



THE CHARACTERISTICS OF MEDICAL STUDENTS AND MOTIVATION TOWARDS CAREER CHOICE: IMPLICATIONS FOR CURRICULUM

TIP ÖĞRENCİLERİNİN KARIYER SEÇİMİNE YÖNELİK MOTİVASYONLARI VE KARAKTERİSTİK ÖZELLİKLERİ: PROGRAM GELİŞTİRME AÇISINDAN DOĞURGULARI

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ABSTRACT: The present study aimed to examine motivational factors that have impact on freshman students' choice of profession with regard to their demographic and socio-economic characteristics and gender in terms of curriculum development. A semi-structured scale which was used in the study was developed by the researchers depending on previous studies about motivational factors affecting choice of profession. The scale was administered to 298 freshman medical students in Akdeniz University in the academic year of 2012-2013. The study was designed as a mixed methods study and descriptive statistics and chi-square were used for data analyses. Demographic results of the study indicated that enrollment in medical faculty is similar for male and female students and a majority of students came from middle and high socio-economic status. Statistically, motivational factors related to choice of profession show differences in four out of six subsections of the scale. While career opportunities, the nature of the profession, prestige, and social security were reported by male students, patient care and working with others were expressed by female students as motivators to become a doctor. The results of this study will be fruitful for educators in medical faculties, field specialists, researchers studying career development, curriculum development specialists, and educational politics.

Keywords: medical students, career choice, motivation

ÖZET: Bu çalışmanın amacı, Türkiye'de Akdeniz Üniversitesi Tıp Fakültesi birinci sınıf öğrencilerinin demografik ve sosyo-ekonomik özellikleri ve cinsiyetlerine göre meslek seçimlerini etkileyen motivasyonel faktörleri program geliştirme açısından incelemektir. Araştırmada kullanılan ölçek daha önce tıp öğrencilerinin meslek seçimini etkileyen motivasyonel faktörler üzerine yapılmış araştırmalara dayalı olarak araştırmacılar tarafından geliştirilmiş yarı yapılandırılmış bir ölçektir. Ölçek 2012-2013 öğretim yılında 298 birinci sınıf tıp fakültesi öğrencisine uygulanmıştır. Araştırmada nitel ve nicel araştırma yöntemleri birlikte kullanılmıştır. Tanımlayıcı ve kay-kare istatistiksel analizleri kullanılarak araştırma verileri analiz edilmiştir. Demografik veriler incelendiğinde okula kayıt olan kız ve erkek öğrencilerin sayılarının benzer ve öğrencilerin çoğunun sosyo-ekonomik düzey açısından orta ve üstü ailelerden geldikleri gözlenmektedir. İstatistiksel olarak meslek seçimi ile ilgili motivasyonları altı alanın dördünde farklılık göstermektedir. Erkek öğrenciler daha çok doktorluk mesleğini seçmelerini etkileyen motivasyonel faktörleri kariyer olanakları, mesleğin doğası ve statü ve güvenlik alanlarında ifade ederken kız öğrenciler hasta bakımı ve diğer insanlarla çalışma alanında ifade etmişlerdir. Bu çalışmanın sonuçlarının tıp fakültesinde görev yapan eğitimcilere, alan uzmanlarına, kariyer konusunda çalışan araştırmacılara, program geliştirme uzmanları ve eğitim politikacılarına katkı sağlaması beklenmektedir.

Anahtar sözcükler: tıp öğrencileri, kariyer seçimi, motivasyon, program geliştirme

1. INTRODUCTION¹

8,141 first grade students applied Turkish medical schools in 2012-2013 academic years (OSYM, 2012). Surprisingly, very little is known about why they applied to study medicine, what their interests in medicine are, and what is it in particular that they like about the idea of being a doctor and practicing medicine. The motivational and other factors used by medical students in making their career choices for specific medical specialties have been looked at in a number of studies in the literature. There are however few studies that assess the generic factors which make medicine itself of interest to medical students and to potential medical students (McManus, Livingston, & Cornelius Katona, 2006).

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The choice of a career in the medical field is a complex personal decision influenced by a multitude of factors. Career choices are influenced both by the graduate's inclination before starting medical school as well as any exposure during training in medical school (Moorison & Murray, 1996; Newton, Grayson, & Thompson, 2005). These include gender and residency conditions (e.g. part-time work and parental leave availability) (Baxter, Cohen, Mcleod, 1996), family background, parents' socioeconomic status, prestige, income and faculty role models (Senf, Campos-Outcalt, & Kutob, 2003), a strong early interest and curiosity in the specialty (Galeazzi, Secchi, & Curci, 2003), controllable lifestyle versus non-controllable lifestyle (Bland & Isaacs, 2002) local market forces (Valente, Wyatt, Moy, Levin, & Griner, 1998) a committed relationship (Leverette & Massabki, & Peterson, 1996), the influence of a faculty adviser (Osborn, 1993) and the perception of employment availability. The final choice results from a complex interplay between extrinsic and intrinsic.

