PhD Thesis

THE INFLUENCE OF SOCIALIZATION TO MEDICAL PROFESSION ON THE DEVELOPMENT OF FAMILY AND OCCUPATIONAL ROLES

REGINA MOLNÁR

Szeged

2009

Publications related to the Thesis

I. **Molnár R.,** Molnár P.: Az orvosi pályaszocializáció – ahogyan a hallgatók látják. Lege Artis Medicinae 2002;12(4):250-254.

II. **Molnár R.,** Molnár P.: Az orvosszerepről – a pályaszocializáció tükrében. Mentálhigiéné és Pszichoszomatika 2005;6(2):123 -128.

III. **Molnár R.,** Kapocsi E.: Orvostanhallgatók az orvosi hivatásról. Magyar Bioetikai Szemle 2005;3:122-128.

IV. **Molnár R.:** A gyógyító orvossá válás néhány jellemzője és problémája napjainkban. Háziorvos Továbbképző Szemle 2006;11:588-591.

V. **Molnár R.,** Nyári T., Molnár P.: Remaining in or leaving the profession: the view of medical students. Medical Teacher 2006;28(5)475-477. *Impact factor: 1.229*

VI. **Molnár R.**, Nyári T., Hazag A., Csinády A., Molnár P.: Career choice motivations of medical students and some characteristics of the decision process in Hungary. Central European Journal of Medicine 2008;(3)4:494-502.

VII. **Molnár R.,** Nyári T., Molnár P.: Az orvostanhallgatók pályán maradásra, pályaelhagyásra vonatkozó elképzelései. Orvosi Hetilap 2008;(149)18:843-848.

Other publications cited in the Thesis

1. **Molnár R.,** Feith H.: Szerepkonfliktusok megnyilvánulásai orvosnők körében. Lege Artis Medicinae 2000;10(10):810-815.
2. **Molnár R.,** Török K.: A szerepkonfliktus eredete orvos- és fogorvostanhallgató nők körében. Egészségfejlesztés 2006; 4:24-28.

Presentations related to the subject of the Thesis

1. **Molnár R.**, Feith H.: Orvosnők szerepkonfliktusa. Népegészségügyi Tudományos Társaság IX. Nagygyűlése, Hévíz, 2000.
2. **Molnár R.:** „Milyen a jó orvos?" Orvostanhallgatók pályaszocializációs vizsgálata. Népegészségügyi Tudományos Társaság X. Nagygyűlése, Gyula, 2001.
3. **Molnár R.:** Az orvosi pályaszocializáció. Népegészségügyi Tudományos Társaság XI. Nagygyűlése, Nyíregyháza, 2002. Előadás kivonatok: 58. old.
4. **Molnár R.:** Az orvostanhallgatók pályaválasztási motivációi. III. Magatartástudományi Napok, Debrecen, 2002. Előadás kivonatok: 31. old.
5. **Molnár R.:** Az orvosi pálya elhagyása és a jelenség néhány összefüggése egy szociológiai vizsgálat tükrében. Népegészségügyi Tudományos Társaság XII. Nagygyűlése, Hévíz, 2003. Előadás kivonatok: 43. old.
6. **Molnár R.:** Az orvosi szereppel való azonosulás a pályaszocializáció tükrében. IV. Magatartástudományi Napok, Pécs, 2003. Előadás kivonatok: 25. old.
7. **Molnár R.:** Az orvosi pályakezdés néhány jellemzője. Népegészségügyi Tudományos Társaság XIII. Nagygyűlése, Szekszárd, 2004. Előadás kivonatok: 99. old.
8. **Molnár R.:** Az orvossá válás folyamata néhány jellemző probléma tükrében. "Prevenciós lehetőségek, megküzdés, betegség-feldolgozás, kontroll szerepe a klinikumban." V. Magatartástudományi Napok, Debrecen, 2005.

Contents

Summary

Introduction The profile of the medical profession is recently changing, with a continuous increase of the proportion of woman doctors. Female doctors are in adverse position among graduate women: their health status is worse, they have serious role conflicts between family and work. The problems in medical field are explained with several reasons but the process of becoming a doctor has not been emphasized much in earlier research. Supposedly one part of the problem in adulthood is rooted in professional socialization.

The aim of our first study was described the professional socialization of medical students and found the main point of this process, which could be used in further studies. It was a complex analysis of professional socialization among medical students, taking into consideration their family and financial background, the circumstances and motivations of the carrier choice, the shaping of the medical identity, aspects of finding a job, and future professional plans. We examined the differences according to elements of professional socialization among the student in three respects: 1. Time of decision about medical profession; 2. Professional plans; 3. Gender differences. We wanted to reveal the incidental risk factors in their way of socialization of medical students.

The aim of our second study was to compare the professional socialization among female medical and jurist students (controll group) and searched their attitudes toward professional and family roles, and seeks for the stereotypes in connection with working female doctors and jurists. We also wanted to get an answer whether the later role conflicts could be rooted in the student years spent at the university.

Methods Self-completed questionnaires were used. The first study was carried out in 2002 with 503 students of Medical Faculty of the University of Szeged and of the University of Debrecen. The second study was carried out in 2009 with 214 female medical students and 132 female jurist students of the University of Szeged. Data analysis was performed with the SPSS 15.0 program, with a level of significance of $p<0.05$. Simple descriptive statistics as well as logistical regression and factor analysis were used.

Results Altruistic motivations were the most significant career choice motivations of medical students. Significant differences can be demonstrated in professional socialization

between those identifying with the profession in early childhood and those turning to the profession later.

Depending on whether they want to remain in the profession or want to leave it, medical students were divided into two groups. A significant difference was revealed between the two groups with regard to the strength of their dedication to the profession.

There are some clear-cut differences between male and female students in terms of their career choice motivation: Female students irreversibly decide to study medicine earlier in their childhood on the basis of altruistic motivations. Male students are more strongly influenced by other doctors in the family, they decide by more rational motivations and they are more confident in their career choice. In making their career decision, male student highly value professional advancement, women are more interested in reconciliation of work with family life.

Our results the attitudes of female medical students and female jurist students toward family and profession were surprisingly similar. Despite their aspects a finding a job showed some differences. The jurist students wanted to have a good job that is compatible with the family. While for the medical students family was the first and the characteristics of the workplace were secondary. According to their stereotypes the medical students thought that female doctors are dedicated and helpful which is consistent with the conservative idealized image of a doctor, but they characterized the female as a modern, careerist, competitive lady. The ideas of female jurists' were almost identical to the ideas of medical students about female doctors. Their ideas about female jurists were almost identical having only a tiny difference: they emphasize the professional calling of female jurists that the medical students did not emphasize.

Conclusion Our results point out that the gender differences in medical profession are present from the beginning of the professional socialization. Our findings might add some important information to the understanding of the problems of female doctors, and will point into a new direction in the research of medical profession and the role conflicts of female doctors. We think that our results can be useful for the education, because this is important in continuously shaping the students sense of professional identity. Women should be better supported in the course of academic studies and later.

1. Introduction

Before the political changes in Hungary, *medicine was a profession of the highest prestige*, guaranteeing emergence and progress in society. As befitted the profession's disproportionate idealisation the characteristics of medical schools included overapplication for university places and the fact that medical school had to be finished at all costs since dropping out meant an enormous disappointment, loss and break in one's life. Another factor contributing to this process was the situation that in the socialist system of economy the medical profession had no 'fire exit'. There was little possibility to make use of medical knowledge outside the sphere of health care (Buda, 1994).

After the fundamental political changes (1990) the socio-economic circumstances considerably changed providing *new opportunities for those with a medical degree.*

Finding a position on the Hungarian labour market for those with a medical degree is almost guaranteed. It is relatively easy for doctors to become medical sales representative or to work in pharmaceutical promotion. Hungary's joining the EU should make it easy for Hungarian doctors to gain employment abroad. Consequently, Hungarian Health Care System must face new challenges and prepare for a more severe shortage of doctors in some specialities.

These changing circumstances in medical field are not only typical to Hungary. In the United States, Japan, France and the Czech Republic the overproduction of doctors was apparent as early as the 1990s, forcing many doctors into alternative careers in the pharmaceutical industry, biotechnology or the business sphere (Konner, 1998).

Insecurity and unavoidable overwork also lead many doctors to seek new less stressful positions (Fraker, 1998). Norwegian doctors are less satisfied with their kife, than an educationally age-matched group of the general population (Tyssen *el al.,* 2009).

An American study of medical students with the best scholastic results has indicated that a 'controllable lifestyle', the control one has over working hours, is an important, new criterion in the selection of a specialisation (Schwartz, 1989). Controllable lifestyle is strongly associated with the recent trends in specialty choice for both women and men and could not be explained solely by the sprecialty preferences of women (Dorsey *et al.,* 2005).

The unavoidable overwork, the dissatisfaction with patient care, the low pay, the unflexible working hours became typical in more European countries (Richmond, 1993; Beedham, 1996, Douglas & McCann, 1996) as well as the disillusioned and stressful positions (Paice, 1997). As a consequence of the growth of the market and economic sphere and the extension of higher education, overapplication to attend medical universities ceased and the entry point criteria were lowered.

In parallel, the continuous reform of university education opened up doors to the development of medical knowledge in new directions. We have only to think of the increasing number of medical lawyers, and the new possibilities for profiting from medical knowledge outside the curative field, i.e. the benefits of leaving the profession. Nowadays, the secularisation of the medical profession is increasing, their monopol status with high prestige and autonomy reduced (Sági, 2002).

These features indicate, that the changes relating to the medical profession and its attributes have been accompanied by a loss of prestige of medical work, with the realisation that advancement may be faster in other lines of work (Csabai & Bartha 2000; Molnár *et al.,* 2003).

The profil of the medical profession is recently changing, with a *continuous increase on the proportion of female doctors* (Allan, 2005).

Several hungarian and foreign studies analysed the position of female doctors, which pointed out that, *they are in adverse position among general female population and graduate women.* Their health status is worse, they have more chronic diseases, they are often prone to depression, they have some different pathological problems during pregnancy, their risk of suicide is higher (Molnár & Mezei, 1991; Roger, 2001; Ádám & Győrffy, 2003; Győrffy & Ádám, 2003; Győrffy & Ádám 2004a; Győrffy & Ádám 2004b; Győrffy *et al.,* 2005; Forde & Aasland 2008).

The problems in medical field are explained with several reasons: the characteristics of the medical profession, overwork, unhealthy lifestyle, adverse living conditions, missing help, work with seriously ill, and they have serious role conflicts between family and work than the male doctors and the other non-doctor graduated women (Ádám & Győrffy, 2003; Győrffy & Ádám 2004b; Hegedűs *et al.,* 2004).

