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Gender Differences in Higher Education in the “Partium” Region

Introduction

One of the goals of the HERD (Higher Education for Social Cohesion – Cooperative Research and Development in a Cross Border Area, HURO/0901/253/2.2.2.) project (B2 group) is to examine gender issues in higher education. There are several fields, where we can examine gender differences in higher education, but within the limits of the paper we will present only the theoretical background of four topics to be mentioned below and some empirical findings based on previous data-collections. Our research questions are: (1) Gender differences in acquired cultural capital of students (high-culture activities, use of ICT, cultural consumption, reading habits, objective cultural capital of the students). (2) Gender differences in e-learning and e-teaching. (3) Differences in personal and professional career plans of higher education students by gender (the impact of academic achievement, incentives to study and students’ “habitus” (attitude) on these plans)¹. (4) And finally the position of female instructors in higher education, the supporting and moderating factors in their career.

To examine these research questions, we relied on the special literature, and furthermore we used previous quantitative data. Concerning gender differences in students’ acquired capital and in students’ personal and professional plans, we made use of the databases of the TERD project (“The Impact of Tertiary Education on Regional Development”, supported by OTKA T-69160). In the first sample, there were 1361 third-year, full-time students from Bachelor’s training (BA, BSc) (approximately one third of the full population), and in the second one, 602 first-year full-time students from Master’s training (MA, MSc) (approximately two third of the full population). The samples are regional, as data were collected in the so-called “Partium” region. This is a historically cross-border region of Hungary, Romania and the Ukraine². The data collection took place in the Hungarian-speaking tertiary-

¹ This part of the paper was supported by the János Bolyai Research Scholarship of the Hungarian Academy of Science.

² In present-day Hungarian usage, “Partium” refers only to Romanian part of the historical region, but we defined it differently, by concerning the historical “Partium” usage.

level institutions of the three countries, in 2008 in Bachelor's training and in 2010 in Master's training. The samples are representative concerning the faculties of the examined universities and colleges (in the Master's training database, cases are weighted to ensure representativity)³. In the last section of our paper, concerning female instructors we used quantitative data, as well. The survey was carried out among women lecturers of the University of Debrecen between February and June of 2009. We tried to ask the whole population, so 479 questionnaires were handed out, and we got back 134. Finally concerning gender differences in e-learning and e-teaching we relied on the literature and the quantitative analysis will be carried out later, in the frame of the HERD project.

The differences in cultural capital owned by the students by gender

It is important to explore a students' acquired cultural capital, because DiMaggio (1982), and DiMaggio and Mohr (1985) showed that students' cultural capital demonstrate a huge effect on the school efficiency and on the education achievement, and the effect of students' cultural capital was even larger than the effect of fathers' qualification. Blaskó (1998) also showed that the effect of the cultural resources of the students was greater compared to the cultural resources of parents on the later social status of the students based on Hungarian data. Beside this, based on South-Korean data Byun (2006) showed that the reading habits have a positive effect on schools performance of boys and girls, while the cultural consumption (for example theatre, museum or concert attendance) has a negative effect on the performance of boys, and there is no effect in the case of girls. Dumais (2002) also establishes that students' cultural capital has a positive traceable effect on the grades of girls, while this effect is weaker in the case of boys.

Concerning gender differences DiMaggio (1982) showed that cultural capital (he measured it by participation in "high-culture" activities) of girls studying in American secondary schools was much higher than that of boys. The author draws our attention to the fact that cultural interest and practice are culturally expected from girls. However, this is less characteristic of boys, moreover, it may result in negative sanctions from their peers. Further reason for the greater cultural activity of girls could be that "women who wish to be recognized as eligible partners for men from high status background may need

³ The institutions involved in the research: University of Debrecen (Hungary), Reformed Teacher Training College (Kölcsey), (Debrecen, Hungary), Nyíregyháza College (teacher training, health care) (Nyíregyháza, Hungary), II Rákóczi Ferenc Hungarian Teacher Training College of Transcarpathia (Beregszász, Ukraine). Partium Christian University (Oradea, Romania), University of Oradea (Oradea, Romania), Branch of Babeş-Bolyai University in Satu Mare (Satu Mare, Romania).

cultural capital to a greater extent than men who wish to achieve in the world of work” (DiMaggio, 1982, p. 198).

Hungarian girls in 2003 and in 2005 also display greater cultural interest than boys do; girls tend to have greater cultural consumption (attending theatres, museums, art movies and concerts) and read more (especially more fiction). However, our former results showed that boys use internet more frequently, so it can be said that the boys’ cultural activity differs from that of girls, and it is not necessarily inferior (Fényes, 2010a). DiMaggio’s results (1982) support that at secondary school, the cultural activities, preferred by girls, improved their school performance. On the other hand, cultural activities, preferred by boys, may improve their better chances on the labour market.

Our hypothesis concerning students’ acquired cultural capital is that girls will be in the lead in most types of traditional cultural activities, while in using ICT, boys will be dominant. Our second hypothesis is that at higher level of training, cultural capital (for example cultural consumption or objective cultural capital) of boys and girls will be more similar, due to the fact, that when they are a bit older, they will have a companion (a partner for life), they spend more time together, and girls can motivate boys to do high culture activities, or to buy more objective cultural capital (for example encyclopaedias, dictionaries, books in foreign languages, books on art, classical music records or paintings)⁴.

Empirical findings

First, students’ reading habits are examined by gender (we suppose that girls read more regularly) but we have data in Master’s training on reading habits on the internet as well, where the advantage of boys can be expected.

Table 1: Regularity of students’ non-compulsory reading by gender in Bachelor’s training (averages 1: never 2: rarely 3: occasionally 4: often)

	<i>Average regularity</i>	<i>N</i>
Boys	3.11	386
Girls	3.34	903
Anova	***	

As we can see in Table 1, girls read significantly more frequently in Bachelor’s training, in accordance with our hypothesis, and with DiMaggio’s results (1982). In Master’s training, we have data not only on paper-based reading habits but on internet usage and reading e-books as well.

⁴ Of course boys larger cultural consumption in older ages could be due to other facts, as well.