Studies of the primary motivations of medical school applicants and medical students are infrequent, typically asking students to rate each of a number of possible reasons for being a doctor on a Likert scale (Wierenga, Branday, Simeon, Pottinger, & Brathwaite, 2003; Crossley & Mubarik, 2004). A retrospective analysis of doctors' reasons for entering medicine found five main factors: being good at science subjects, wanting a good interesting career, always having wanted to be a doctor, influenced by friends and relations, and wanting to help or work with people (Allen, 2004). It is possible that most such factors are important for most people, but there are also demand characteristics which make respondents less likely to rate highly such socially desirable items as "thought it would be glamorous/good life-style/status", or "job security" (Allen, 2004), and even less so for "becoming rich", or "having power over people", however true they may be. Primary motivations become clearer when possible motivations are in conflict. Helping people and doing scientific research are both admirable motivations, but very often both activities cannot be carried out at the same time, requiring a decision as to which is the more important for a particular doctor. When choices have to be made, motivations become clearer (McManus, Livingston, & Cornelius Katona, 2006).

The demography of medical students has been of particular recent interest, with concerns about the increasing proportions of female students (Ferimann, 2002), and about the problems in medical school of male and ethnic minority students (Wass, Roberts, Hoogenboom, Jones, & van der Vleuten, 2003). There has also been a growing awareness that medical students typically come from relatively high social classes (Grenhalgh, Seyan, & Boynton, 2003; McManus, 2004), many from medical families (Horton, 1986; Lentz & Laband, 1988; McManus, 1998; Billings, 2004), and concern that such individuals have different motivations and interests in medicine as a career (Gough, 1977; McManus, Livinston, & Kotana, 2006).

Despite all these studies, we need more studies in different culture with different methods for developing a universal concern related to medical education. Monitoring motivations and preferences for choosing medical professions; further, researching young people's aims of obtaining medical diploma might provide important data for the understanding of the above mentioned phenomena (Girasek, Molnar, Szocska, 2011). Such understanding is crucial in terms of the operation of the service and the health status of the population. Also, it is a fundamental issue for all those concerned with medical education and providing medical service. Becoming a doctor is hard work including applying, studying, testing, writing, researching, practicing, and training. Medical educators have long researched various methods to facilitate teaching medical curriculum for students. Curriculum exists for students. It is concerned with both content and process. Previous research (Irby, 1994; Bordage & Lemieux, 1991) has demonstrated that medical education students tend to bring with them into medical training a personal professional schema or a personal value system about medicine formed over the years from personal experiences. According to Kagan, for example, such personal value systems can act as filters through which others' (and perhaps their future) professional roles and practices can be interpreted (Kagan, 1992). Therefore, before developing new training methods and curriculum, assessing the level of students' cognitive and emotional readiness, and background for medical school is important. The purpose of this study was to investigate the socio-economic

backgrounds of medical students have at the beginning of medical school and the motivations of choosing medicine as a career in terms of implications of curriculum development.

2. METHOD

2.1. Context

This study was conducted in Medical School at Akdeniz University (AU) in Turkey, a state university established in 1973. AU Medical School has both vertically and horizontally fully integrated curriculum as the system to teach medicine. AU Medical School has followed a hybrid curriculum (Problem Based Learning (PBL) and interactive teaching methods in small group discussions) since 2002. The first and second year curricula are both composed of five thematic blocks structured according to organ system-related themes. The third year curricula include of nine thematic blocs structured according to organ system-related themes and community based medicine practice. The first week of each block is allocated to PBL sessions. The remaining 5-7 weeks in each block consist of lectures and practically. The last third year curricula consisted of clinical clerkship. For clinical rotations, students are exposed to a variety of specialties in tertiary care settings.

2.2. Study Rationale

The present study serves as a baseline study for AU Medical School to identify the gender, socio-economic background and the motivations of choosing medicine as a career of AU first year medical students. The study will also help assess whether these factors are in line with the school's philosophy. Findings of this study can thus be utilized to review the current status and future directions of the curriculum.

2.3. Research Questions

This study will identify the socio-economic background and the motivations of choosing medicine as a career of AU first year medical students that include the following (1)socio-demographic background, (2) motivational factors towards career choose, and (3)gender differences with respect to career choose.

2.4. Research Group

The first year medical class in 2012-2013 consisted of 298 students, who formed the study population, excluding those who were absent or not available for some reason at the time the study was being carried out .Overall, males constituted 52.8% of the participants. The average age of the respondents was 18.9 years (standard deviation [SD] 1.2). The characteristics of research group were explained in detail, in results section.

2.5. Procedures

Data were collected in Turkish during the Autumn of 2012 through the use of the self-administered structured questionnaire. The students were informed about the nature of the study, and confidentiality was assured. Simply, a blank piece of paper with this prompt on top of the page was distributed to all participants, 300 questionnaires. A total of 298 questionnaires duly completed were included in the final analysis. The overall response rate was 99.3 percent. Participants were given roughly 25 min to provide their motivational factors as their immediate reactions. Finally, all the participants were requested permission for their essays to be used in the study and were assured that their comments would remain anonymous (i.e., no names were asked).