Our previous study – which carried out among female doctors of the University of Szeged – confirmed that, harmonising the family and the medical work means a specific trouble, which can risk their well being (Molnár & Feith, 2000). Another of our studies – which compared the female medical students to female dental students – showed that the professional socialization of female medical students have more riskfactor (Molnár & Török, 2006).

So far the process of becoming a doctor has not been emphasized much in research. Supposedly one part of the problem in adulthhood is rooted in professional socialization. Several more studies carried out in Hungary concerned the professional socialization of medical students, but there were no complex studies (Bánlaky *et al.,* 1981; Csabai & Bartha, 2000; Sági, 2002).

1.1. Aim of the study

We wanted to get an answer whether the later role conflicts could be rooted in the student years spent at the university. This main aim of the study was carried out with two research.

The aim of our first study was described the professional socialization of medical students and found the main point of this process, which could be used in further studies. It was *a complex analysis of professional socialization*, taking into consideration:

- the origin of the students and their familial background;
- the circumstances of their career choice;
- the motivations behind their choice of this profession;
- the shaping of the medical identity;
- future professional plans and ideas;
- opinions about theirs future professional and familiar roles;
- indicators of financial status.

We wanted to reveal the incidental risk factors in their way of socialization of medical students. The secondary aim of this study was examine *the differences according to elements of professional socialization among the students in three respects:*

- between the ones who decided irreversibly to become a doctor before the age of 14 and the ones decided irreversibly later;
- between possible career leavers and career stayers (on the basis of their opinion);
- between female and male medical students.

The aim of our second study *was given more exact analysis of professional socialization of female medical students.* In virtue of the results of the first study, called controllgroup (female jurist students) and psychological methodology:

- their attitudes about professional and familiar roles;
- their stereotypes about female medical doctors and female jurist.

We compared the professional socialization among female medical and jurist students and searched their attitudes toward professional and family roles, and seeks for the stereotypes in connection with working female doctors and jurists.

The professional socialization of female medical students was analysed to know, how they provide for their professional and familiar roles. We also wanted to get an answer whether the later role conflicts could be rooted in the student years spent at the university.
The incidental risk factors in their way of socialization were analysed. These factors later can cause role conflicts and respectively enhance the conflict, which can conduct to bad health status.

2. Literature

2. 1. The definition of socialization

The term – socialization – is interdisciplinar, used from the end of 19. century, by sociologists, social psychologists, and educationalists and refers to the learning social roles. Socialization designates the processes by which people selectivly acquire the values and attitudes, the interest, skills and knowledge, in short, the culture-current in the groups which they are, or seek to become, a member (Merton *et al.,* 1957; Clausen, 1968; Hurrelmann, 1994; Somlai, 1997).

On one hand, it prepares the individual for the roles he/she is to play, providing him/her with the necessary repertoire of habits, beliefs, and values, the appropriate patterns of emotional response and the modes of perception, the requisite skills and knowledge. On other hand, by communicating the contents of culture from one generation to the other, it provides for its persistence and continuity (Chinoy, 1961).

Primary socialization occurs when a child learns the attitudes, values, and actions appropriate to individuals as members of a particular culture. The most important stage of primary socialization is the family (Novak, 1994).

Secondary socialization refers to the process of learning what is appropriate behaviour as a member of a smaller group within the larger society. It is usually associated with teenagers and adults, and involves smaller changes than those occurring in primary socialization (eg. entering a new profession), relocating to a new environment or society. This process happens in the school (Novak, 1994).

2.2. Professional socialization

The professional socialization of medical students and the medical profession have long been an important topic in medical sociology (Merton *et al.,* 1957; Becker et al., 1961; Cockerham, 1995; Konner, 1996; Beagan, 2001; Molnár & Kapocsi, 2005). Merton and his colleagues (1957) defined the notion of professional socialization as a process through which the medical students develop their professional self, with its characteristic values, attitudes, knowledge, and skills, fusing these into a more or less consistent set of dispositions which

govern his behaviour in a wide variety of professional situations. Socialization takes place primarily through social interaction with people who are significant for the individual in the medical school, probably with faculty members above most others, but importantly also with fellow-students, with the complement of associated personnel (nurses, technicians, etc.) and with patients (Merton *et al.,* 1957; Novak, 1994).

In an other aspect the socialization to the medical students refers to the processes through which medical students are being inducted into the professional culture of medicine (Merton *et al.,* 1957; Novak, 1994). It means a process when the medical students get familiar and try to identify themselves with the special values of the society of doctors, rules of conduct and set of roles (Sági, 1987). When students enter medical school they are lay people with some science background. When they leave five or six years later they have become physicians; they have acquired specialized knowledge and taken on a new identity of medical profession (Beagan, 2001). In this process have very important role of reference groups: the doctors, the teachers, the nurses, elder students, patients, etc. Their behaviour is a standard for the students (Sági, 2006).

This process consists of two parts: *direct and indirect socialization.* In direct socialization (formal curriculum) the teachers speak about the doctors' behaviour, they teach the students how must behave with the patient. But the indirect socialization (overt/hidden curriculum) is more effective, outside the formal curriculum it has some methods (the special subject-structure, time and ground organization, white coat ceremony, special professional language, special practicals) to develop or form the students' personality. These things transmit the dominant values and norms for the students and they acquire the doctors behaviour (Bánfalvy, 2003, Aultman, 2005; Sági, 2006).

In hidden curriculum there are some forces acting on medical students, with potential transforming effects. These forces include high external expectations and internal fear of superficial knowledge and skills, entry into the culture of medicine with its insider jargon and hierarchy, high academic workload, and the emotional burdens of confronting cadavers and death as well as bearing witness to patients' suffering. Potential developmental delay, emergence of substance abuse and hedonic acting out, cynism, and loss of individual core values are possible consequences. Protections against these adverse outcomes include identification of strong mentors and role models, developing post-conventional morality and

relativistic thinking, finding healthy coping strategies such as peer support, and remaining intellectually creative and personally reflective (Cohen *et al.,* 2009).

There is *gendered hidden curriculum* in medical socialization. Students enter medical school with their own specific view of the ideal doctor. Historical portrayals, anecdotes, media icons and personal experiences certainly contribute to their perceptions. Students have heroic images, they present gendered ideals of Supermen and Nightingales. The old icon of a doctor is male, based on Hippocrates and surgeons. Men are depicted as skilled, decisive and effective. According to the cultural idealization of femininity, woman are expected to be relation-oriented and like Florence Nightingale to put the interest of other first, at works as well as in family settings. These expecations obviously persist and are imposed on the new generation (Johansson & Hamberg, 2007).

The professional socialization have an effect of the students career choice preferences too. According to a Hungarian study, the major part of the residents would like to work in Budapest or other municipal cities. The majority of young MDs would primary work in teaching hospitals or priority hospitals. The training system of the universities, as well as the hospital practices socialize MDs to live in cities and work in central hospitals (Girasek *el al.,* 2009).

2.3. Empirical studies refer to the profossional socialization of medical students

Some research tried to show, what happens with the student at the university. The professional socialization has some aspects in empirical studies.

The first phase of becoming a doctor is realised in the *first thoughts towards medical profession* and the *date of the final decision.* Although most of the students do not decide to become a doctor in their childhood, the ones who do are more dedicated. Merton *et al.* (1957) described such people as 'born with a stethoscope in their ear', who thought of becoming a doctor while they were under the age of 10; who may be supposed to appear as 'eternal' medical students during the training, despite the different, constantly changing social and economic circumstances (Merton *et al.,* 1957).

The reason and *motivations* given by many medical students for choosing a career in medicine has been generally that of wanting „to help people". Becker and his associates

(1961) found that first-year medical students had idealistic long-range perspectives about why they had selected medicine as a career. These perspectives were summarised as follows:

- medicine is the best of all professions;
- when we begin to practice, we want to help people, have enjoyable, satisfying work while upholdind medical ideas. We want to earn enough money to lead comfortable lives, but this is not our primary concern (Becker *et al.,* 1961).

There are several researches regarding the motivations and hopes of the students and these show that, the most common motivations are allways altruistic, the students want to help others (Merton *et al.,* 1957; Bánlaky *et al.,* 1981; Fields & Toffler, 1993; Vaglum *et al.,* 1999; Csabai & Bartha, 2000; Crossley & Mubarik, 2002; Prka *et al.,* 2002; Niemi *et al.,* 2003).

Motivations also influence their professional socialization, having a pivotal effect on their satisfaction with the profession (Hyppölä *et al.,* 1998). This attitude does not change significantly at the university. A rather high incidence of students' altruistic wishes seemed to remain constant throughout their studies (Pertie *et al.,* 1999; Prka *et al.,* 2002).

A too early decision may lead to an inability to identify with the medical role and professional burning out. An understanding of the circumstances of the career choice and the motivations of university applicants and the effects on career socialization can therefore be useful information towards the modernisation of medical university training, which has changed little in the past few decades despite the above mention tendencies (Buda, 1994; Csabai & Bartha, 2000; Molnár *et al.,* 2003).

The extended scale of possibilities, advantages and disadvantages expected from earning a medical diploma, may well influence their motivation to choose this career and also professional socialization. Career choice motivations involve identifying with the values offered at the university, choosing a specialisation and a place of work, and ultimately, the learning strategy. However, an early career choice, identifying with overtly idealised roles, may reinforce the conflicting characteristics of being a medical doctor (Merton *et al.,* 1957; Csabai & Bartha, 2000; Molnár *et al.,* 2003).

Some study research the *social background* of the students: In 1993 six percents of the finnish medical students' father and two percents' mother was doctor (Hyppölä *et al.,* 1998). In the UK the number of parents medically qualified was 6.16% in the Cardiff student sample,

18.1% in the Dundee, 9.18% in the Sheffield and 4.55% int he Southampton medical student sample (Huckle & McGuffin, 1991).

There are some research, which studing *the development of medical identity and professional roles.* According to our results, it can be stated that, the students' conceptions about their future medical role is a problem. The most significant feature of students' opinions about the physician's role is that they consider the practical experience, sufficient abilities to communicate with their clients and their theoretical knowledge most important for their future effective professional activities. At the same time, they feel to be prepared for the proper communication with patients, for learning about the patients' psychological/behavioural characteristics and social status as well as in the area of general theoretical knowledge. (Molnár & Molnár, 2005).