Table 2: Regularity of students' reading paper-based or e-books in Master's training in Hungarian and in foreign language by gender (averages of 1: never 2: annually 3: monthly 4: weekly 5: daily)

	<i>In Hungarian</i>				<i>In foreign language</i>			
	Paper based	N	E-books	N	Paper based	N	E-books	N
Boys	3.61	155	3.45	157	2.13	151	2.28	148
Girls	3.75	425	3.01	413	2.24	418	1.95	401
Anova	NS		**		NS		**	

Source: TERD

As we can see in Table 2, the advantage of girls in paper-based reading is no more detectable (both in Hungarian and in foreign language) in Master's training. The reason for this could be that – as we formulated in our third hypothesis – girls have boyfriends more frequently in older ages, and they can motivate boys to read more. In reading e-books, boys are in the lead, in accordance with our hypothesis but the difference in frequency of using the internet at home was not significant by gender (the data are not presented due to the lack of significance), so the advantage of boys in ICT might not be so dominant. We have further data on reading on internet in Master's training, on different subjects of reading by gender, which could imply further advantages of boys.

Table 3: Regularity of students' reading on the internet in Master's training by gender (averages 1: never 2: annually 3: monthly 4: weekly 5: daily)

	<i>Papers, articles</i>	<i>News</i>	<i>Blogs</i>	<i>Forums</i>	<i>Special literature</i>	<i>Popular literature</i>
Boys	4.22	4.56	2.92	3.71	3.71	3.07
N	157	157	157	157	157	154
Girls	3.65	4.27	2.25	3.05	3.44	2.68
N	431	432	429	431	432	430
Anova	**	**	***	***	**	**

Source: TERD

Boys – in accordance with our hypothesis – are in the lead in reading papers, articles, news, blogs, forums, special literature and popular literature (see data in Table 3) but there was no significant difference by gender in reading tabloid papers, poems, and community pages on the internet (these data are not presented due to the lack of significance). This means that boys generally read more on the internet but in the case of some subjects of reading, girls catch up with them. The results are in accordance with the gender stereotypes and with girls' good relationship-building characteristics.

We examined students' cultural consumption by gender as well (attending theatres, museums, art movies and concerts, the data are not presented here) but there was a significant difference only in theatre attendance by gender, and only in Bachelor's training (there was a small advantage of girls, despite their worse material background). Our further result is that the average regularity of theatre and art movie attendance has a decreasing

tendency in young generation as compared to 2003 (see data in Fényes, 2010a), and the cultural consumption in 2010 in Master's training – which represents a higher level of training – was only similar to the 2003 data, where first-year university students were asked. The reason for this could be that nowadays, students might work more beside their studies, they might spend more time on the internet, and that is why the frequency of these traditional types of cultural consumption is lower.

Our next result is that gender differences mostly disappeared as compared to 2003, and this is contrary to our hypothesis. Girls go only to the theatre more frequently and only in Bachelor's training, and girls do not go to art movies, classical music concerts and museums more frequently than boys. This could be due to the fact that they do not have as much free time as in 2003 (boys' cultural consumption was low even in 2003, and it did not change in 2008 or 2010). Comparing the two stages of the training, cultural consumption became even more similar by gender in Master's training in all types of traditional cultural consumption in accordance with our hypothesis, which might be due to the fact that in a bit older ages, when girls have boyfriends more frequently, girls can motivate boys to perform cultural activities, and they go to theatre together. In our further analysis, students' objective cultural capital is compared by gender. First, the differences in the number of books students' have are examined.

Table 4: The number of books students have, by gender in Bachelor's training, percentages

	<i>Boys</i>	<i>Girls</i>
0-20	35.5	22.9
21-100	44.9	52.5
101-300	14.4	18.6
Above 300	5.2	6
N	383	894
Chi-square	***	

Source: TERD

In accordance with our previous results, girls who read more frequently in Bachelor's training have more books as well (see Table 4). However, in Master's training, there was no difference in reading paper-based books by gender, and in accordance with this, the difference in the number of books students possess was not significant by gender either (data are not presented due to the lack of significance).

The other measurements of objective cultural capital are the possession of encyclopaedias, dictionaries, books in foreign languages, books on art, classical music records and paintings per students.

Table 5: Possession of encyclopaedias, dictionaries, books in foreign languages, books on art, classical music records, paintings per students by gender in Bachelor's and Master's training

	<i>Bachelor's training</i>	<i>Master's training</i>
Encyclopaedias	NS	NS
Dictionaries	Girls have more (**)	Girls have more (**)
Books in foreign languages	Girls have more (*)	Girls have more (**)
Books on art	NS	Girls have more (**)
Classical music records	NS	Girls have more (*)
Paintings	NS	NS

Source: TERD

The table is based on the cross tabulation runs of the SPSS program (0: none 1: only one 2: two ore more). NS marks non-significant relations by gender according to the Chi-square test (the tests were significant, if $p < 0.05$).

As we can see in Table 5, girls are in the lead at both stages of the training but contrary to our hypothesis, the difference is even more pronounced in Master's training by gender in these types of objective cultural capital. The reason for this could be that girls in Master's training might be interested more in art, in classical music, and thus they may have more books on art, classical music records, while in the case of boys, there is no such effect. Another explanation could be that in Master's training – contrary to our hypothesis – girls did not motivate boys to buy more objective cultural capital. Here again the traditional gender role models could play a part but now in the young generation as well. Thus it is the task of girls to buy encyclopaedias, dictionaries, books in foreign languages, books on art, classical music records and paintings, and this effect does not change in Master's training, where girls have a partner more frequently.

As it can be seen, girls have more books in foreign languages, so we can suppose that they have more language exam certificates as well (this can be a measurement of students' institutionalized cultural capital). However, data show, both in Bachelor's and Master's training, that there is no significant difference in language exam certificates by gender (data are not presented due to the lack of significance), which is an interesting result compared to our previous results concerning secondary schools where girls were in the lead in language exam certificates (see Fényes, 2010b). The reason for this could be that at universities, language exam certificate is required to obtain the degree, thus both boys and girls are equally motivated to acquire it.

Gender differences in e-learning and e-teaching in higher education

As we have seen the cultural capitals of girls and boys provide an important basis of education at tertiary level. Their constantly changing working styles, interests and behaviors have a strong influence on learning. Our results showed

that there were significant differences in acquired cultural capital by gender. Concerning traditional high-culture activities the girls were in the lead, but boys were in the lead in reading on the internet, especially in reading e-books, papers, articles, news, blogs, forums and popular literature. There was an advantage of boys in reading special literature on the internet as well. This calls our attention on gender differences in e-learning, and the necessity of different teaching materials by gender in higher education.