The survey sought to determine the students' socio-demographic background such as age, gender, and family background. The respondents were asked about their choice of medicine as a career and asked to identify motivational factors influencing this choice. The questions were in various forms: the majorities were standardized or close-ended questions and open-ended questions following as "Why do you want to become a doctor? Please explain your motivational factors influencing your career choose in medicine." The questions called for both subjective and objective responses. We pretested the survey among about 30 medical students from AU Medical School. The pretest resulted in minor modifications to the questionnaire. The pretest responses were discarded, and the pretest participants were resurveyed with the rest of the medical student population.

Mixed method was used for this study. A systematic in-depth content analysis of the transcripts was undertaken by two analysts, working independently, to identify motivational factors. The analysis of the motivational factors encompassed the following stages and actions: (1) coding and elimination stage, (2) sample motivational factors compilation and translation stage, (3) sorting and categorization stage, (4) establishing the inter-coder reliability stage, and (5) analyzing data quantitatively.

In the first stage, all motivational factors supplied by the participants were simply coded and those papers in which a motivational factor was not clearly articulated were eliminated. In the second stage, the coded 17 motivational factors were organized in alphabetical order and were scrutinized to choose a sample expression that represented each identified motivational factor best. This action was also practically valuable for two important reasons. First the list was used as a reference point for the grouping of the 17 motivational factors into certain conceptual themes (see Table 2)., second, since the interpretations of the findings were based on the analysis of 17 motivational factors included in this list, it was also used as a means to validate the analysis of the study data. In this stage, also, all the 17 exemplar motivational factors in the list were translated from Turkish to English using translation procedures for scientific research. The ultimate aim in the third stage was to abstract from the 17 surface motivational factors the generative categories, conceptual themes that they presented. As a result of this inductive content analysis; 6 major motivational factors were identified. In the fourth stage; inter-rater reliability, using Miles and Huberman's (1994) method of percentage agreement, was calculated at 96%. A second level of coding categorized the excerpts in terms of their similarities. This process was undertaken inductively, allowing categories to emerge from the data, rather than working with pre-specified categories. We used a modified version of the Crossley and Mubarik scale to develop categories and a coding scheme for qualitative data depicted from open ended questions relating to motivational factors towards career chooses (Crossley & Mubarik, 2002). Analysis resulted in 6 categories of motivational factors that were then used as the basis for item construction for quantitative scale. This resulted in a content analyse table including category and in which 17 items addressed 6 potential areas of motivation. These are shown in Table 2. In the last stage; Using the percentage agreement method (Miles & Huberman, 1984), we found initial reliabilities of 89 % between coders and 93 % (average) within coders. The Statistical Package for Social Sciences software (SPSS, version 19) was used to analyze the data. We used descriptive statistics to summarize the responses to all questions. Where possible, we performed χ^2 tests to detect differences in the gender characteristics of medical students.

3. RESULTS

3.1 Socio-demographic factors

There were 298 responses to the questionnaire survey. Missing data is not included for calculation. Demographic characteristics of the study population are listed in Table 1.

Table 1. Socio-demographic factors*

Socio-demographic factors		f	%
Gender	Female	140	46.8
	Male	158	52.8
Mother job	Housewife	174	58.2
	Teacher	48	16.1
	Physician	46	15.4
	Other	27	9.3
Father job	Unemployed	5	1.7
	Teacher	40	13.4
	Engineer	27	9
	Physician	12	4
	Other	210	70.2
Mother education	Non-literacy	12	4
	Primary school	102	34.2
	High school	77	25.8
	University	102	34.2
Father education	Non-literacy	3	1
	Primary school	56	18.7
	High school	77	25.8
	University	156	52.2
Family income (monthly)**	Starvation line (650\$ and below)	14	4.7
	The poverty threshold (650\$- 1700\$)	123	41.1
	1700\$ and above	149	49.8

*There is missing data for each category.

** Dollar exchange rate of the month of June 2012 was taken into account.

Table 1 shows that slightly more than half (158, 52.8%) of the respondents were male. The male to female ratio was 1:1.01. There is a balance in terms of gender participation in medical education in AU. A total of 12 (4%) students had a physician father and 46 (%15.4) students had a physician mother. The majority of the mothers (174, 58.2) are housewife. With reference to the occupational status of the fathers, 40 (13.4%), 27(9%), and 210(70.2) were in education, engineering, other areas including and managerial posts or worked as professionals, respectively. Only five (1.7%) of the fathers were unemployed. Over half (156, %52. 8) of the fathers of the students had a university degree; only three (3, % 1) were uneducated. Almost one- third (102, %34.1) of the mothers of the students had university degrees. Only twelve (4%) of the mothers were uneducated. Although almost half of the students (149, 49.8%) reported their families' monthly incomes as above the official *poverty threshold*, %45.8 (137) of the students reported their families' monthly incomes as *poverty threshold* and below. Approximately five percent of the students' families' monthly income are below the starvation line. 12 (4.4%) students did not indicate their families' monthly.

3.2 Medical student's motivation towards career choice

Table 2 compares, using chi-square analysis, the percent of female and male medical students 'agreeing' that they were motivated to study their subject area by the factors relating to the six dimensions of career choice. This table highlights numerous important differences with regard to the factors motivating career choice between female and male students.