The most common 'hopes' among medical students are to provide personal care and develop relationships with patients, to attain self-fulfilment, and to enjoy the personal challenge and variety of medicine. Common 'concern' are family issues, outside intervention into medicine, and loss of self (Fields & Toffler, 1993). They become at the university more cynical, are more concerned for patients and more helpful during medical education (Wolf *et al.,* 1989). A total of respondents among finnish medical students would enter medicine again (Hyppölä *et al.,* 1998). Feelings of anxiety and stress as well as fear of humiliation in the hospital culture is common (Pitkala & Mantyranta, 2003).

2.4. Gender differences among medical students and doctors

The profile of the medical profession is recently changing, with a continuous increase of the proportion of woman doctors (Allen, 2005). In the 1970s only about 10 percent of all first-year medical students were female; in 1900s 40 percent represents a significant increase for females (Cockerham, 1995).

There are some gender differences also within the medical profession: More women than man were influenced quite a lot by factors like interest in people, success at school and vocation, meaning the lifelong calling to physicians' profession (Hyppölä *et al.,* 1998). The professional identity may "fit" less easily when students are women, older, working-class, gay or lesbian, or from visible minority groups (Beagan, 2001). Female students are more likely

than males to make altruistic wishes (Petrie *et al.,* 1991). The doctors especially female ones to prone to disease and suicide, because they feel more deep emotional reaction (Arnetz *et al.,* 1987).Female graduates scored higher on traits such as helpfulness, relationship consciousness, empathy, family responsibility and job security and female was desillusioned by the daily routine at the hospital (Buddeberg *et al.,* 2002). They have higher empathy scores and they are less confident than male students (Hojat *et al.,* 2002; Blanch *et al.,* 2008).

Career preferences: While men's decision is based on rational considerations on their probable future "earnings", women's choice of career may reflect their desire to try to balance their domestic and occupational roles (Gjerberg, 2001). In their career choice women rate both interest and flexibility highly (Lawrence *et al.,* 2003). It is also evident, that the number of students pursuing a "lifestyle-friendly" speciality has increased substantially over the last two decades, especially among women.

Regarding career wishes male students showed more optimistic attitudes, while females suppressed their career wishes in prospect of a spouse and/or family (Buddeberg *et al.,* 2002). Interest, flexibility, women friendliness and job security were rated more highly than the others (Lawrence *et al.,* 2003).

Specialisation: Doctors' choice of speciality has been strongly gender-specified, women have been under-represented both in the higher positions in the medical hierarchy and in certain medical specialities (Simon, 1997; Bickel, 2000; Gjerberg 2001; Riska, 2001). They tend to choose primary care fields and rarely enter surgery, they are paid less and are less likely to be self-employed, and they are underrepresented in position of authority within medical organizations and in academia (Johansson & Hamberg, 2007).

Stress, depression: There are gender differences not only among doctors, but among students too. Female students score more highly for stress and are also more depressed. The possible reasons for this phenomenon: worries about not being able to master the pool of knowledge, worries over workload and the expected stress in their future profession (Dahlin *et al.,* 2005; Searle, 2001). These female doctors experienced more stress that their male colleagues related to ethical dilemmas (Forde & Aasland, 2008). Women consultants stressed the importance of time management in their lives. Apart form the general crisis in medicine, women also consider it important to stress, that their career will be more difficult as they also have to meet the demand of family roles (Allen, 2005).

3. Materials and methods

3.1. Design, setting and participants

3.1.1. First study

As the first step of our research, we carried out twenty qualitative in-depth interviews the results of which were made use of to pinpoint the main objectives of the first study (Molnár & Molnár, 2002).

Data collection took place in 2002 at two Medical Faculties in Debrecen and Szeged, among second to sixth-year students. First-year students were omitted from the research because the pilot study revealed their lack of experience preventing them from responding to numerous question areas relevant to career socialization, such as those regarding training, the doctor's role, behavioural science subjects and leaving the profession.

The total population of second to sixth–year students at the two Medical Faculties was 1565 (829 in Debrecen, 736 in Szeged).

Every second person in total population was involved in the sample. 503 valid questionnaires were returned. The response rate was 64.2%. The sample was representative of the overall student population according to gender and year of study. 34.2% of the sample were men and 65.8% were women.

In the sample second-year students were 19.4%, third-year 18.7%, fourth-year 19.9%, fifth-year 20.5%, and sixth year 21.5% (Table 1).

Table 1 Distribution of the total population and the sample by gender and university

Gender	Univ. of Debrecen		Univ. of Szeged		Total population n/%	Total sample n/%
	Total n/%	Sample n/%	Total n/%	Sample n/%		
Male	349/42.0	89/34.8	293/39.8	83/33.6	642/41.0	172/34.2
Female	480/58.0	167/65.2	443/60.2	164/66.4	923/59.0	331/65.8
Total	829/100	256/100	736/100	247/100	1565/100	503/100

3.1.2. Second study

Data collection took place in 2009 at University of Szeged, among female first-, second- and fifth-years medical and jurist students.

The total population of the medical students of first to sixth year students was 1123; 668 female (59.5%) and 455 male students (40.5%).

The total population of the jurist student of first to fifth year-students was 1222 (100%): 749 female (61,3%) and 473 male students (38,7%). At the University of Szeged, Faculty of Jure are registered only total data about students because of credit system, so we did not know the female proportion by year.

The total population of the female medical students of first, second and fifth year was 347 (100%): 14% first year, 23% second year and fifth year 15%.

In the sample of female medical student (100%=214) are first-year student 30.4%, second-year 43.0%, fifth-year 26.6%. In the sample of female jurist student (100%=132) are first-year students 52.3% second-year 31.8%, fifth-year 15.9%.

3.2. Data description

A self-completed questionnaire was used in both studies. Those question, of which in first study the first year - students could not answer were eliminated in second study.

The questionnaire consisted of the following topic and main questions:

1. Family background and circumstances

- educational qualifications and occupations of the parents and grandparents;
- whether were others with medical qualifications in the family.

2. The process of career choice[1]

- when she/he thought first about medical profession;
- when she/he decided irreversibly to become a doctor,

3. Career choice motivations

Becoming a doctor is characterised by heterogeneous motivations; these were presented to the respondents in the 13 categories below students noted on a five-grade scale (1 – it was not important at all,; 2 - it was not important; 3 – it was somewhat important; 4 – it was important; 5 – it was very important) the extent of the role played by the given motivational factor in choosing the medical profession (Merton *et al.,* 1957; Bánlaky *et al.,* 1981; Powell *et al.,* 1987; Hyppölä *et al.,* 1998;. Vaglum et al., 1999; Csabai & Bartha, 2000; Crossley & Mubarik, 2002).

- *Helping profession:* 'Being able to choose a helping profession appealed to me';
- *Possibilities:* 'The possibilities offered by the medical field appealed to me';
- *Entrance subjects:* 'I decided on the basis of the application subjects';
- *School grades:* 'It was obvious because of my previous school achievements';
- *High prestige:* 'I was drawn by the high prestige of the medical profession.';
- *Well-paying profession:* 'It is a well-paid profession';
- *Influence of the family:* 'The influence of my medical acquaintances and family'
- *Medical example:* 'Doctors have the power to influence as idols';
- *The only known profession:* 'It is the only profession I really knew';
- *Aptness:* 'I felt that I was suited for this profession';
- *Books, films:* 'The influence of books, films, etc';
- *Working with people:* 'I wanted to work with people';
- *Own Illness:* 'The influence of my own illness'.

[1] We decided to take into consideration the decisions made before the age of 14. The reason for this was that even though there are several forms of education in Hungary most typically those, who later on apply for Medical University study in Secondary Schools that last for 4 years after they finished their elementary education. So it can be important that those who know their long-term aims should choose a High School where they are specially prepared for the entrance exam (Merton *et al.,* 1957; Bánlaky *et al.*, 1981).

Influence of social-economic changes from 2002 two new motivations were used:

- *Working abroad*: 'The possibility of working abroad as a doctor in appealed to me';
- *Other possibilities:* 'I was attracted by the possibilities, other than being a doctor, available with a degree in medicine.

4. Medical identity

- whether doubts had arisen about the correctness of their choice since their decision to become doctors;
- whether they had ever thought about dropping out of medical school;
- whether they would choose a medical career if they were to start a new (Csabai & Bartha 2000).

5. Aspects of finding a job

We analysed the students' expectations of their prospective place of employment by asking them to rate the importance of the five categories on a scale of 1-5 (1 – it is not important at all; 2 – it is not important; 3 – it is somewhat important; 4 – it is important; 5 – it is very important) of good salary, professional advancement, characteristics of the work–place, characteristics of the town, reconciliation of work with family at the beginning of their career.

6. Professional plans

- whether they were participating in any other training besides at the medical university;
- whether, given that they had chosen medical work, they had entertained ideas of participating in other money-earning activities on the side;
- whether they planned to undertake further training in the field of medicine or in other professions.

7. Sociodemographic factors, indicators of financial status

- gender, academic year;

- the financial circumstances of the students and their families (whether the student owned a flat or a car, whether or not he/she was working or had worked while at university, and whether it was a problem to meet the financial demands of his or her studies).

Two new groups of questions were added to the new questionnaire:

8. Attitudes

Students could express their opinion on a scale of 1-5 (1 – I do not agree at all, 5 – I agree completely) regarding the following 15 attitudes in connection with woman doctors and jurists and their role in the family and profession:

- Women with children are not suited for a job as a doctor;
- Career is the most important thing in your life;
- Only one member of a married couple can build a career;
- Women are not suited for working as jurists;
- A woman must choose between career and family;
- I would renounce career for a family anytime;
- Everything must be submitted to career;
- A woman is to bring up children and care about the family;
- Career, bringing up children and family get along together;
- Women with children are not suited for working as jurists;
- Chores in the family must be shared out in a way to allow as much time for succeeding in career as possible;
- Career is always to the detriment of family life;
- Family is the most important thing in life;
- Workload must be reduced to allow as much time for the family as possible;
- A woman is not suited for the medical profession.

9. Stereotypes

The adjectives used in the questionnaire were obtained from two sources. On one hand, the ones that we found suitable for testing the stereotypes regarding woman doctors and jurists were taken from the studies comparing nations carried out by Hunyady György (Hunyady, 1996; Hunyady, 1997; Hunyady, 2001; Hunyady & Nguyen, 2001).