The new ICT generations in general have new needs in teaching methods. These needs have to be examined and determined for adjusting the teaching methods and tools to our students and for getting better prognosis on our future society. The emotional and the intellectual maturity are postponed in these new generations (see e. g. Kulcsár, 2004), so the differences concerning the behaviors and working styles of girls and boys of the puberty appear in the higher education. As many surveys show (see later) that the width of the gap decreasing with the aging, but because of the fact mentioned above the gap is getting wider at tertiary education concerning these new generations. The examination of the changes has a more important role in designing teaching methods; we have to pay attention to this change at every level of higher education.

In our present research (based on the literature) we examine the fields of these changes and their effects on the cultural capitals of the learners. We examine how and where the gap is getting wider and we try to find some directions in improvement of teaching quality which can handle the gap between boys and girls.

Generations Y and Z in education

One of the aspects of our research that the generation Y (born between cc. 1992 and 2000) is already in the higher education, the generation Z (born after 2000) is coming soon (Tari, 2010). The members of these generations are those who had computer since their early childhood in this region. These young people are “digital natives” whose learning habits and their behavior in many other fields differ from that of the previous generations. Differences can be shown in almost all the areas of the learning process – information gathering, information proceeding, social communication, and many other social attitudes (see McCrindle, 2002). The traditional chalk-and-talk teaching is not efficient, new methods have to be found for the effective communication (see McCrindle & Wolfinger, 2010).

The same considerations can be found in the field of knowledge; they respect other competencies, knowledge, information than the previous generations. We can say, in general, that have different relationship to several information (see Horváth & Könczöl, 2005). Concerning these two

generations, the difference between the information gathering techniques of boys and girls is more significant (see e. g. Eurydice, 2009).

Digital natives vs. immigrants

In another aspect, higher education uses more and more information and communication techniques (ICT). The digital curricula are made not by the generations Y or Z but mainly by the generations of “digital immigrants”. Most of these digital learning materials are made by the members of generation X or the post-World War II “baby boom”. These teachers met computers when they were adults. The digital gap between students and teachers is quite wide today, but it will be much wider when generation Z will enter higher education. Generation Z is that generation which had not just computer but internet access in their childhood. This fact affects the relations between students and teacher, but even between girls and boys. Teachers have to try to find how they can get closer to the new generation, how they can fulfill the students need concerning teaching methods and materials. First we have to examine the needs of the new generations; we have to determine the differences in boys and girls in using ICT, the ways of getting information.

Teachers have to think about how they have to adopt the teaching materials and the teaching methods to the needs of the new generations, and how they can adapt their approaches and teaching techniques to the new requirements.

Gap between the achievements of boys and girls

Nowadays the gap between the achievements of boys and girls in primary and secondary schools is widening (Buchmann, DiPrete & McDaniel, 2008). The results of a number of surveys that examine the outcomes of boys and girls in primary and secondary educations show that among the early school leavers there are more boys than girls. XX state by the survey performed in the USA, that women are surpassing men in terms of attaining higher education degrees (see O’Halloran, 2008). Girls have advantages in reading in diverse age groups, and we can speak about the advantage of boys in mathematics and logical thinking that emerges with the years, and it is considerable respecting students (see Bae, Choy, Geddes, Sable & Snyder, 2000; Bereczkei, 2003; Delfos, 2004; Freeman; 2004, Gurian & Stevens, 2004).

Girls obtain usually higher grades in school leaving exams and have better possibility to enter into the higher education (Eurydice 2009). The underperformance and under-participation of boys in education take negative effects on the boy’s achievement in face-to-face education stated by Jha and Kelleher (2006) based on their cross-country analysis in Commonwealth and

the research of Legewie and DiPrete (2011) on the effect of schools on class and race inequality. We can mention a survey performed at the University of Debrecen (Bujdosó, 2011). The aim of this survey was getting information how students get and use knowledge on a not focused field of computer science, on the word processing in this preliminary research. The results show that the knowledge on this field of boys and girls are almost on the same (quite low) level. Boys have less information both in technical and typographical issues, but the difference is not significant on such a low level. Although, girls deem their knowledge much deeper than it is. They assume that it is on a “satisfactory” level. Boys suppose a weaker knowledge, but they want to learn more about this topic significantly.

From the point of view of designing curricula of e-learning, on-line learning, distance learning communication plays a highly important role. A high-scale survey in the UK was performed for examining how young people think about communications skills, and how important do they think these skills e.g. in their schools. Clark’s report (2011) shows the gender concerns. One of the most interesting outcomes of this survey that more girls than boys thought that being good at communication means being good at talking and listening. Conversely, more boys than girls thought that being good at communication means being good at information and communication technology.

One of the most important conclusions of the surveys shows above, that boys are in a disadvantageous situation, so many teachers try to adjust explanations and teaching methods to boys’ needs. However, there are only few countries where special programs are offered for improving boys’ literacy skills and girls in mathematics (see Eurydice, 2009).

Digital Materials and E-learning

Concerning the digital learning materials there are many purposes, methods and tools. Here we can speak about for example computer supported teaching (CST), computer based learning (CBT) which are performed in most cases in face-to-face courses, but we can speak about distance learning (DL) where tutors are presented, and lifelong learning (LLL) or life-wide learning (LWL) which have no teacher assistance during the learning period. Digital learning can be on-line or off-line. We can speak about simple digital materials or we can find e-learning materials, as well. Having a wide range of these purposes and “tools”, the required students’ and teachers’ competencies also differ (see Coldwell, Goold, Craig & Mustard, 2007; Koper & Tattersall, 2005; Scanlon, 2010).

Moreover, boys and girls learn in gender specific ways (see Legewie & DiPrete, 2011), they need different climate for learning efficiently (Bujdosó,

2008). Digital materials, especially e-learning materials have to accept the differences and adjust the teaching and technical methods to various learning methods and abilities. The ways of learning and using e-learning materials vary among other various factors as well, such as races, religions, boundaries, religions etc. (see Zaharias, 2008; Schaller, Borun, Allison-Bunnell, & Chambers, 2007). For the alignment of learning materials, teachers have to get information about the gender specific differences (see Qi & Boyle, 2010; Wolf, 2005).