In particular, it appears that male students, when compared with female medical students, were significantly more likely to be motivated by factors relating to status and security (Dimension 1), the

nature of their occupation (Dimension 2), and career opportunities (Dimension 3). For instance, in relation to status and security, male students were significantly more likely than female medical students to cite factors such as prestigious social standing ($\chi^2 (1, N = 298) = 5.811, p < .05$), career security ($\chi^2 (1, N = 298) = 10.259, p < .05$) and high income ($\chi^2 (1, N = 298) = 5.894, p < .05$) as important in their choice of career. Likewise with regard to factors related to the nature of the medical occupation and career opportunities. Male students were significantly more likely to agree that regular responsible job ($\chi^2 (1, N = 298) = 6.986, p < .05$), self employment and independence ($\chi^2 (1, N = 298) = 7.013, p < .05$), diverse career opportunities ($\chi^2 (1, N = 298) = 6.635, p < .05$), and interesting career were important to their choice of career.

Table 2 Medical student's motivation towards career choice and Chi-square analysis results by gender

Dimensions	Items	Female (N=140) (f, %)	Male (N=158) (f, %)	χ^2	p*
1-Status and security	High professional status	92(65.7)	105(66.4)	0.18	NS
	Prestigious social standing	14(10)	34(21.5)	5.811	*
	Provides a secure career	21(15)	80(50.6)	10.259	*
	High income	62(44.2)	93(58.8)	5.984	*
2-Nature of occupation	Regular working hours	11(7.8)	15(9.4)	.052	NS
	Responsible job	69(49.2)	109(68.9)	6.986	*
	Self employment and independence	11(7.8)	31(19.6)	7.013	*
3-Career opportunities	Diverse career opportunities	7(5)	32(20.4)	6.635	*
	Interesting career	9(5.6)	45(28.48)	5.652	*
	Challenging career	17(12.1)	13(8.2)	2.219	NS
4-Patient care and working with people	Opportunity to care for/ help people	61(43.5)	72(45.5)	.340	NS
	Interacting with other people	14(10)	6(3.7)	5.860	*
5-Use of personal skills	Requires use of manual skills	27(19.2)	31(19.6)	.150	NS
	Requires use of mental skills	16(11.4)	15(9.4)	.766	NS
6-Interest in science	Opportunity to perform research work	8(5.7)	16(10.1)	1.399	NS
	General interest in science	10(7.1)	19(12.1)	1.335	NS
	Science based occupation	39(27.8)	39(24.6)	1.563	NS

*statistically significant at $p < 0.05$

4. DISCUSSION

The decision to choose medicine as a career was found to be significantly influenced by demographic characteristics in several studies (Todisco, Hayes, & Farmill, 1995; Gjerberg, 2002; Buddeberg-Fischer, Klaghofer, Abel, & Buddeger, 2003; Newton, Grayson & Thompson, 2004; Lambert & Holmboe, 2005). This paper set out to give an overview of some of the demographic characteristics of those currently in training in AU Medical School, Turkey. In this study context, responses were obtained from 298 first-year medical students. There were similar numbers of male and female students, with aged 17 to 24 years. We found an increase in the number of female students in medicine according to Student Selection and Placement Centre (OSYM) data in the last ten years (OSYM, 2012). Similar observations have been reported locally (Ozcakir, Yaphe, & Ercan, 2007) and internationally (Todisco, Hayes, & Farmill, 1995; Newton, Grayson & Thompson, 2004). The male–female balance of enrollments in many professional and occupational education programs has changed noticeably over recent years, in favor of women (Law, & Arthur, 2003). Various explanations have been given for this observation: increased demands by women for equity in the

labor market, and women have qualities that could benefit the medical profession (Todisco, Hayes, & Farmill, 1995; Klaghofer, Abel, & Buddeger, 2003).

In this study, almost half of the students (149, 49.8%) reported their families' monthly incomes as above the official *poverty threshold, middle or higher level income*. Researches into the socioeconomic status of medical students in the United States (Boorner, 1977), and Canada (Dhalla, Kwong, Streiner, Baddour, Wadell, & Johnson, 2002) indicated that the students came predominantly from higher-income families. We found a similar pattern of underrepresentation among Turkish medical students at AU. This results can be contribute to interpretation that lifestyle regarding to family income may be an increasingly important factor in their career decision making.

Our study also found that most fathers were educated, with a university degree, and the fathers worked in professional occupations. 60% of the students' mothers have high school (25.8%) and university degree (34.2%). More than half of the mothers (58.2%) are housewife. The numbers of physician mothers (46, 15.4%) were more than physician father (12, 4%). In other words, children of physician mothers were especially likely to follow in their mother's' footsteps. The family demographics of students in the present study differ from that found in the Western industrialized countries (Todisco, Hayes, & Farmill, 1995; Klaghofer, Abel, & Buddeger, 2003; McManus, Livingston, Katona, 2006; Johansson & Hamberg, 2007). A higher percentage of students in our study are from professional families with well-educated parents when compared with similar reports in the literature. This may be explained by the fact that most successful Turkish parents often take a central role in the decision-making process of their children. The association of medical background of the parents with the career preference of students is in accordance with our expectations and the results of earlier research (Williams & Cantillion, 2000).