On other hand, we asked twenty female medical students to write a composition about what they thought they would be like in ten years' time. From the two sources 70 adjectives were drawn altogether. Then, by involving twenty female medical students we had test-questionnaires filled out, and asked the students to choose which features from the 70 they had listed, characterized a woman doctor and jurist already at work. Having done this testing, we kept the 43 adjectives that had shown a greater difference concerning woman doctors and jurists. Students could characterised the working female doctor and female jurist along the following stereotypes:

- single, married, divorced, childless, has children,
- ambitious, a careerist, aggressive, dominant, manly,
- has a sense of vocation, altruistic, dedicated, committed to others, helpful,
- well paid, has a strong financial background, rich, materialistic,
- competitive, characterized by stamina, honest, nice, friendly, fair,
- family centered, a good mother, superwoman, a good organizer,
- loveable, understanding, has empathy, philanthropic,
- humorous, frank, tired, prone to depression, overburdened,
- disadvantaged in career, hedonistic, enjoys life, likeable, egotistical.

3. 3. Statistical analysis

Data analysis was performed with the SPSS 15.0 program, with a level of significance of $p<0.05$. Simple descriptive statistics as well as logistical regression and factor analysis were used. (The Cronbach-alfa were 0,441-0,628). On the basis of their explanatory power, 11 of the 13 categories were suitable for factor analysis. The factor model explained 48.8% of the total variance.

The Human Investigation Review Board proposed our research:

Human Investigation Review Board University of Debrecen (1193/2002). Human Investigation Review Board Albert Szent-Györgyi Clinical Centre University of Szeged (10/2001; 108/2008).

4. Results

4.1. The characterisation of ptrofessional socialization of medical students

We describe below the main characteristic of the professional socialization of medical student, by our first study.

Family background and circumstances

68.0% of the students had at least one parent with university degree, 31% had at least one parent with a secondary school education, and 1% of the respondents had parents with only elementary school educational background. 14.5 % of the students had fathers, 10.8% had mothers, 6.6% had at least one grandparent who were doctors, 32.4% had at least one relative other than a parent or a grandparent in the medical profession.

The process of carreer choice

A majority of the respondents (56.8%) thought of becoming a doctor before the age of 14; 40.7% thought of it in Secondary School, and 2.5% did so after the school-leaving exams. Most students 69.2% decided irreversibly to become a doctor while in secondary school, 18.7% decided before the age of 14, and 12.1% did so after the school-leaving exam.

Career choice motivations

Our results showed that, tha altruistic motivation were the most important for the students, when they choosed the medical profession. Figure 1 shows the importance of the motivations, ranked according to the mean scores.

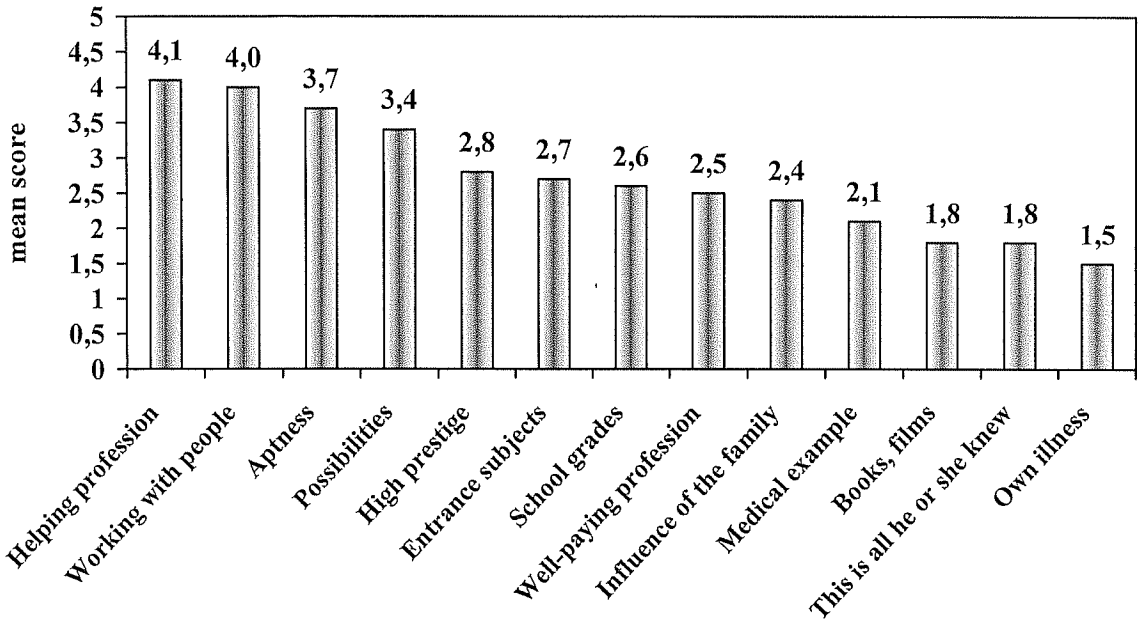

Figure 1 Carrer choice motivation of medical students (n=503)

A more detailed description of the association between the motivations is presented in Table 2.

Table 2 Most characteristic factors of medical career choice motivations (n = 503)

Factors	Factor loading	Variance explained
Factor 1 ("careerism")		**21.21%**
Entrance subjects	0.64	
School grades	0.65	
High prestige	0.67	
Well-paying profession	0.59	
Books, filmes	0.44	
Factor 2 ("altruism")		**16.21%**
Helping profession	0.66	
Aptness	0.54	
Working with people	0.76	
Own illness	0.44	
Factor 3 ("idealism")		**11.38%**
Medical example	0.74	
This is all he or she knew of	0.76	

Factor 1. The first factor of motivations includes good school results, and orientation towards the natural sciences project the image of a well-paid job with high social prestige to be undertaken in the future. *Factor 2.* A further significant factor of motivations is made up by the traditional motivations for choosing the medical profession; the 'calling' to help others, and feeling suited to this. *Factor 3.* Considerations suggesting motivations to follow the example of an idealised medical profession comprise a separate factor (Molnár *et al.,* 2008b).

Medical identity

21.1% of the students had had serious doubts during their studies about the correctness of their choice of career that they had made, 22.9% had thought of quitting the university school; 77.9% would apply to medical university again if they had to make a career choice.

Aspects of finding a job

The factors are in importantce order: Reconciliation of work with family (a mean score 4.49), characteristics of the work (4.31), characteristics of the town (3.87), a good salary (3.78), and professional advancement (3.76).

Professional planes

57.5% of the students feel sure that they will remain in the profession. 42.5% represented those students who were not sure if they would work as doctors in the future. 26.3% of the students had participated in some other form of training during university. Most often they had developed their language skills on the university professional translating course or obtained the qualification of ambulance officer. 61.8% planned to participate in some form of further training. 37.8% of the students planned to participate in some form of supplementary financial activity while working as a doctor.

Iindicators of financial status

22.1% of the students had own flat, 7.2% owned car. 31.9% had done some kind of financial activity during university and meeting the financial demands of their studies was a serious problem for 11.6% .

4. 2. The most significant differences between students in their professional socialisation

In follow chapter we describe the main differences according to elements of professional socialization among the medical students.

The process of carreer choice

We devided the students into two groups. Table 3 show some differences of the process of career choice motivations by first thinking of medical profession.

Table 3 The most significant differences between the students based on their age of having thought of medical profession first (n=484)

Important factors	The ones who thought of becoming a doctor before the age of 14 (n= 275 = 100%)	The ones who thought of becoming a doctor after the age of 14 (n=209 =100%)
Family background (there is at least one doctor in his/her family)*	**37.45%**	25.83%
Family background (his / her father is a doctor)**	**16.00%**	10.52%
Family background (among grandparents there is at least one doctor) *	**10.18%**	1.43%
Motivation (it was important for the respondent to feel suited to this profession)*	**72.36%**	55.02%
Motivation (what the entrance subjects were not important) *	**46.90%**	36.84%
Motivation (it was important for the respondent a medical example) *	**28.36%**	17.22%
Medical identity (he or she never thought of another profession) *	**49.81%**	27.75%
Professional planes (professional advancement will be important in getting a job in the future) *	**73.45%**	56.93%

*p <.,005; **p<0.05

Those who thought of becoming doctors before age of 14 (56.8%) differed from their peers in numerous typical aspects with regard to professional socialisation. This manifested itself concerning their motivations: they felt themselves more suitable, they did not decide on the subjects involved in the application and they were more influenced by doctors around them, especially that they more commonly had doctors in their family. Table 4 characterise the differences between students by the date of final decision.

Table 4 The most significant differences between the students regarding the date of the final decision (n=503)

Important factors	The ones who decided irreversibly to become a doctor before the age of 14 (n=94 = 100%)	The ones who decided irreversibly to become a doctor after the age of 14 (n=409 =100%)
Motivation (it was important for the respondent to feel suited to this profession) *	81.91%	60.63%
Motivation (what the entrance subjects were not important) *	64.89%)	(37.65%)
Medical identity (never had a serious doubt about the correctness of the decision) *	90.42%	76.28%
Medical identity (he or she never thought of another profession) *	72.34%	32.76%
Professional planes (professional advancement will be important in getting a job in the future) *	80.85%	62.83%
Professional planes (he or she is sure to work as a doctor) *	73.40%	53.78%

*p <0.005 **p<0.05

The ones, who decided irreversibly become a doctor before age 14 (18.7%) differed from others, who decided later, in numerous ways in their professional socialisation. They felt themselves more suitable and they did not decide on the subjects involved in the application and took rarely private tutorials for the admission exam. They never thought of another profession,and had never a serious doubt about the correctness of the decision, and sure to work as a doctor, and professional advancement will be important in getting a job in the future (Molnár *et al.*, 2008b).

Professional plans

In Table 5 and in Table 6 are describe the most important characteristic among students, according to their preliminary conpeptions.