In the field of e-learning the scenario-based learning (CBL) could be a usable solution for decreasing the differences between the achievements of boys and girls. The difference between the scenario-based learning gives gender specific ways for getting through the curricula: it focuses on performance. The scenario leads the students through the digital material using problems and a sequence of its solutions, situation descriptions from the learner's point of view where choices are presented. For an e-learning material several scenarios have to be presented.

Personal and professional plans of higher education students by gender

In order to discover further differences between men and women who study in higher education we will use conceptions related to the personal sphere. We will take a look at the students' plans regarding getting married and having children, as well as the intended chronological position of these events in the career plan. We will search for characteristics among personal and professional future plans according to gender, to discover connections between future plans and academic efficiency as well as the "habitus" (attitude) of the students. The view on career in the case of men and women differs from each other. For men career means money and power, for women it is fitting their primary role. This could be due to the socialization of the genders through which boys are taught to be competitive and focused on interest, whereas girls are raised to be adaptive (Buda, 1985). All this fits into personal characteristic features of the genders: men are more competitive and rational; women are obedient to a higher extent but less self-confident (Sas, 1984). However, female students during their university studies most probably count with the economic (being hired later) and personal (having children later) consequences due to extended period of studying keeping in mind the importance of adjusting the profession to private life and vice versa. The traditional mindset of the Hungarian society regarding being family centered is well known from a number of studies (Blaskó, 2006; Pongrácz & Spéder, 2002), and can be discovered in the next intellectual generation as well. In Table 6 students' future plans regarding marriage and having children are marked according to gender, taking conditions and timing into consideration.

Table 6: Future plans of the students according to gender, percentage (N=1339)

<i>Having a family</i>	<i>Condition and timing</i>	<i>Male</i>	<i>Female</i>
Marriage	do not want to get married at all	3.7	4.4
	right after the state exam	10.5	10.3
	after few years of work	41.2	41.8
	after having a career built*	20.5	15
	reaching a certain age	6.8	5.3
	Finding the suitable partner	25.1	29.7
Having children	getting married	35.4	38
	Finding the suitable partner	43.6	44.1
	solid income	62.7	67.8
	Having a place to live**	29.2	37.3
	professional career	8.2	10.9
	Reaching a certain age	4	10.2
N		399	940

Degrees of significance: * 0.02 **0.007 ***0.000

Source: TERD

The typical traditional Hungarian way of thinking is represented by those who do not plan to get married at all (around 4%). Taking into consideration the differences between the genders it can be stated that both men and women – almost to the same extent – are willing to get married right after the state exam (one tenth of those being polled) and it also seems possible for the 40% of them that they get married after few years of work. The attributes of *after few years of work* and *after having a career built* differ from each other in a sense that the aim of the former is to provide a solid background and a few years of experience in the work field whereas the latter puts career in the focus by concentrating on a disrupted work and advancement. For women, because of child bearing, this becomes only possible through sacrifice (e.g. conscious childlessness, having less children than desired, returning to work earlier). It seems like the female students count with this fact, because only 15% of them choose career. In the case of the male students this figure is surprisingly low (21%) despite the fact that career and private life for them are easier to match.

We find it important to mention that comparing to former figures of research (Regionális egyetem, 2005, N=1100) done in the region there has been a change in this question: at the time of the research five years ago twice as many young men thought of putting career to first place and three times more young ladies were planning to get married soon (Engler & Bocsi, 2005). We can conclude that the viewpoints of the genders are moving towards each other as far as the private and professional future plans are concerned.

Having children at a certain age proves to be an aspect of more importance in the case of women. It is not by accident: the biological

conditions play key role when it comes to matching the career and private plans. Compared to men at the same time, the difference is significant: only one tenth of the female students count with the limitations caused by age. This does not necessarily come from thoughtlessness: 90% of the asked do not postpone the time of having children to the utmost, but try to plan it in the optimal time frame. For women it is crucial to have their own place before having children which serves as a safe background for a family.

It is worth mentioning the attitude of the students abroad, because in their case the traditional viewpoint is even more significant. Many of them are ready to get married right after having their diploma: one fifth of the women marked this option. Getting married after having a career built sounds good for one tenth of them and almost half of the men plan to tie the knot after a few years of work. The ratio of those who would get married before having children is less than forty percent, whereas sixty percent of the youth abroad marked it as an important condition. The difference between the genders regarding building up an existential background is not significant, however, women prefer to have their own place to a higher extent.

In order to compare the future plans and the efficiency of the students, we have created three groups of students by cluster analysis. The reason for creating these groups was the lack of significant difference between the genders in comparison-based research. From now on the consistence of the future plans will be our focus and, as we will see, the characteristics of the genders will appear as well. The clusters were created based on variables of the personal future plans (see Table 6). From the three groups created through cluster analysis two – the *family-centered* and the *present-centered* – appear to almost the same extent, the smallest part is represented by the *career-centered*.

The family-centered group consists of the forty percent that are mostly characterized by traditional thinking as far as their future plans are concerned. Students belonging to this group aim to get married shortly after having their diploma, either after a few years in the employment market or right after their studies. Finding the suitable partner and getting married are both preconditions of having children, as well as having a sure income and an own place before the first child arrives. Students in the group with the focus on present prove to care less about their personal future plans: they are either unsure or do not talk about their plans for the future. Finding the suitable partner is important for them, but they do not take any other aspects into consideration yet. Thirty-nine percent of the polled belong to this group. Students in the career-focused group are significantly preoccupied with building a professional career: one fifth is characterized by this. Building a career is precondition of both getting married as well as having children. A suitable partner and a solid existential background they marked vital in order to have children.

The clusters we developed correlate to the gender, the department of the attended university/college, the qualification and the economic activity of the

parents, and the religiousness. There have also been significant correlations between these factors. The gender-based dynamic as well as significant differences roughly match the stereotypes about the genders and the conventional conception of the walk of life (sign.: 0.000) that matches the male and female roles. Half of the men belong to the present-centered group; the two other clusters are shared between men and women pro rata. Almost half of the women (46%) are focused on family at the same time, one third of them (33%) belong to the group with focus on the present and one fifth of them can be described as focused on career.