This study demonstrated gender differences in motivation towards career choice and their real needs among medical students. The results of this study are consistent with other studies of medical students which have revealed a primary interest in professional status and financial rewards (Todisco, Hayes, & Farmill, 1995, Xu, Xu, & Veloski, 1998). Likewise, the high importance of 'person oriented motives' and the desire to 'care for and help others' amongst medical students, is consistent with surveys in other countries which have consistently reported altruism as a prime motivation of medical students (Xu, Xu, & Veloski, 1998; Vaglum, Wiers-Jennsen, & Ekeberg, 1999).

Literature shows that motivational factors vary from culture to culture. For example, a UK survey identified four motivational dimensions for applying for medical training: "indispensability" (having control and authority), "helping people" (caring and experiencing compassion), "respect" (being trusted and having prestige), and "science" (being able to keep updated and to evaluate scientific evidence) (McManus, Livingston, Katona, 2006). Swedish medical students held "doctorship" to be a profession of commitment, authority, and duty (Johansson & Hamberg, 2007) while a Norwegian study categorized the reasons for choosing medicine as "people orientated," "status orientated," and "natural science orientated" (Vaglum, Wiers-Jennsen, & Ekeberg, 1999). Other surveys have also shown the 'scientific nature and intellectual challenge of medicine' to be an important motivation for medical students (Todisco, Hayes, Farmill, 1995)

A small number of the medical students in both gender group indicated nature of occupation (regular working, self employment and independence), career opportunities (diverse career opportunities, interesting career, and challenging career), and interest in science (science based occupation and opportunity to perform research work) as motivation factors towards career choose. As a profession, it is recommended that we encourage high school graduates to see medical school first hand, either in general practice or through open days in medical schools and hospitals. This is because, in Turkey, it is not unusual for a potential medical student to have never visited the medical school. Career counselors should emphasize the details and variety of work patterns in medicine along with such factors as the intellectual challenge, manual dexterity required, and caring nature of medicine rather than the material reward.

5. CONCLUSION, IMPLICATIONS, AND LIMITATIONS

The findings of the study indicate that enrollment in medical faculty was similar for male and female students. Our findings suggest as in literature that number of female students coming closer to male students in medical education. We have doubt that how this change will effect the doctor distribution in Turkey in future. A majority of students came from families with middle and high socio-economic status. It is observed that out of 58 students having a medical parent, 46 students had a doctor mother and 12 students had a doctor father. There existed no students whose both parents were doctor. When the factors that affect students' choice of profession are examined with regard to their gender, the findings demonstrate that male students reported career opportunities, nature of the profession, prestige, and social security whereas female students voiced patient care and working with others as motivators to become a doctor.

Drawing conclusions from this study, it could be argued that the findings feed into stereotypical images of medicine as an intellectually challenging profession which affords the opportunity to 'save lives' and take care of the health of the public. It may be this mixture of intellectual challenge and altruism which contributes to the public perception of medicine's high status. Our study suggests that even upon entering medical school, students have strong perceptions about their future careers, and it would be interesting to follow them over their training to determine how these views are affected by the process of medical education. Another challenge is to encourage an active interest in scientific research, an area that seems to be less attractive to these incoming students. Attention needs to be paid to the orientation period, so that some of these preconceived ideas could be discussed and students encouraged to have more open-minded approaches to the various specialties. It would also be instructive to measure their responses after exposure to the various areas during their medical training. The different perceptions between males and females should also be taken into consideration. The findings of this study show parallelism with the research studies in this field. These findings display that although there have been improvements in educational and social policies, students only coming from middle and high socio-economic status choose to become a doctor or manage to pass the exams for medical schools. In addition, motivational factors such as social security, career opportunities, high income, prestige, high social status expressed by male students are thought-provoking in terms of values they will adopt while practicing their profession. On the other hand, motivational factors that led female students to this profession are based on self-devotion and social relations.

The findings of the present study are quite striking. Especially males who are freshman medical students adopt a very money-minded and career-wise approach towards their profession, which may bring about problems in their future doctor-patient relationship and the practice of the medical profession. Based on the findings and discussion presented above, the following recommendations could be brought forward for future researchers. Researchers studying in the field of medical education and career could try to find out why economically disadvantaged students do not choose medicine as a career or fail exams for medical schools, so that they may come up with solutions for including them among medical practitioners. Moreover, longitudinal and cross-sectional studies could be carried out to reveal the changing perceptions of medical students throughout their education. Perceptions and motivations of in-service female and male doctors towards their profession could be examined to observe the changes in their motivational factors before and after graduation. Last but not least, the findings of the current study are fruitful for specialists studying educational politics and curricula of medicine. In this sense, curriculum for medical education and its components -objectives, content, learning and teaching process should be reorganized with regard to motivational factors affecting the practice of the profession, the doctor-patient relationship, and the nature and practice of the profession and the degree of attainment of both students and the curriculum should be evaluated on regular basis. Finally, it is important to consider several limitations of this study. First, the students participating in this study did not comprise a representative sample, but simply a 'convenience sample'. Although their views represent an interesting snapshot of medical students attending Akdeniz University, they cannot be taken as representative of the socio-demographic characteristics and views of medical students at the university as a whole, or of medical students attending other universities. The next stage of this investigation will therefore be to conduct a larger scale study in which medical students

are randomly selected from different universities both in the Turkey and internationally, in order to assess the generalisability of these findings. Second, because in many cases we sought sensitive information, some respondents chose not to answer certain questions. However, we believe that this effect is negligible; the question about parental income was the least likely to be answered, and only 4.4% of students did not respond to that question.