Table 5 The most important differences between career stayers and possible career leavers (n=503)

Important factors	Career stayers n=289= 100%	Possible career leavers n=214=100%
Motivation for career choice* (it was important for the respondent to feel suited for this profession).	**71.3%**	55,6%
Motivation for career choice* (the nature of the entrance subject was unimportant).	**47.8%**	36%
Motivation for career choice* (choosing a helping career was important).	**77.8%**	65,4%
Medical identity* (did not want to quit the university).	**84.8%**	66,8%
Medical identity* (never had a serious doubt about the correctness of the career chosen).	**87.2%**	67,8
Medical identity: Vocation* (would choose the profession again if faced with the same choice).	**84.4%**	63,6%
Medical identity: Optimism* (did not want to engage in any activity to supplement the income from medical work).	**70.6%**	45,3%

*p <0.005

Table 6 The cumulative effect of factors influencing remaining in the profession or leaving it (n=469)

Important factors	No.	Exp (B)	CI (95%)	p- value
Motivation for career choice				
Important for the career choice	307	1.2763	0.6219-2.6192	0.5999
Somewhat important	105		0.7264-2,7039	
Unimportant	57		1.0	
Motivation for career choice				
The application subject was important for the career choice	142	1.8874	1.1672-3.0518	0.0208
Somewhat important	127		0.6657-1.9270	
Unimportant	200		1.0	
Motivation for career choice				
Important for the career choice	339	0.8332	0.737-1.8580	0.1040
Somewhat important	84		1.7027-2.9580	
Unimportant	46		1.0	
Medical identity				
Never thought of quitting university	365	1.5582	0.9369-2.5916	0.0875
Thought of it	104		1.0	
Medical identity				
Never had a serious doubt about the correctness of the career chosen	371	1.8569	1.289-3.3511	0.0399
Had serious doubts	98		1,0	
Medical identity				
Would choose the university again	364	1.8280	1.0333-3.2341	0.0382
Would not choose the university again	105		1.0	
Medical identity				
Wanted to engage in some activity to supplement the income from medical work	180	2.7080	1.7954-4.0844	0.0001
Did not want to	289		1.0	

There was a difference regarding the beginning of their career socialization for some motivations. The 'career stayers' feeled themself often suited for this profession, the nature of the entrance subjects and was unimportant for their and they wanted choose a helping

profession. They were more confident than the 'possible career leavers', had never serious dobt about the correctness of career chosen and they did want not to quit the university. Throughout their studies they were optimistic, they did not want to participate in activities to supplement their income while working as doctors

A larger proportion of the 'carrier stayers' thought that they would not take any extra work besides their residency; than the 'possible career leavers', were more likely to think that they would need some supplementary income if they become residents.

In assessing the differences between the two groups, we may say that, as regards remaining in the chosen career, the effects of career choice motivations tend to become weaker, whereas the effects of factors indicating a sense of vocation for the career tend to become stronger. The greatest difference was that 'the career stayers' did not want to participate in activities to supplement their income while working as doctors (Molnár *et al.*, 2006; Molnár *et al.*, 2008a).

Gender differences

There are some differences between male and female students in terms of their professional socialization. Female students irreversibly decide to study medicine earlier in their childhood and they made their choice according to altruistic motivations, it was important to choose a helping profession and working with people. The male students are motivated by the following rational factors: the high social prestige of medical profession, the fact, that it is a well-paid profession and they were influenced by their family members and other acquaintances. Their family background had a stronger effect: male students' parents often have university degrees, their parents and grandparents are often doctors themselves.

Male are more confident in their career choice, female students had more serious doubts about the correctness of this decision during their university years. In making their career decision, male student highly value professional advancement, they are more confident to work as a doctor, the professional advancement is important for them, further, they do not want to be engaged in any activity to supplement their income from medical work. Women are more interested in reconciliation of work with family life. Table 7 show the most important differences between female and male medical students.

Table 7 Gender differences among medical students (n=503)

Important factors	Female 331=100%	Male 172=100%
Motivation (it was important to choose a helping profession)*	**87.6%**	72.6%
Motivation (it was important to work with people)*	**79.7%**	58.7%
Motivation (the high social prestige of the medical profession was important)*	24.7%	**44.1%**
Motivation (the medical profession is a well-paid job, it was important)*	14.1%	**30.8%**
Motivation (a medical example was important)**	13.2%	**31.9%**
Medical identity (he/she never had a serious doubt about the correctness of the decision)**	**20.2%**	56.9%
One of his / her parents is a doctor*	13.5%	**24.4%**
Highest education of the parents is university degree**	64.3%	**73.8%**
Among grandparents there is at least one doctor**	16.0%	**25.5%**
The ones who decided irreversibly to become a doctor after the age of 14**	**20.8%**	14.5%
Professional planes (professional advancement will be important to get a job in the future)**	63.4%	**71.5%**
Medical identity (he/she is sure to work as a doctor)**	39.8%	**47.6%**
Professional plans (he/she did not want to engage in any activity to supplement the income from medical work)**	32.9%	**43.0%**
Professional plans The reconciliation of work with family at the beginning of their career is important	**90.9%**	84.8%

*p<0.005 ;**p<0.05

4. 3. Differences between female medical and jurist student in their professional socialization

In this chapter we describe the differences between female medical and jurist students in their professional socialization.

Family background and circumstances

Medical student

70,4% of the students had at least one parent with university degree, 28.1% had at least one parent with a secondary school education and 1.5% of the respondents had parents with only elementary school educational background.11.7 % of the students had fathers, 8.9% had mothers, 33.3% had at least one relative other than a parent or a grandparent in the medical profession.

Jurist students

71.2% of the students had at least one parent with university degree, 28.8% had at least one parent with a secondary school educational.

9.0% of the students had fathers, 3.0% had mothers, 31.0% had at least one relative other than a parent or a grandparent in the medical profession.

The process of carreer choice

Medical student

A majority of the respondents (53.1%) thought of becoming a doctor before the age of 14. and 22.9% decided irreversibly to become a doctor before the age of 14.

Jurist student

30.4% thought of becoming a jurist before the age of 14 and 6.1% decided irreversibly to be a jurist before the age of 14.

Career choice motivations

We compared the students' career choice motivations. Table 8 show the characterise

Table 8 Career choice motivations among female medical and jurist students

Female medical students	Mean score	Female jurist students	Mean score
Helping profession	4,26	Well-paying profession	4,03
Working with people	4,1	The numerous possibilities offered by judiciary field	3,98
Aptness	3,94	High prestige	3,79
The numerous possibilities offered by medical field	3,78	Posibilities with a jure diploma	3,59
High prestige	2,99	School grades	3,51
School grades	2,84	Aptness	3,47
Working abroad	2,76	Helping profession	3,17
Entrance subjects	2,76	Working with people	3,17
Well-paying profession	2,66	Entrance subjects	3,15
Medical example	2,57	Working abroad	2,97
Posibilities with a medical diploma	2,21	Influence of my family/ friends	2,54
Influence of my family/ friends	2,17	Jurist example	2,2
This is all he or she knew of	1,83	Own judiciary incidents	1,92
Own illness	1,7	This is all he or she knew of	1,8
Books, filmes	1,55	Books, filmes	1,6

There are some different between female medical and jurist students' career choice motivations. Our results show that, female medical student have strongly altruistic motivations. They want a helping profession, work with people, and thay feel themselves suited for this profession. Contrarily female jurist student choose their profession, because it is a good career with well paid, some posssibilities and high prestige.

Professional identity

Medical students

24.9% had thought of quitting the university school. 92.9% would apply to medical university again if they had to make a career choice. 15.9% of the students had had serious doubts during their studies about the correctness of their choice of career.

Jurist students

19.2% had thought of quitting the university school. 91,5% would apply to jure university again if they had to make a career choice. 13.6% of the students had had serious doubts during their studies about the correctness of their choice of career.

Profesional planes

Medical students

65.9% of the students feel sure that they will remain in the profession. 73.1% would work in Hungary. 59.6%planned to participate in some form of further training and 26.2%of the students planned to participate in some form of supplementary financial activity while working as a doctor.

Jurist students

28.9% of the students feel sure that they will remain in the profession and 72.4% would work in Hungary, 59.1% planned to participate in some form of further training and 39.68% of the students planned to participate in some form of supplementary financial activity while working as a doctor.

Aspect of finding a job

The students' aspects a finding a job showed some differences. While for the medical students family was the first and the characteristics of the workplace were secondary, the jurist students wanted to have a good job that is compatible with the family. Figure 2 show the differences between the students' preferences.

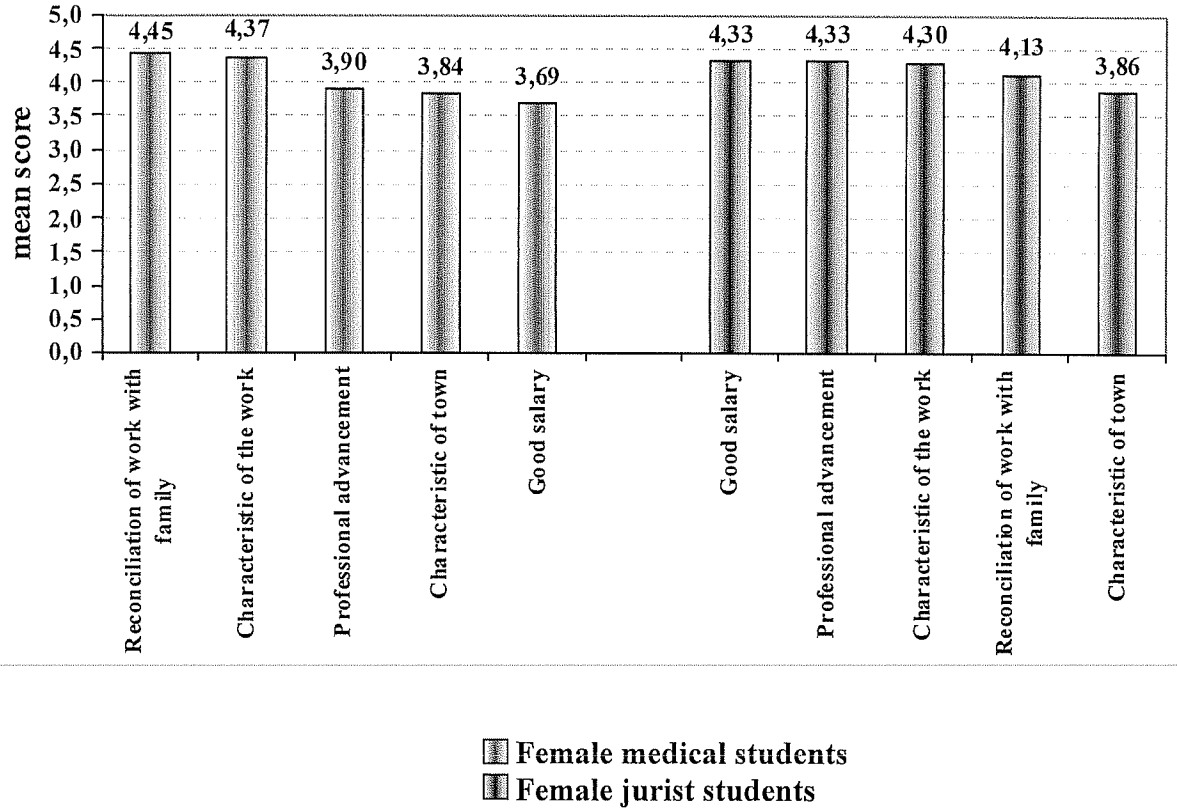

Figure 2 Students' preferences regarding to their finding a job

Indicators of financial background

Medical students

18.8% of the students had own flats, 2.8% owned car.

