. 2011), although not all results are consistent (Niedermier et al. 2006). The overall evaluation of psychiatry teaching during compulsory placements received an "average" score in this study, which is consistent with internal medical school evaluations. According to the last available data (assessments from 2007, source: Zagreb School of Medicine), on a scale 1 (worst grade) to 7 (best grade), psychiatry as a course received an overall grade of 5.4, with lectures being graded with 5.4, working in small groups 5.2, practical work with patients with 5.6, literature with 4.4 and personal commitment with 5.3. Encouragingly, the average student ratings of psychiatry teaching were slightly above the average ratings of all courses together.

According to our results, the preferred choice of psychiatry as a future career choice positively correlated with evaluation ratings of lectures. Whereas a correlation does not indicate a causal relationship, we found a higher likelihood of not choosing psychiatry with lower ratings of the psychiatric teaching during medical school, which accords with previous studies (Kuhnigk et al. 2007, McParland et al. 2003, Mihalynuk et al. 2006, Xavier & Almeida 2010). Although according to this study, course organization, perception students responsibility, and exposure to different stages of patients' illness did not appear to affect the likelihood of choosing psychiatry as a future career path, significantly better evaluation grades were given by students who and who felt involved and responsible during their placements, compared to those who did not. These results are in part compatible with the results from the ISOSCCIP study performed in France where a preference for a career in psychiatry was associated with higher ratings of psychiatric teaching, more weeks of compulsory psychiatry teaching and placement, during which students had more often met patients in recovery and been asked their opinion on patients (Andlauer et al. 2012).

Evaluation grades, however, are subjective and may therefore reflect pre-existing interest in and attitudes to psychiatry, both positive and negative. In this study it appears that rather than the structure of the curriculum, an overall positive or negative experience of psychiatry during medical school could influence the students' motivation for future career choice (McParland et al. 2003, Vujaklija et al. 2004, Schwartz et al. 2011). Teaching and learning styles that could positively alter student experiences might be of particular importance (McParland et al. 2003, McParland et al. 2004).

The relatively high percentage of students who felt as if they had no responsibilities at all (41%) during their psychiatric placements, and also gave low ratings of overall psychiatry teaching lower could reflect an opportunity to introduce more clinical responsibility and more stimulating teaching methods (Brockington & Mumford 2002, McParland et al. 2003). A revised teaching program in this medical school in Croatia is therefore recommended taking these considerations into account.

### Limitations of the study

The major limitation of this preliminary study is a relatively small sample size and a low response rate, which possibly resulted in smaller statistical power for particular factors. Additionally, the low response rate may also have resulted in a selection bias of the respondents that may have influenced findings. Therefore, in the main survey, strategies to increase response rate will be introduced. Secondly, because of the cross-sectional design of the possible changes in choice of profession throughout medical school is not captured (Brockington & Mumford 2002, Maidment et al. 2004). Thirdly, motivation for choosing psychiatry at the sixth year of the medical school does not necessarily mean that the motivated students will ultimately become psychiatrists (Brockington & Mumford 2002). However previous evidence from a study among psychiatric residents in Croatia suggests that for the majority of the trainees their choice of psychiatry is stable throughout the medical school (Kuzman et al. 2009). Lastly, other factors such as personality traits and attitudes could influence the motivation for the future choice of psychiatry regardless of the psychiatric curricula. Therefore, these factors are being investigated in the main survey (Kuzman et al. 2013).

### CONCLUSION

To the best of our knowledge, this is the first study of the relationship between medical students' experience of psychiatric education during medical school and their attitudes towards choosing psychiatry as a career. Our hypothesis was that a better experience of psychiatry would correlate with the possibility of choosing psychiatry as a career and that dissatisfaction with psychiatric lectures is associated with a higher likelihood that medical students completely rule out choosing a career in psychiatry. The possibility of psychiatry as a career choice correlated significantly with better evaluation grades of psychiatry lectures. We also found that poor evaluation grades predicted a higher likelihood that medical students completely ruled out choosing a career in psychiatry. Therefore, we recommend that the psychiatric teaching programme during medical school should focus on modifiable factors which improve student evaluation grades like the quality of psychiatric lectures and degree of involve-

ment in psychiatric clinical activities. We also recommend further work to establish the direction of causality between positive experiences of psychiatry teaching and career choice in Croatia. While these provisional results are promising, we await validation in the main study with a larger group of participants.

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**Conflict of interest:** None to declare.

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Correspondence:

Martina Rojnic Kuzman, MD, PhD  
Department of Psychiatry, University Hospital Centre Zagreb  
Kišpatičeva 12, Zagreb, Croatia  
E-mail: mrojnic@gmail.com