Future work should address the question of why certain groups are underrepresented in medical school. Comparisons are needed between medical students and applicants (to see whether the medical school admissions process favors certain groups) and between medical students and undergraduate students (to see whether the barriers to medical school are distinct from the barriers to university in general). It is well known that undergraduates are not representative of the general population.

6. REFERENCES

- Allen, I. (1998). *Doctors and their careers* London: Policy Studies Institute.
- Bordage, G. & Lemieux M. (1991) Cognitive structures of experts and novices: semantic structures and diagnostic thinking of experts and novices. *Academic Medicine*; 66 (9): S70–S72
- Baboolal, NS & Hutchinson GA (2007). Factors affecting future choice of specialty among first-year medical students of the University of the West Indies, Trinidad. *Medical Education*,41:50-56.
- Baxter, N & Cohen R, McLeod R (1996). The impact of gender on the choice of surgery as a career. *American Journal of Surgery*, 172 (4):373–376.
- Bland, KI & Isaacs G. (2002). Contemporary trends in student selection of medical specialties: the potential impact on general surgery. *Archives of Surgery* 137 (3):259–267.
- Billings, K (2004). Learning to live in a medical household. *British Medical Journal*, 328:235.
- Irby, D. M. (1994). What clinical teachers in medicine need to know. *Academic Medicine* May; 69(5):333-42.
- Kagan, D.M. (1992) Implications of research on teacher beliefs. *Educational Psychologist*; 27(1), 65-90
- Boerner, RJ (1977). Family income of medical school applicants and accepters and of college students. *Journal of Medical Education*, 52:948-949.
- Buddeberg-Fischer, B, Klaghofer R, Abel T, & Buddeberg C (2003). The influence of gender and personality traits on the career planning of Swiss medical students. *Swiss Medical Weekly*, 133:535-540.
- Crossley, M L& Mubarik A. (2002). A Comparative investigation of dental and medical student's motivation towards career choice. *British Dental Journal*, 193(8): 471-473
- Dhalla, IA., Kwong JC., Streiner DL, Baddour RE, Waddell AE, & Johnson IA (2002). Characteristics of first-year students in Canadian medical schools. *Canadian Medical Association Journal*, 166, (8):1029-1035.
- E Girasek, R Molnár, E Eke, & M Szócska (2011). The medical career choice motivation: Results from a Hungarian study. *Central European Journal of Medicine*, 6(4):502-509
- Ferriman, A (2002). Men should be encouraged to apply to medical school. *British Medical Journal*, 325:325.
- Galeazzi, GM, Secchi C,&Curci P. (2003). Current factors affecting the choice of psychiatry as a specialty: an Italian study. *Acad Psychiatry*,27 (2):74–81.
- Gjerberg, E (2002). Gender similarities in doctors' preferences—and gender differences in final specialization. *Social Science & Medicine*, 54:591-605.
- Gough, H.G. & Hall W.B. (1977). A Comparison of medical students from medical and non-medical families. *Journal of Medical education*, 52: 541-547
- Greenhalgh, T, Seyan K, Boynton P (2004). Not a university type": focusgroup study of social class, ethnic, and sex differences inschool pupils' perceptions about medical school. *British Medical Journal*, 328:1541-1544.
- Horton, RC(1986). Admission to medical school: from audit to action. *JRSM*, 79:504-506.
- Johansson, EE& Hamberg K (2007). From calling to a scheduled vocation: Swedish male and female students' reflections on being a doctor. *Medical Teacher*, 29:e1–e8
- Lambert, EM & Holmboe ES (2005). The relationship between specialty choice and gender of U.S. medical students. 1990-2003. *Academic Medicine*, 80:797-802.