The future plans of the students are strongly influenced by their institution and department (sign.: 0.000). The students abroad are mostly focused on family; this traditional mindset is reflected by their intention of getting married and having children as soon as possible. The ratio of the family-focused students at the State University of Oradea is 83%, at the Szatmárnémeti Faculty of the BBTE and the Hungarian College of II. Rákóczi Ferenc in Ukraine this is 60%.

The qualification of the parents is similar in the case of the fathers and mothers: majority of the parents (44–42%) with elementary or secondary qualification are family-centered, whereas children of those with a college degree up (38–39%) belong to the group focused on the present (sign.: 0.006). It can be stated as well that the higher the qualification of the parents is the more career-centered and less family-centered are the students. The economic activity of the parents in our model is high: two third of both the fathers and mothers are employed, but the majority of them belong to the family-centered group (40%). Significant difference is manifested in the group of the career-centered: both parents are active employees to 80%. It seems like the higher qualification of the parents and the solid presence on the job market changes the plans of the youth in a sense that they rather place professional career to the foreground.

An interesting picture is drawn by contrasting clusters with types of settlement. The first two clusters appear to be as expected: majority of the students (40–43%) who come from small settlements and towns are family-centered, those who come from cities (seats of counties and the capital) are typically present-centered (42%). We expected the most career-centered students to come from cities, however, their fraction in this group is small (26%). 36% of them come from towns, 37% from villages. Consequently, students from small settlements are those who prefer the social mobility achieved through their studies. Compared to the above mentioned figures of research there have been significant changes: according to data collected in 2005 students living in small settlements were strongly family-centered, those living in cities proved to be career-centered.

The significant correspondence based on religiousness proves to be as expected: students who admitted their religiosity put family life into the centre

the most (sign.: 0.000). 55% of the people who weekly attend church belong to this group, one third of them is present-centered and 12% think that career is first. The situation regarding prayer habits is the same: for those who have a prayer life having a family is most important, those who do not, favor present life (60%) and career (55%).

We will take a look at the school efficiency of the students based on their achievements and will also take into consideration the factors that have significant value in connection with learning attitudes. An index of such kind is the reason for starting studies, which tells us a lot about the motivational resources at the starting point of the professional career.

Figure 1 shows us that the outside motifs coming from the field of work dominated the students' decisions regarding their studies after the high-school graduation. The career-centered students' strong hope of converting their diploma on the job market – the family-centered students were not motivated by it – is represented by a significant connection. Those with the focus on family considered acquiring “the paper” as a necessary means of fitting into the employment market. The reasons of the students of the two clusters get separated at the very beginning of their college/university studies already: the career-centered group predestinated the existential and economic advantages of the acquired knowledge, whereas the possibility of social mobility, perhaps social expectation was sensed by the family-centered.

It is an interesting figure that most of the students with focus on the career marked the delay in taking a paid job as the reason for starting their studies. If we assume that this thinking does not equal with “avoiding work”, laziness or aimlessness, than we can suspect a conscious approach to career: these students believe that a well paid job is insured by acquiring the suitable knowledge. This supposition is underpinned by the fact that the students belonging to this group proved to be the most active during the years of their secondary education: they joined scientific groups, took part in school related competitions and had private lessons in order to prepare for the entrance examination to a significantly greater degree.

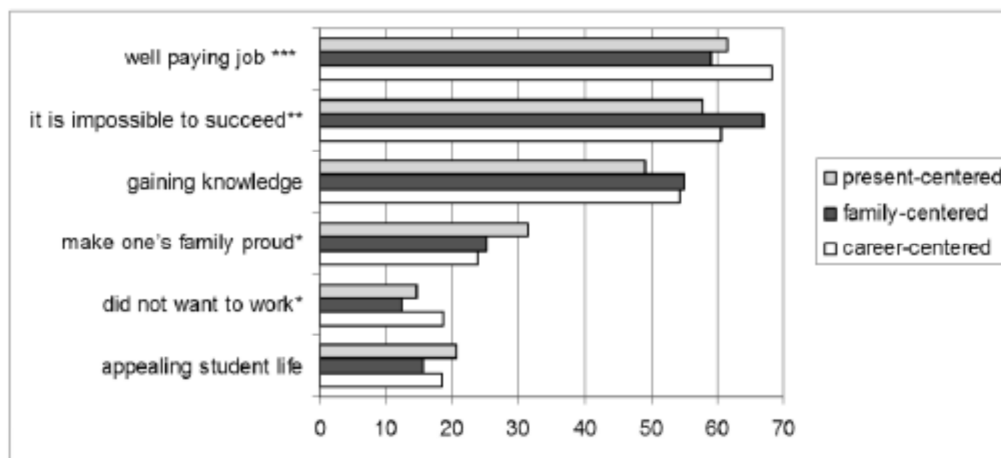


Figure 1: Reasons for studying in a collage/university, percentage (N=1355)

Degrees of significance: * 0.02–0.04 **0.007 ***0.000

Source: TERD

Of all groups the motivation of the present-centered for further studies shows the strongest link to the family background. The reason behind this is most probably the intention to keep or even advance the social status of the family, which clearly shows us the characteristic of the cluster, namely the dominance of the people and opinions that take part in the decision making. (This is also proved by the fact that the sustainability of the student status is as important for them as postponing to start working).

The only offered inside motif – increasing knowledge – was marked by almost the half of the students: we have not experienced any significant difference between the clusters in this (54% of the family-centered, 55% of the career-centered and 49% of the present-centered). The score card at the end of each semester is an indication of the students' increased knowledge. Based on the collected data it can be stated that there is no significant difference between the clusters: of those studying in Hungarian institutions 3.7 was the average of the present-centered, 3.9 of the family-centered and 3.8 of the career-centered. The order in the case of the students studying abroad is as follows: 7.4 – 7.3 – 7.8 with the efficiency of the family-centered exceeding more than in the case of those studying inside the country.

One way of studying “voluntary” is by having a membership in a special college for tutorial studies, which characterizes those with the focus on career the most (17% compared to the two other groups' 12%). The members of the afore mentioned cluster accomplish outstanding work in other scientific fields as well: their participation in conferences in-country and abroad is significantly higher than that of their colleagues (30% compared to the family-centered with 20% and present-centered falling under these figures). This is true not only of accomplished but of planned activities also, as those who are career-centered but have not carried out scientific activities would like to do so (one third of

them would like to participate in international conferences whereas in the case of the other two groups this ratio only reaches 4–5%). The career-centered excel in student competition activities, getting scientific scholarships and they are active in publishing and in teaching (having lectures in higher education). The other two groups fall behind while they carry out these tasks not related to study conditions, in similar ratio.