Jurist students

13.1% of the students had own flats, 7.8% owned car.

Attitudes

Table 9 Female medical and jurist student attitudes toward professional and family roles

Female medical students	Mean score	Female jurist students	Mean score
Family is the most important thing in life.	4,22	Family is the most important thing in life.	4,18
Career, bringing up children and family get along together.	4,07	Career, bringing up children and family get along together.	4,16
Workload must be reduced to allow as much time for the family as possible.	3,95	Workload must be reduced to allow as much time for the family as possible.	3,84
I would renounce career for a family anytime.	2,98	I would renounce career for a family anytime.	2,92
A woman is to bring up children and care about the family.	2,85	Chores in the family must be shared out in a way to allow as much time for succeeding in career as possible.	2,38
Career is always to the detriment of family life.	2,2	A woman is to bring up children and care about the family.	2,35
Chores in the family must be shared out in a way to allow as much time for succeeding in career as possible.	2,11	Career is the most important thing in your life.	2,03
A woman must choose between career and family.	1,88	Career is always to the detriment of family life.	1,99
Career is the most important thing in your life.	1,64	A woman must choose between career and family.	1,78
Women with children aren't suited for a job as a doctor.	1,59	Women with children aren't suited for a job as a doctor.	1,61
Only one member of a married couple can build a career.	1,53	Everything must be submitted to career.	1,46
Women with children aren't suited for working as jurists.	1, 37	Women with children aren't suited for working as jurists.	1,31
Women aren't suited for working as jurists.	1,25	Only one member of a married couple can build a career.	1,24
Everything must be submitted to career.	1,22	Women aren't suited for working as jurists.	1,09
A woman isn't suited for the medical profession.	1,13	A woman isn't suited for the medical profession.	1,08

According to our results the attitudes of female medical students and female jurist students toward family and profession were surprisingly similar. The family is the most important thing in their life and they think, the carrer and the family get along together and their work follow only their familiar role in their life.

Stereotypes

The medical students' opinion about female medical doctors and female jurist were very different. Fugure 3 and Figure 4 show our results.

Medical students

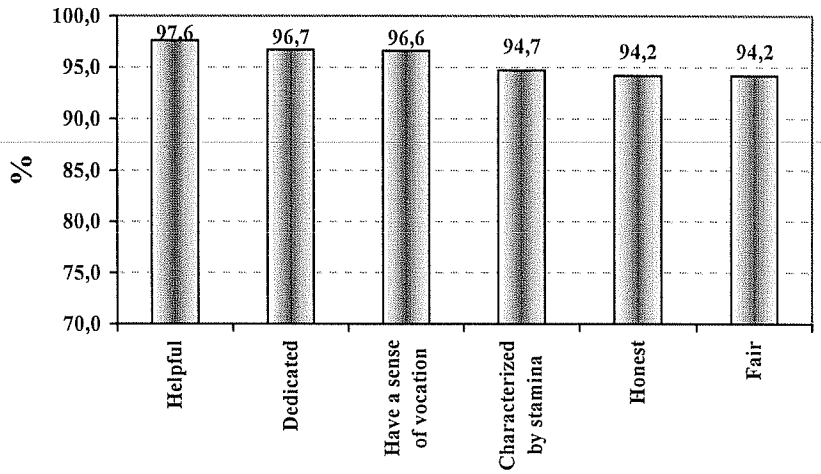

Figure 3 Female medical students opinion about female doctors

According to their stereotypes the medical students thought that female doctors are helpful and dedicated, they have a stong sense of vocation. They are characterised by stamina, honest and fair. This ideal is consistent with the conservative idealized image of a doctor.

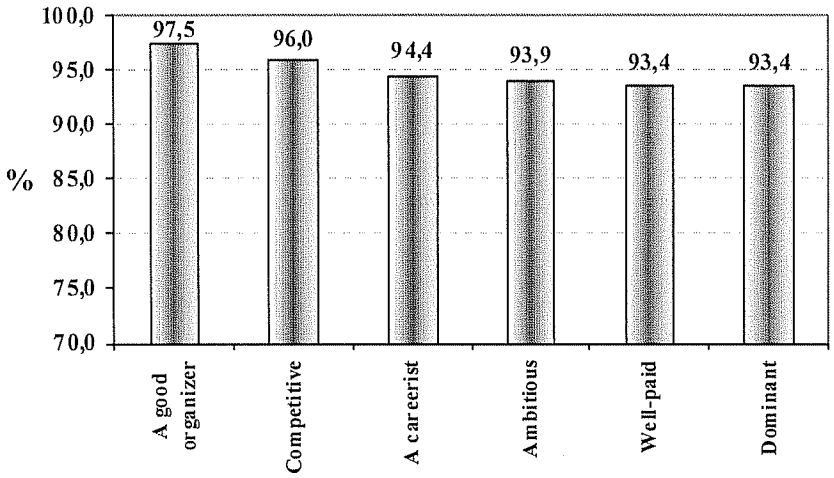

Figure 4 Female medical students opinion about female jurists

The female medical students characterised the female jurists as a modern lady who is good organiser and competitive. They have some manful character: carrierist, ambitious, well-paid and dominat.

Jurist students

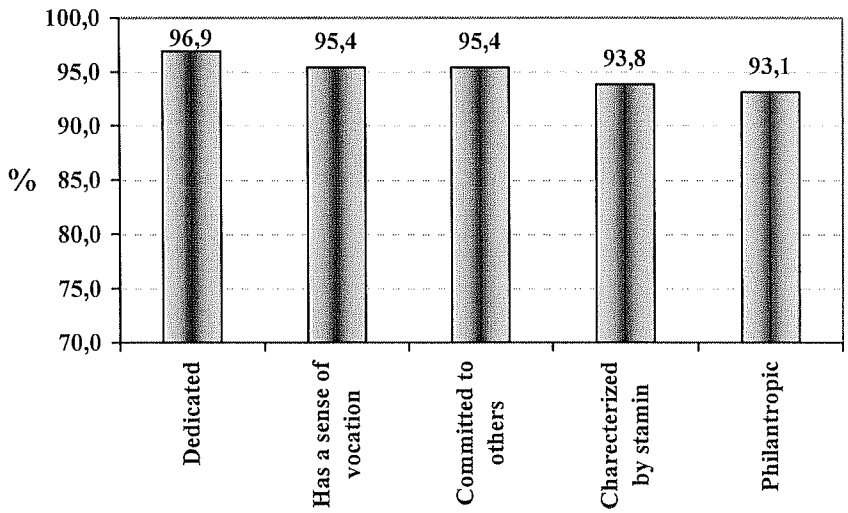

Figure 5 Female jurist students opinion about female doctors

The ideas of female jurists students' about female doctors was idealistic too, like the medical students' opinion. According their opinion the female doctors are dedicated, characterised by stamina and they completed the idea about female doctors with the patients respect: the female doctors are philanthropic too.

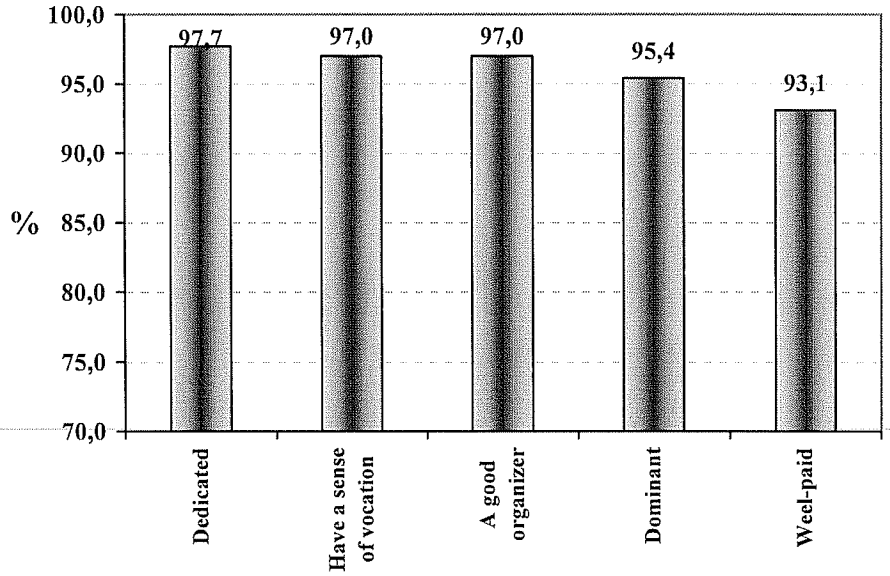

Figure 6 Female jurist students opinion about female jurists

The female jurist students characterised the female jurist were almost identical having only a tiny difference: they emphasize the professional calling of female jurists that the medical students did not emphasize.

5. Discussion

Despite the influence of the socio-economic changes on medical work, the circumstances and motivations have not changed significantly in recent decades. The processes of medical socialization documented in classics remain remarkably unchanged 40 years later (Beagan, 2001).

In step with the aims of the research it may be stated that it is characteristic of the medical profession that a good proportion of the students may indeed be deemed 'eternal'; early childhood identification with the medical profession and altruistic motivations is characteristic of many of them. Significant differences can be demonstrated in professional socialisation between those identifying with the profession in early childhood and those turning taking to the profession later. They are more idealistic than those, who thought of this profession later.

Early determination to pursue medical career not only has a favourable influence on the decision to remain in the field, but may also cause numerous later problems such as burn-out and an inability to identify further with the medical role.

Despite the fact that motivation studies are usually performed on first-year students, often shortly after the start of university, when they are presumed to be still uninfluenced by the value system of the medical society, the results of our study of students in more senior classes correspond with the findings of foreign studies. Altruism (helping others) is the major motivation of the students, followed by more 'rational' arguments in support of this career (Niemi *et al.,* 2003; Hyppölä *et al.,* 1998; Fields & Toffler, 1993). A Norwegian study had the same results in describing the motivations, emphasising the "people", "status/security" and "natural sciences" motivational orientations (Vaglum *et al.,* 1999).

Comparison with dental students reveals that the motivations of students in general medicine coincide with our results but differ from those of dental students, who are much more motivated by "status and security' and "the nature of their occupation", while students of general medicine are driven by the categories of "career opportunity", "patient care" and "working for people". Altruistic motivations are the most important for students of general medicine: "person-oriented" motives and "the desire to care for and help others" (Crossley & Mubarik, 2002).