- Law, W & Arthur D (2003). What factors influence Hong Kong school students in their choice of a career in nursing? *International Journal of Nursing Studies*, 40 : 23–32.
- Leverette, J & Massabki A, Peterson H (1996).. Factors affecting medical students' selection of Canadian psychiatric residency programs. Part II. Some contemporary issues. *Canada Journal of Psychiatry*, 41 (9):582
- Lentz, BF, Laband DN (1988). Why so many children of doctors become doctors. *JHR*, 3:396-413.
- McManus, I.C. (1982). The social class of medical students. *Medical Education*, 16: 72-75
- McManus, IC (1998). Factors affecting likelihood of applicants being offered a place in medical schools in the United Kingdom. *Medical Education*, 32: 72-75
- McManus, IC, Livingston G, & Katona C (2006). The attractions of medicine: The generic motivations of medical school applicants in relation to demography, personality and achievement. *BMC Medical Education*.6:11.
- McManus, IC (2004). Social class data are problematic to interpret [letter]. *British Medical Journal*, 329:800-801.Kingdom in 1996 and 1997: retrospective study. *British Medical Journal*, 317:1111-1116.
- Miles, M. B. & Huberman A. M. (1994). An expanded source book qualitative analysis. Thousand Oaks, California, Sage Publications.
- Morrison, JM, Murray TS (1996). Career preferences of medical students: influence of a new four-week attachment in general practice. *British Journal of General Practice*, 146: 721 – 725.
- Newton, DA, Grayson MS, Thompson LF (2005). The variable influence of lifestyle and income on medical students' career specialty choices: data from two U.S. medical schools. 1998-2004, *Academic Medicine*, 80:809-814.
- Newton, DA, Grayson MS, Thompson, LF (2005). The variable influence of lifestyle and income on medical students' career specialty choices: data from two US medical schools 1998 – 2004, *Academic Medicine*, 80: 809 – 814.
- Osborn, EH (1993). Factors influencing students' choices of primary care or other specialties. *Academic Medicine*, 68 (7):572–4.
- OSYM (2012). Araştırma ve istatistikler: Retrieved from: <http://www.osym.gov.tr/belge/1-6304/arastirma-yayin-ve-istatistikler.html>
- Ozckir, A, Yaphe J, Ercan I (2007). Perceptions of Family Medicine and Career Choice among First Year Medical Students:A Cross-Sectional Survey in a Turkish Medical School. *Collegium Antropologicum*,31(2): 595-600
- Senf, JH, Campos-Outcalt D, Kutob R (2003). Factors related to the choice of family medicine: a reassessment and literature review. *The Journal of the American Board of Family Medicine*, 16 (6):502–12.
- Standley, K, Keating GW, Fischer TC (1973). Family Constellations of Law and Medical Students. *Journal of Legal Education*., 26:241-246
- Todisco, J, Hayes S, Farnill D (1995). Career motivations of male and female medical students. *Psychological Reports*; 77: 1199-1202.
- TodiscoJ, Hayes S, Farnill D (1995). Career motivations of male and female medical students. *Psychological Reports*; 77: 1199-1202.
- Vaglum, P, Wiers-Jennsen J, Ekeberg O (1999). Motivation for medical school: the relationship to gender and speciality preferences in a nation-wide sample. *Medical Education*, 33: 236-242.
- Valente, E, Wyatt SM, Moy E, Levin RJ, Griner PF (1998). Market influences on internal medicine residents' decisions to subspecialize. *Annals of Internal Medicine*; 128 (11):915–21.
- Wass, V, Roberts C, Hoogenboom R, Jones R,& van der Vleuten C (2003). Effect of ethnicity on performance in a final objective structured clinical examination: qualitative and quantitative study. *British Medical Journal*3, 326:800-803.
- Wierenga, A.R., Branday J. M., & Simeon D.T. (2003). Motivation for and concerns about entering a medical programme. *British Dental Journal*, 193: 471-473.
- Williams, C, Cantillion P (2000). A surgical career? The views of junior women doctors. *Medical Education*, 34: 602 – 607.
- Xu, G, Xu, G; Veloski, J J (1998). Physician parents' influence over their children's choices of careers in generalist specialties. *Academic Medicine*, 73:913.

Authors' contributions:

The study was designed jointly by the two authors. HK was primarily responsible for the design of the questionnaire. YYS was primarily responsible for distribution and collection of the questionnaires. Both authors were responsible for coding data into the computer. Statistical analysis was primarily the responsibility of HK. The first draft of Microsoft Office was written by HK and further drafts, as well as revision of the manuscript was carried out jointly by both authors.

Genişletilmiş Özet

Tıp fakültesi öğrencilerinin meslek seçimlerini etkileyen faktörlere yönelik uzun yıllardır farklı kültürlerde farklı metotlar kullanılarak araştırmalar yapılmaktadır. Ülkemizde her yıl 8000'in üzerinde öğrenci tıp fakültesine kayıt yaptırmasına rağmen, bu araştırmaların sayısı oldukça sınırlıdır. Her yıl değişen eğitim ve kamu istihdamı politikaları, medya, bilim ve teknolojiye meydana gelen değişimler, yeni meslek alanlarının yaratılması öğrencilerin meslek seçimlerine yönelik tercihlerinin sistematik olarak takibini gerektirmektedir. Bu çalışmanın amacı 2012-2013 öğretim yılında Akdeniz Üniversitesi Tıp Fakültesine kayıt yaptıran öğrencileri demografik ve sosyo-ekonomik düzeyleri açısından tanımlamak ve bu öğrencilerin doktorluk mesleğini seçmesini etkileyen motivasyonel faktörleri program geliştirme açısından irdelemektir. Bu araştırmada veri toplama aracı olarak yarı yapılandırılmış ve açık uçlu sorulardan oluşan bir anket form kullanılmıştır. Anket form öncelikli olarak 30 öğrenciye uygulanmıştır. Anket formda yer alan sorulara öğrencilerin verdikleri yanıtlar birbirinden bağımsız olarak iki kodlayıcı-araştırmacılar- tarafından içerik analizine tabi tutulmuştur. Soruların analizinde ve yorumlarda oluşan görüşler birlik ve ayrılık gösteren maddelere ilişkin “uzlaşma yüzdesi formülü” (Miles & Huberman, 1994) kullanılarak hesaplanmış ve hesaplama sonucu .93 olarak bulunmuştur. Güvenirlik ve geçerlik çalışmaları tamamlanan anket 300 öğrenciye uygulanmış ve uygulanan anketin %99,3 ‘ü değerlendirmeye alınmıştır. Yapılan içerik analizi sonucunda öğrencilerin doktorluğu bir meslek olarak seçimlerini etkileyen motivasyonel faktörler 6 kategoride 17 madde altında toplanmıştır. Nitel veriler tanımlayıcı ve *kay-kare* analizi kullanılarak nicel verilere dönüştürülmüş ve cinsiyet faktörü açısından değerlendirilmiştir.