It seems like the career builders' scientific activity covers defined goals as most of them would like to continue their studies after getting their diploma. 56% of the students belonging to this cluster aspire to get a second diploma or continue to study in other forms. Only one tenth of them are sure of getting employed after graduation. The most uncertain about further studies seems to be the present-centered group, 40% of them do not know what they will do once having the diploma. The ratio of those who will certainly continue their studies is much higher than that of those who hurry to get employed (47%–12.8%). The same is true for the family-centered with the difference in the ratio of those who will look for a job after graduation (15%); this of course correlates with the plans of the ones belonging to this cluster to have a family at an early stage.

The motivation to continue studying after getting the diploma in the case of all three groups is primarily a better salary, a significantly high ratio being among the career-centered group; almost 80% chose this reason (Figure 2). In their case the above mentioned appear in the further motives as well, because besides the financial aspect of getting a job at a later stage, social prestige are important to them, whereas the inside motives (knowledge, talent) are less important. The primary motives are essential for the family-centered, however, having a diploma at all costs is of primary importance.

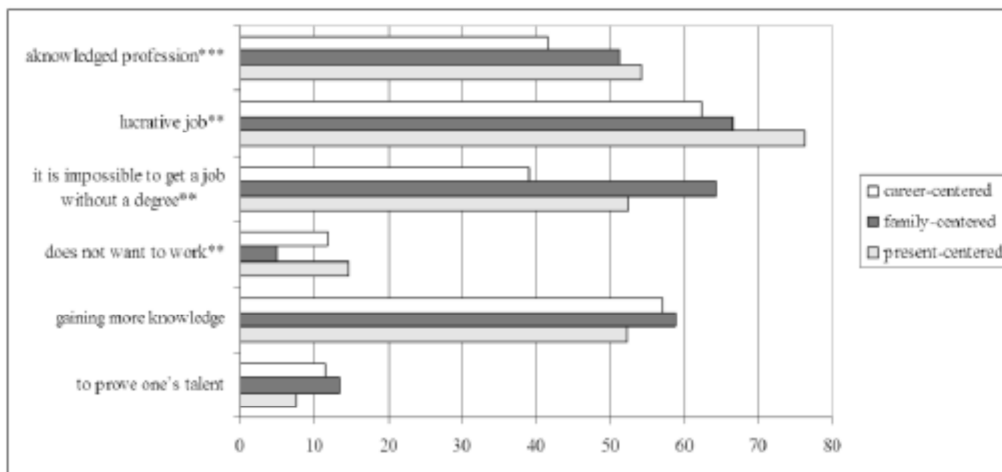


Figure 2: Reasons for further studies after getting a diploma, based on future plans; percentage

Degrees of significance: * 0.01–0.05 **0.001–0.01 ***0.000

0

The motivation of the present-centered is more difficult to define. Compared to the other groups the proportion of those driven by inside motivation is relatively high but avoiding immediate employment is also a reason. We find out more about their future plans if we consider what factors they regard as important in their future jobs. Surprisingly most desirable is to have a work place with a cheerful tone which has a significantly high value compared to the other two groups. Second most important factor is a steady job. It seems like for the present-centered, it is the conditions at the given moment that are important when looking for a job.

The ideal job of the carrier-centered is well-paid and reliable with carrier opportunities and diverse operations. This is sought after abroad as well, as almost 30% of them plan to work abroad for a longer time, 15% of them for a shorter period of time. Safety is an important factor for the family-centered as well, although not because of material reasons, but because of factors like helping others, being socially useful and successful. Those with the focus on family remain in Hungary to a significantly greater degree (sign.=0.001), thirty per cent of them plan on gaining experience abroad.

The situation of female instructors in higher education

Researching gender differences in higher education would not be complete if we did not study the other significant acting-group beside students: the instructors. As the higher we look at the hierarchy of education and science we find fewer women; their number and ratio in leading positions is pretty low. With the intention of finding causes we examined the characteristics of their entering in the work field, their motivation, special features of their walks of life, and the background elements of careers of women; supporting and moderating factors. Our main inquiry was to see what those women who got into higher positions did differently than those (women) with the same conditions; how they can manage requirements set by their gender, society and also themselves.

The first and most important step for a woman to be able to get into positions of instructor researcher was to enable their university studies. That is how it happened in Hungary, too: first women managed to achieve the freedom to study then to be able to go for the freedom to teach as well and conquer the pulpit. “Enabling women to have higher education played a part in women’s emancipation, in fact, it was a very important step towards it. No wonder that it was included as one of the main claims in women’s societies in the second half of the 19th century. It was not only a question of principle to equalize men and women in this area but also had a great practical, economical and social significance” – says Müller (2006, p. 223) in her study. Because opening the

universities for women made it possible for women to step into intellectual work fields that require higher education alongside men (Müller, 2006). Women's position in higher education in Hungary has got into the centre of attention in the past hundred years, in spite of the fact that women's education looks back to a couple thousand years of history in the same way as men's (Pukánszky, 2006). However, women's entering into higher education was the first main step for women with talent and commitment to academic work to the academic field (Kissné, 2002, 2005).

Careers of Women in Higher Education

Although more and more women attained higher education degrees, women who were still drawn to academic work fields had to cope with set stereotypes and legal obstacles, let alone their own personal doubts. Socialism opened the gates of higher education wider than in its previous cultural politics and this could be felt by the change in the number of students. The majority of women of course took the opportunity and the decreased number of students meant more and more women with talent and commitment to academic work (Kissné, 2002, 2005; Tornyi, 2009). However, we need to differentiate between the college and university majors. Gender segregation according to the branch of studies can be spotted: there is a high attendance in kindergarten teacher, junior and high school teacher majors and also in arts faculty – in humanities and social studies – and in medical colleges. There is a similar attendance of women and men in the PhD, economic, legal and polity studies, and the ration of women can be said low in the fields of engineering, technology and some majors of natural science (Hrubos, 2001).