Other study showed that, the most important characteristic of the students is the altruism, which they can not separate from prestige, money and success (Powell *et al.,* 1987), and that altruism is a basic characteristic of health professions which persist throughout the training (Mcgaghie *et al.,* 2002). Our results are supported by earlier Hungarian results, too.

It is clear from our study, that the opinions of medical students concerning remaining in or leaving their chosen career are influenced by the factors that we cumulatively call a sense of vocation. There was a difference regarding the beginning of their career socialisation for some motivations. The main difference between was that the 'career stayers' were confident throughout their studies. In assessing the differences between the two groups, we may say that, as regards remaining in the chosen career, the effects of career choice motivations tend to become weaker, whereas the effects of factors indicating a sense of vocation for the career tend to become stronger. The greatest difference was that 'the career stayers' did not want to participate in activities to supplement their income while working as doctors.

This result of our study is similar to that of a study in Auckland and a later study among medical students in Zagreb, examining what students would like to achieve in their professional and private lives. The opinions of the students unquestionably reveal that altruism is a special trait of medical students which does not diminish during their university years, and it is not typical that they become more materialistic (Petrie *et al.,* 1991; Prka *et al.,* 2002). In the short term doctors are not likely to become unemployed in Hungary. Their future is somewhat more insecure than in the past, but also entails more opportunities, and accordingly they must redefine themselves (Konner, 1998; Fraker, 1998).

Female students irreversibly decide to study medicine earlier in their childhood on the basis of altruistic motivations. Male students are more strongly influenced by other doctors in the family, they decide by more rational motivations and they are more confident in their career choice. In making their career decision, male student highly value professional advancement, women are more interested in reconciliation of work with family life. More men than women doctors chose medicine because it is a highly-paid and a high-status profesion (Hyppölä *et al.,* 1998). According to 5th-year female medical students, as to family planning, 95,7% of the respondents would like to have children, although only 52.8% plan to stay at home in the first three years.(Feith *et al.,* 2006).

According to our results the attitudes of female medical students and female jurist students toward family and profession were surprisingly similar. On other hand the aspects a finding a job showed some differences. The jurist students wanted to have a good job that is compatible with the family. While for the medical students family was the first and the characteristics of the workplace were secondary. According to their stereotypes the medical students thought that female doctors are dedicated and helpful which is consistent with the conservative idealized image of a doctor. The female jurists were characterized as a modern, careerist, competitive lady.

Earlier reseaches showed that, woman doctors rated close friends, health, success, universalism and ideology as more important than men doctors (Neittaanmaki *et al.,* 1999). They are less concerned with money and more concerned with the socioeconomically disadvantaged (Bickel, 2000).

Our results point out that the gender differences in medical profession are present from the beginning of the professional socialisation. The role of the medical university has increased in consequence of the changed socio-economic circumstances; it must prepare those students who are suited to becoming doctors and are dedicated to it to satisfy medical roles, and it must motivate them to utilize their knowledge and skills in the medical profession and help them to find the most appropriate position.

Our findings might add some important information to the understanding of the problems of doctors and female doctors, and will point into a new direction in the research of medical profession and the role conflicts of female doctors (Molnár, 2006). This makes it important to form the student's sense of professional identity continuously. In this process the behavioural sciences and the elective courses, which can be found at different Medical Universities, have an important role (Beagan, 2001). In this light possibly the hardest challenge in the training is to helping students find their path, learning about the realities and the harmonious transformation of "lay idealism."

Consequently, more emphasis should be placed on gender-specific socialisation in the course of medical training and women should be better supported in academic medicine (Allen, 2005). The other type of individual-oriented approach explains the gender differences in occupational orientations as a function of socialisation. That is to say that gender-specific preferences and personality traits develop through socialisation, for example that women are

assumed to possess natural skills for "emotional work"(Gjerberg, 2001). Training and employment must be flexible enough to allow for maximum participation of women in the workforce help the students to fulfill their potentials and shape their professional calling (Lawrence *et al.*, 2003)

More women into medicine necessarily means the dominant culture is changing. Women in medicine play major role in mentoring and role modelling (Bickel, 2000). Try to show women contemplating a career in medicine 'the way' (Bickel, 2000). Training and employment must be flexible enough to allow for maximum participation of women int he workforce (Lawrence *et al.,* 2003).

This recognition repeatedly calls attention to the necessity of a revision of the medical curriculum in general, and in the framework of this, to the demand for the development of behavioural sciences in Medical Schools, in particular (Molnár & Molnár, 2005).

6. Conclusion

1. Significant differences can be demonstrated in professional socialisation between those identifying with the profession in early childhood and those turning to the profession later.

2. Altruistic motivations were the most significant motivations of medical students.

3. Depending on whether they want to remain in the profession or want to leave it, significant difference was revealed between these groups with regard to the strength of their dedication to the profession.

4. There were some differences between male and female students. Female students irreversibly decided to study medicine earlier in their childhood on the basis of some altruistic motivations. Male students were more strongly influenced by other doctors in the family, they decided by more rational motivations and they were more confident in their career choice. In making their career decision, male student highly valued professional advancement, while women were more interested in reconciliation of work with family life.

5. Our researh founded some differences between female medical and jurist student.The female medical student were more altruistic and they choosed their profession often in earlier childhood. The aspects a finding a job showed some differences too. The jurist students wanted to have a good job that is compatible with the family, while for the medical students family was the most import parameter, and the characteristics of the workplace were secondary ones. According to their stereotypes female doctors were dedicated and helpful it means idealized image of a physician. The typical female jurists was a modern, careerist lady.

6. Our results point out that the gender differences in medical profession are present from the beginning of the professional socialisation. These findings might add some important information to the understanding of the problems of female physicians, and can point into a new direction in the research of medical profession and the role conflicts of female doctors. We think that the results can be useful also for the medical educational process, because the above mentioned facts can be taken into consideration in continuously shaping the students sense of professional identity. Women should be better supported not only in the course of academic studies and but also later, having finished the medical university.

References

1. Ádám Sz., Győrffy Zs. (2003): Orvosnők az anyaságról. Esély 3: 86-92.
2. Allen I. (2005): Women doctors and their careers: What now? Btitish Medical Journal 331:569-72.
3. Arnetz B., Hörte L G., Hedberg A., Theorell T., Allander E., Malker H. (1987): Suicide patterns among physicians related to other academics as well as to the general population. Acta Psychiatria Scandinavica 75: 139-43.
4. Aultman J. M. (2005): Uncovering the hidden Medical curriculum through a pedagogy of discomfort. Advances in Health Sciences Education 10: 263-273.
5. Bánfalvy A. (2003): Az orvostanhallgató fehér köpenye és a rejtett curriculum. Lege Artis Medicinae 13(1): 73-75.
6. Bánlaky P., Kérész Gy., Solymosi Zs. (1981): Orvosok Magyarországon. Academia Kiadó, Bp.
7. Beagan B.L.(2001): Even if I don't know what I'm doing I can make It look like I know what I'm doing: Becoming a Doctor in the 1990s. Canadian Review of Sociology and Anthropology 38:275-92.
8. Becker H.S., Geer B., Hughes E.C., Strauss A.L. (1961): Boys in White. Student culture is medical school. Chicago: The University of Chicago Press, Chicago
9. Beedham, T. (1996): Why do young doctors leave the medicine? British Journal of Hospital Medicine 11: 699-701.
10. Bickel J. (2000): Women in medicine: Getting in, Growing, and Advancing. California. Sage Publications.
11. Blanch D. C, Hall J. A., Roter D. L, Frankel R. M. (2008): Medical student gender and issues of confidence. Patient Education & Counseling 72 (3): 374-381.
12. Buda B. (1994): Fejezetek az orvosi szociológia és a társas lélektan történetéből. Medicina, Bp.
13. Buddeberg-Fischer B., Illés C., Klaghofer R. (2002): Career Wishes and Career worries of medical students – results of focus group interviews. Gesundheitswesen 64(6):353- 362.
14. Chinoy, E. (1961): Society: An Introduction to Sociology, New York: Random House.

15. Clausen, John A. (ed.) (1968) Socialisation and Society, Boston: Little Brown and Company.
16. Cockerham W.C. (ed.) (1995): Medical sociology. Prentice Hall, Englewood Cliffs, New Yersey
17. Cohen M. J. M., Kay A., Youakim J. M., Balacius J. M. (2009): Identity transformation in Medical Students American Journal of Psychoanalysis 69(1): 43-52.
18. Crossley M.L., Mubarik A. (2002): A comparative investigation of dental and medical student's motivation towards career choice, British Dental Journal 193: 471-473.
19. Csabai M, Bartha K. (2000): Az orvosi identitás alakulása: orvostanhallgatók nézete az orvosi pályáról, at orvosszerepről. Lege Artis Medicinae 10:638-44.
20. Dahlin M., Joneborg N., Runeson B.(2005): Stress and depression among medical students: a cross-sectional study. Medical Education (39): 594-604.
21. Douglas, A., McCann, I. (1996). Doctors' retainer scheme in Scotland: Time for change? British Medical Journal 313:792-794.
22. Dorsey E. R., Jarjoura D., Rutecki G. W.(2005): The influence of controllable lifestyle and sex on the specialty choices of graduating U.S. medical students, 1996-2003. Academic Medicine 80(9):791-796.
23. Feith H. J., Balázs P., Kovácsné T.Á. (2006): Az ötödéves orvostanhallgtaó nők karrier és családtervei. Lege Artis Medicinae 16(6):585-9.
24. Fields S.A., Toffler W.L.(1993): Hopes and concerns of a first - year medical school class. Medical Education 27: 124 – 129.
25. Fraker, S. (1998). Physicians enter the job market. JAMA 7:1399.
26. Forde R., Aasland O. G. (2008): Moral distress among Norwegian doctors. Journal of Medical Ethic 34(7):521-525.
27. Girasek E., Eke E., Szócska M. (2009): Fiatal orvosok vidéki munkavállalási szándékai. Orvosképzés 1:59-63.
28. Gjerberg E. (2001): Medical women – towards full integration? An analysis of the specialty choices made by two cohorts of Norwegian doctors. Social Science and Medicine 52:331- 43.