Araştırmadan elde edilen bulgular; kız ve erkek öğrencilerin sayısal olarak tıp eğitimine katılım düzeylerinin benzer olduğu ve öğrencilerin çoğunluğunun orta ve üst sosyo-ekonomik düzeye sahip ailelerden geldikleri ve 58 öğrencinin ebeveynlerinin doktor olduğu gözlenmektedir. Öğrencilerin 46’sı annesinin, 12’si ise babasının doktor olduğunu ifade etmiştir. Hem anne hem de babası doktor olan öğrenci bulunmamaktadır. Öğrencilerin doktorluk mesleğini seçmelerini etkileyen faktörler cinsiyet açısından incelendiğinde ise bazı farklılıklar gözlenmektedir. Erkek öğrencilerin meslek seçimlerini etkileyen motivasyonel faktörler daha çok iş statüsü ve iş güvenliği, mesleğin doğası ve kariyer olanakları açısından farklılıklar göstermekte iken kız öğrencilerin ise hasta bakımı ve diğer insanlarla çalışmak olarak gözlenmektedir.

Bu çalışmanın sonuçları bu alanda yapılan diğer çalışma sonuçları ile benzerlik göstermektedir. Bu sonuçlar yıllardır eğitimde ve sosyal politikalarda bir takım değişiklikler yapılmasına rağmen hala doktorluk mesleği orta ve üst sosyo-ekonomik düzeydeki öğrenciler tarafından tercih edilmekte ya da sınavları sadece bu öğrenciler tarafından kazanıldığını göstermektedir. Ayrıca erkek öğrencilerin bu mesleği iş güvenliği, kariyer olanakları, yüksek gelir, prestij, statü v.b. nedenlerle seçmesi de mesleklerini yaparken öne alacakları değerler açısından oldukça düşündürücüdür. Kız öğrenciler ise daha fedakâr ve sosyal bir bakış açısı ile mesleklerine yönelmektedir. Bu sonuçlar oldukça düşündürücü ve ilginçtir. Tıp Fakültesi birinci sınıfa bu motivasyonel faktörlerle başlayan, özellikle erkek öğrencilerin para ve kariyer odaklı olan yaklaşımları süreç içerisinde değişmezse gelecekteki hasta-doktor ilişkilerinde ve tıp mesleğinin hizmet sürecinde sorunlar yaşanabilir.

Bu araştırma sonuçlarına dayalı olarak gelecekteki araştırmacılar için bazı önerilerde bulunulabilir. Tıp eğitimi ve kariyer konusunda çalışan araştırmacılar, doktorluk mesleğinin neden sosyo-ekonomik açıdan dezavantajlı gruplar tarafından tercih edilmediğini ya da sınavlarının kazanılmadığını araştırarak, bu grupta bu meslek alanında yer almasını sağlayabilecek öneriler geliştirilmesinde katkıda bulunabilirler. Ayrıca, öğrencilerin tıp eğitimi süresince mesleklerine yönelik değişen algıları da uzunlamasına ya da kesitsel olarak araştırılabilir. Kadın ve erkek doktorların hizmet içinde mesleklerine yönelik algıları ve motivasyonları tekrar araştırılarak mesleklerine yönelik motivasyonel faktörlerin mezuniyet öncesi ve mezuniyet sonrası hangi süreçler içerisinde hangi faktörlerin etkisinde değişip geliştiği izlenmelidir. Ayrıca bu çalışmanın sonuçları tıp eğitimi politikaları üzerinde çalışan ve eğitim programlarını hazırlayan uzmanlar içinde katkı sağlamaktadır. Bu bağlamda, tıp eğitimi programında öğrencilerin mesleklerine yönelik motivasyonlarını, hasta-doktor ilişkisi ve tıp mesleğinin doğası ve hizmet boyutuna yönelik olarak hedefler, içerik, öğrenme-öğretme ortamları düzenlenmeli ve öğrencilerin bu yöndeki kazanımları sürekli olarak değerlendirilmelidir.

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