Hungary is training many talented men and women but women seem to “disappear” or “run out” from the field as the years go by: while the ratio of women getting diploma is over 50%, in the area of research and leaders of higher education their rate is around 12% (Csépe, 2008). Nonetheless, as the money and energy put into the training of these human resources are not utilized properly, it means a huge loss for the branch and the whole economy, and also for the whole society (Papp, 2006; Papp & Groó, 2005), since not only the principles of the society and women's chances are damaged but it can mean a loss for the whole society (Engler, 2011).

The University of Debrecen through Women's Eyes

We carried out our survey among the instructors of the University of Debrecen between February and June of 2009. We had a complete survey with 479 questionnaires handed out. 134 got back to us, meaning that the ratio in the case of questionnaires sent by post was relevant in our present research, as well. Ratio of women instructors in suited the results published in this subject-

matter; the higher ratio can be seen at faculties which opened first for women (General Practitioner faculty, Arts faculty), and at faculties which trained women for traditionally women's fields (Faculty of Child and Adult Education).

We have got questionnaires back from all the points of hierarchy of the university. Motivation for their entrance to academic fields let us consider three main directions: in the first category – 54.3% – chose the academic field because of their love for their profession. In the second group we can find those who got their first academic degree due to requirements in their workplaces (50.9%), in the third one we can include people who chose teaching-research for the prestige of the PhD degree (44.0%).

32.2% of the respondents have university doctor degree, 61.2% have PhD degree, 8.8% have the degree of C.Sc., 15.8 % have habilitation and 5.3% have honored professor rank.

Obstacles

In our questionnaire, we asked the female instructors of the University of Debrecen to choose the three main factors that meant the greatest obstacles in their professional career. The obstacles ranked by the women are the following: (1) having children (32.5 %), (2) lack of confidence (28.1%), (3) lack of support on the part of the boss (26.3%), (4) family responsibilities (23.7%) and the lack of a supporter or mentor (21.9%). Both internal and external obstacles appeared in the lives of our female instructors which can be explained – the (1); (4) with the conflict between the traditional and personal requirements, (2); (3) and (5) with characteristics learned at gender socialization, acquisition of gender roles and personal insecurity. According to Nagy (1999) women start off with a great disadvantage since they are taught the very opposite qualities through gender socialization and acquisition of gender roles from the ones that are needed for a successful manager or leader.

“The >Research work can be compatible with having children< challenge can be met where the individual pledge and help from the family are combined” – says Csépe (2008, p. 1399). Because of their age, women have children in the period of their doctorate studies or dissertation and not everyone can manage both tasks. Neither the current scholarships nor the expected funded research assistant's or graduate teaching assistant' salary can enable families to get professional help. Research work demands a lot of personal effort even if there is help from the family. Most families cannot afford to have the mother work in a part-time job. Many research centers, university, academic or other kind do not take it with pleasure if there is a part-time attendance and research time put into time limits (Csépe, 2008; Engler, 2011). This is supported by the counter-question of our previous one, namely, asking for the three main supporting factors in women's professional career. To our

surprise, the main support does not come from the husband – though they are the second with 44.4% – but it comes from the motivation and hard-working with 50%. There is a supporting role of the bosses, 34.1% of the ladies said that their boss was one of the main supporting force in their work, then comes the help of the parents (29.4%) and that of mentors (28.6%), which is also worth mentioning.

Academic Life

The quality indicators of researching are publications. Our instructor ladies have published mainly in Hungarian journals in the last 5 years (4.7 studies on average) and in foreign periodicals 2.7 studies on average. Furthermore, they have published in Hungarian study collections (2.8) and have written 5.99 abstracts of conferences. In the past five years they have had about 22 people writing theses. One person went for OTDK (National Academic Student Circle) and had one doctorandus. We cannot forget that the role of a mentor-tutor in the graduate and post graduate training has great significance and working with thesis writers and doctorandus is time and energy consuming, which makes it harder to obtain the tasks of research and publication. It is worth mentioning that the support of the direct environment, tasks of mentoring and tutoring – as we can see it in the study of Szántó, Susánszky and Palasik (2008) are explicitly mentioned as solutions to the problem of inequality between men and women. Women consider it a more positive affect of publicity of the delegation of tasks at the workplace and the relationship with the immediate supervisor which varies according to gender and age (Szántó, Susánszky, & Palasik, 2008).

Besides numerical questions aimed at professional career, there were some questions which wanted to gain opinion about the academic career. 44.3% of the respondents are satisfied with their careers, 53.4% are partly satisfied and only 2.3% answered that they are not satisfied with their careers. The question: “If you could start over, would you choose the same profession?” got positive answer from 66.2 %. 12.3% would not choose the teacher-researcher field and 21.5 could not tell.

Success

It is crucial in the point of our research to get to know what the most important supporters and characteristics of academic success are. Our respondents could rank 12 features on a 4 scale rank deciding on how much they think it is important. Academic success is defined by external and internal factors. It makes us think to see that the most important internal factor was hard-working and perseverance (3.82) and talent only got a 4th place (3.45). The more significant factors are independent from the individual: supporting professional

workshop (3.69) first place, help and support from the mentor-tutor (3.52) the second and having a good relationship with the influential researchers of the given professional field (3.44).

There is hardly any study which does not consider the dilemma of role that comes from the double charges of work and family. This often means a demand for decision and sets the basis for the progress of women. In the field of research the chances getting degrees and consequently becoming a leader are decreased by the conflict of work and having children (Csépe, 2008.). Regarding chance of mobility and career, researchers with children have fewer opportunities than their male colleagues, which is backed up by the fact that the respondents see the cause of inequality of career chances in women's child reproduction tasks (Nagy, 1997). In oppose to this, 40% of mothers would like to run a career and make progress in their work, but they can only imagine this if their families do not suffer damage as a result – men's (husbands') opinion are positive in connection with their spouse's employment only if that is the case. This is emphasized by the fact that although there is an increasing number of those supporting work and career as equally important by the higher level of their education and there is a decrease in the number of those emphasizing personal life – still two thirds of the respondent women prioritize personal life over their profession (Pongrácz, 2001, p. 38).