29. Győrffy Zs., Ádám Sz., Kopp M. (2005): A magyarországi orvostársadalom egészségi állapota országos reprezentatív minta alapján. Orvosi Hetilap 146 (26): 1383-1391.
30. Győrffy Zs., Ádám Sz. (2004a): Az egészségi állapot, a munkastressz és a kiégés alakulása az orvosi hivatásban. Szociológiai Szemle 3: 107-127.
31. Győrffy Zs., Ádám Sz. (2004b): Az orvosnői hivatás magatartástudományi vizsgálata. Mentálhigiéné és Pszichoszomatika 5 (1): 27-53.
32. Győrffy Zs., Ádám Sz.(2003): Szerepkonfliktusok az orvosnői hivatásban. Lege Artis Medicinae 13 (2): 159-164.
33. Hegedűs K., Mészáros E., Riskó Á (2004): A súlyos betegekkel foglalkozó egészségügyi dolgozók testi és lelki állapota Lege Artis Medicinae 14(11): 786-93.
34. Hojat M., Gonnela J.S., Erdmann J.B., Vogel W.H. (2002): Medical students' cognitive appraisal of stressful life events as related to personality, physical weel-being and academic performance: a longitudinal study. *Personality and Individual Differences* 35: 219-235.
35. Huchle P, McGuffin P. (1991): Familiar factors in going to medical school. Medical Education 1991 25 13-15.
36. Hunyadi Gy. (1996): Sztereotípiák a változó közgondolkodásban. Akadémiai Kiadó, Bp.
37. Hunyady Gy. (1997): A nemzeti identitás és a sztereotípiák görbe tükre. Új Pedagógiai Szemle XLVII (10): 45-59.
38. Hunyady Gy. (2001): Mi lenne velünk sztereotípiák nélkül? Magyar Pszichológiai Szemle 2: 213-238.
39. Hunyady Gy., Nguyen L.L. (szerk) (2001): Sztereotípiakutatás: hagyományok s irányok. Eötvös Kiadó, Bp.
40. Hyppölä H., Kumpusalo E., Neittanmäki L., Mattila K., Virjo I., Kujala S., Luhtala L.A. R., Halila H., Isokoski M. (1998): Becoming a doctor - was it the wrong career choice, Social Science and Medicine 47, 1383 – 1387
41. Hurrelmann K. Socialization (In: Wilker F.H., Bischoff C., Novak P. Medizinische Psychologie und Medizinische Soziologie Urban & Schwarzenberg, München, Wien, Baltimore 1994)

42. Johansson E. E., Hamberg K. (2007): From calling to a scheluded vocation: Swedish male and female students' reflections on being a doctor. Medical Teacher 29:1-8.
43. Konner M. (1996): What will become of the doctor. Yale Journal of Biology and Medicine 69:469-76.
44. Konner, J. A. (1998): Alternative careers for Physicians. JAMA 17, 1398.
45. Lawrence J, Poole P, Diener S. (2003): Critical factors in career decision making for women medical graduates. Medical Education 27:319-27.
46. Lind Ds, Cendan JC (2003): Two decades of student career choice at the University of Florida: Increasingly a Lifestyle Decision American Surgeon 69(1): 53-55.
47. Mc Gaggie W. C., Mytko J.J., Brown W. N., Cameron J. R. (2002): Altruism and compassion in the health profession: a search for clarity and precision. Medoical Teacher 24: 374-378.
48. Merton R.K., Reader G.G., Kendall P.L., (eds.) (1957): The Student - Physician. Introductory Studies in the Sociology of Medical Education Cambridge, Harvard University Press, Cambridge,
49. Molnár L., Mezei M. (1991): Az orvosok megbetegedéséről és halandóságáról (1. rész) Lege Artis Medicinae 8: 524-530.
50. Molnár P., Csabai M., Csörsz I. (2003): Orvosi professzionalizáció és a magatratástudományok Magyar Tudomány 2003;11:1391-1400.
51. Molnár R., Feith H. (2000): Szerepkonfliktusok megnyilvánulásai orvosnők körében. Lege Artis Medicinae 10 (10): 810-815.
52. Molnár R., Kapocsi E. (2005): Orvostanhallgatók az orvosi hivatásról. Magyar Bioetikai Szemle 3:122-128.
53. Molnár R., Molnár P.(2005): Az orvosszerepről – a pályaszocializáció tükrében. Mentálhigiéné és Pszichoszomatika 6(2):123 -128.
54. Molnár R., Nyári T., Hazag A., Csinády A., Molnár P.(2008): Career choice motivations of medical students and some characteristics of the decision process in Hungary. Central European Journal of Medicine 3)4:494-502.
55. Molnár R., Nyári T., Molnár P.(2008): Az orvostanhallgatók pályán maradásra, pályaelhagyásra vonatkozó elképzelései. Orvosi Hetilap 149)18:843-848.

56. Molnár R., Nyári T., Molnár P.(2006): Remaining in or leaving the profession: the view of medical students. Medical Teacher 28(5)475-477. Impact factor: 1.229
57. Molnár R., Török K. (2006): A szerepkonfliktus eredete orvos- és fogorvostanhallgató nők körében. Egészségfejlesztés 4: 24-28.
58. Molnár R. (2006): A gyógyító orvossá válás néhány jellemzője és problémája napjainkban. Háziorvos Továbbképző Szemle 11:588-591.
59. Molnár Regina, Molnár Péter: Az orvosi pályaszocializáció – ahogyan a hallgatók látják. Lege Artis Medicinae. 2002. 12. évfolyam 4. szám: 250 - 254.
60. Neittanmäki és mtsai: Personal values of male and female doctors: gender aspects Social Science & Medicine 48: 1999 559-568
61. Niemi P.M., Vainiomäki P.T., Murto-Kangas M. (2003) " My future as a physician" - Professional representations and their background among first-day medical students, Teaching and Learning Medicine 15: 31 - 39
62. Novak P. Berufliche socialization (In: Wilker F.H., Bischoff C., Novak P. Medizinische Psychologie und Medizinische Soziologie Urban & Schwarzenberg, München, Wien, Baltimore 1994)
63. Paice, E. (1997). Why do young doctors leave the profession? Journal of the Royal Society of Medicine 8, 417-418.
64. Petrie K.J., White G.R., Cameron L.D., Collins J.P. (1999): Photographic memory, money, and liposuction: survey of medical students' wish lists, British Medical Journal 319:1593 – 1595.
65. Pitkala, H.M., Mantyranta, T. (2003): Professional socialisation revised: medical students' own conceptions related to adoption of the future physician's role – a qualitative study. Medical Teacher 25 (2): 155-160.
66. Powell A., Boakes J., Slater, P. (1987): What motivates medical students: How they see themselves and their profession. Medical Education 21, 176 – 182.
67. Prka M., Danic A., Glavas E., (2002): What do medical students want from their professional and privat life, Croatian.Medical Journal 1: 80 - 83.
68. Richmond, C. (1993). Many of Britain's disillusioned doctors are living medicine behind. Canadian Medical Association Journal 9: 1614.

69. Riska E.: (2001) Towards gender balance: but will women physicians have an impact on medicine? Social Science & Medicine 52: 179-187.
70. Roger D. (2001): Stresses on women doctors may cause higher suicide risk. British Medical Journal 322 (7292): 945.
71. Sági Matild (1987): Az orvostanhallgatók foglalkozási szocializációja Szociológia (4): 491- 512.
72. Sági Matild: Az orvosi hivatás (2002) (In: Szántó Zsuzsa, Susánszky Éva szerk. Orvosi szociológia Semmelweis Kiadó, Bp.)
73. Sági Matild: Az orvosi hivatás. (2006) (In: Szántó Zsuzsa, Susánszky Éva szerk. Orvosi szociológia Semmelweis Kiadó , Bp. 2006.)
74. Schwartz, R. W., Jarecky, R. K, Strodel, W. E., Haley, J.V., Young, B., & Griffen, W. O. (1989). Controllable Lifestyle: A new factor in career choice by medical students. Academic Medicine10, 606-609.
75. Searle J. (2001): Women and medicine- a new paradigm. Medical Education 35:718-719.
76. Simon T.(1997): Orvosok és boldogulásuk Magyarországon. Valóság, 2: 44-52
77. Tyssen R., Hem E., Gude T., Gronvold N. T. Ekeberg O., Vaglum P. (2009): Lower life satisfaction in physicians compared with a general population sample: a 10-year longitudinal, nationwide study of course and predictors. Social Psychiatry and Psychiatric Epidemiology 44(1): 47-54.
78. Somlai Péter: Szocializáció Corvina Kiadó, 1997.
79. Vaglum P., Wiers-Jeassen J., Ekeberg O. (1999): Motivation for medical school: the relationship to gender and specialty preferences in a nationwide sample, Medical Education 33, 236 – 245.
80. Wolf TM., Balson PM., Faucett M., Randall Hm (1989) A retrospective study of attitude change during medical education (Medical Education 23: 19-23.

Acknowledgements

I would like to thank Prof. Dr. László Nagymajtényi, Head of the Department of Public Health, for the opportunity to do research work.

I am thankful for Prof. Dr. Péter Molnár for all his help.

I am grateful to Antal Bugán for some useful idea in this project.

I would like to thank to my colleagues for their continuous help, technical support and administrative work; first of all to Dr. Edit Paulik, Mrs. Szalay and Imre Gera.

Finally, I thank to all my colleagues and members of my family for their considerable, continuous support.

Appendix

1. **Molnár R.,** Molnár P.: Az orvosi pályaszocializáció – ahogyan a hallgatók látják. Lege Artis Medicinae 2002;12(4):250-254.
2. **Molnár R.,** Molnár P.: Az orvosszerepről – a pályaszocializáció tükrében. Mentálhigiéné és Pszichoszomatika 2005;6(2):123 -128.
3. **Molnár R.,** Kapocsi E.: Orvostanhallgatók az orvosi hivatásról. Magyar Bioetikai Szemle 2005;3:122-128.
4. **Molnár R.:** A gyógyító orvossá válás néhány jellemzője és problémája napjainkban. Háziorvos Továbbképző Szemle 2006;11:588-591.
5. **Molnár R.,** Nyári T., Molnár P.: Remaining in or leaving the profession: the view of medical students. Medical Teacher 2006;28(5)475-477. *Impact factor: 1.229*
6. **Molnár R.**, Nyári T., Hazag A., Csinády A., Molnár P.: Career choice motivations of medical students and some characteristics of the decision process in Hungary. Central European Journal of Medicine 2008;(3)4:494-502.
7. **Molnár R.,** Nyári T., Molnár P.: Az orvostanhallgatók pályán maradásra, pályaelhagyásra vonatkozó elképzelései. Orvosi Hetilap 2008;(149)18:843-848.
8. **Molnár R.,** Feith H.: Szerepkonfliktusok megnyilvánulásai orvosnők körében. Lege Artis Medicinae 2000;10(10):810-815.
9. **Molnár R.,** Török K.: A szerepkonfliktus eredete orvos- és fogorvostanhallgató nők körében. Egészségfejlesztés 2006;4:24-28.