Judgment of career – and mainly academic career – is not an obvious question. We are speaking about professional careers marked with academic ranks, titles and commissions for leadership in connection with female instructors. Many professional areas are devoted to the employment and career opportunities, although those studies which give numerical data about how the role and chances of researcher women change in the beginning of the 21st century are most interesting (Csépe, 2008). Most of the thorough studies search for the answer – and we also join this mission – to find what we could do to have more women with talent and high performance in high positions as there are now.

Summary

Our previous research (see Fényes, 2008; 2010a, 2010b; 2010c) showed that boys are in a disadvantageous situation in education concerning several aspects. According to our results boys who study in higher education read less, their cultural consumption is lower, and they are in a disadvantage in most aspects of informal learning as well. Moreover, boys' school efficiency is worse concerning some aspects at secondary grammar schools and higher education, despite their superior social background. We also pointed out that one of the most significant disadvantages of boys in education is that their social mobility is lower compared to girls, which are in accordance with that they are in minority in the training. They study at secondary grammar schools

and in higher education only with much better cultural and material background as compared to girls, which was supported by American studies as well (Buchmann & DiPrete, 2006).

Concerning the acquired cultural capital in our present research – where we differentiated between Bachelor's and Master's trainings – we have seen that girls were in the lead in paper-based reading and in cultural consumption (but only in theatre attendance) in Bachelor's training, and they have more objective cultural capital as well. However, boys were in the lead in ICT usage. Comparing the two stages of the training, the advantage of girls in acquired cultural capital is decreasing in Master's training in accordance with our hypothesis, and we have data at this stage on the use of ICT, where boys are in the lead. In Master's training, reading habits and cultural consumption have become more similar, which might be due to the fact that boys and girls have partners more frequently, and they perform cultural activities together (as explained in our hypothesis). Our further result was that traditional cultural consumption has decreased in general, due to the fact that students have much less free time, and new types of activities are emerging.

Concerning objective cultural capital (the possession of encyclopaedias, dictionaries, books in foreign languages, books on art, classical music records, paintings per students), our results showed the advantage of girls, while contrary to our hypothesis, their advantage is even larger in Master's training than in Bachelor's training. Explaining this phenomenon, we state that traditional gender roles play a part in the case of the young generation as well in the examined region in a sense that it is still the task of girls to buy these things despite that they already might have a partner in Master's training more frequently. The effect of the traditional gender role model still exists concerning the differences in objective cultural capital, despite the fact that in the young generation, modern gender roles are more popular (but rather in words than in deeds).

In the second part of our paper we examined gender differences in e-learning and e-teaching based on the literature. As we have already mentioned, the boys prefer reading e-books, papers, articles, news, blogs, forums and popular literature on the internet more than girls, but there are specific differences in e-learning (e. g. reading special literature on the internet) as well by gender. Our research question in HERD project concerning e-learning and e-teaching by gender will be how to adjust the digital learning materials and teaching methods to the needs of the next generations of the students in a gender specific way in this specific ("Partium") region. For meeting the new requirements first we have to determine the existing competencies, the factors that can help or impede students' learning.

Four hypotheses have been formulated based on the theoretical background, and these hypotheses will be controlled later on in the frame of the HERD project. Our hypotheses concerning e-learning and e-teaching by

gender are the following: (1) On the BSc/BA level, women prefer the combination of the digital materials of the curricula provided by their teachers and the information that is derived from their social network; (2) On the BSc/BA level, men prefer the web based self-directed exploratory learning, those activities that they decide and do by themselves; (3) In higher education, the colorless layout, the bad web design of the used cyber space reduces women's motivation and the effectiveness of digital learning; (4) In higher education, women need more positive personal feedback from their teachers/tutors concerning their knowledge level and progress.

In the third part of our paper the personal and professional career plans of students were compared by gender. The study comparing the plans for the private life and professional career was conducted by creating and analyzing three clusters, as the comparison of genders did not display significant differences. The clusters showed strong connection to the demographic background variables, thus becoming easily definable. We found essential results regarding study attitudes and performance. An important milestone for the career-centered – predominantly men – who postpone personal plans is the time spent in higher education, because they had been consistently preparing for this throughout their secondary education. We anticipated that the career centered would start their professional development soon in order to have as much time as possible for gaining experience. However, it seems the career building for them does not mean so much getting experience in the work field, but rather acquiring diverse competences through continuous studying.

The family-centered group consisting typically of women showed average interest in further studies, which could be explained by their personal plans: having a family comparatively earlier than the other groups is dependent on the participation in the labor market (ensuring a steady income and a more secure withdrawal from the labor market), thus showing less interest for the deepening of their knowledge, or as we have seen, for further studies. They do not prolong their study time with gaining experience abroad either. In their case we have often seen that they wish to get a diploma based on others' expectations of them.

In this regard the present-centered do have a similar mindset, to which the immediate environment and the given circumstances are highly important. With further studies they would like to make their family proud of them. During their studies the significance of the student life itself and colleagues is great, even when considering future employment; they consider a friendly atmosphere at the workplace important. They are extremely unsure, perhaps indifferent about decisions of greater significance, as in having a family, studying further and working abroad. Based on the above mentioned we can conclude that future plans regarding private life and professional career are strongly connected with each other as well as with the gender role in the society.

In the last section of our paper we dealt with the female instructors in higher education. The advantage of women in education can not be detected at the highest level of tertiary training. At the level of instructors and higher education researchers the women are in minority. Based on quantitative data we tried to explore the supporting and moderating factors in the career of female instructors in higher education. The main external barrier which they faced with was family-responsibilities, but there were some internal barriers as well, such as the lack of self confidence and personal insecurity or the lack of a mentor. On the other hand, the support from the husband and parents, and a good boss or a good mentor helped them in their career, and the motivation and hard-working characteristics of women instructors affected their career positively as well.

All in all, to examine gender differences in education is still important, even nowadays girls catch up with boys in education concerning several aspects. We showed that girls are in the lead in traditional cultural consumption, but boys are in the lead in using ICT. We also showed that there are several differences in e-learning methods by gender (we have to take into account these differences in planning digital materials in higher education). Our results concerning gender differences in personal and professional career plans of higher education students were in accordance with the fact that men are still in advantage on the labor market (there is a status-inconsistency between girls educational and labor market position). Concerning female instructors in higher education, we can state, that they are still in minority, and getting higher and higher in the academic hierarchy the rate of female instructors is decreasing. Thus there are also several fields where still the advantage of males can be detected, even in the education.

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