



Meta-analysis of gender and science research

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D31 – Country report Bulgaria

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Introduction

In December 1995, Bulgaria submitted an application for EU membership, and two years later preliminary negotiations were launched. The Commission presented its first regular report on Bulgaria's progress towards accession in November 1998. The second report, released in 1999, recommended that formal negotiations be opened. Accession negotiations between Bulgaria and the EU started on 15 February 2000 and were finalized on 15 June 2004.

The EU membership perspective of Bulgaria imposed a new agenda to be set on the national level. According to it Bulgaria had to harmonize its legislation with that of the EU during the so-called 'accession period' (1998-2004), i.e. to transpose the Union *acquis* in its national legislation. In relation with recommendations made in Chapter 13 of the *acquis* 'Social policy and employment (Commission of the European Communities 2001; 2002; 2003; 2004) dealing with the framework legislation on equal treatment for men and women Bulgaria adopted a 'Law on Protection against Discrimination' in 2003 (30 September 2003). In early 2004, an "Equal Opportunities for Women and Men" sector was established with the Ministry of Labour and Social Policy, with a view to coordinating and implementing the state policy in this area. A National Council for Equal Opportunities was established at the Bulgarian Council of Ministers then. It is a consultative body which is supposed to support the development of coordination of the gender equality policy in all spheres of the economical, political and public life of the country. Some Bulgarian NGO's have been invited to take part in the work of this body. The anti-discrimination policy however focuses attention on equal opportunities of women and men in the labour and social areas and **still has not been translated into policy of gender mainstreaming in HE and R&D sectors.**

Unlike many other EU countries in Bulgaria the Ministry of Education and Science (MES) has not developed a national policy for gender equality in higher education and research because it has to address other priorities of its agenda setting. The consequences are that the MES lacks organizational and administrative structure engaged with the coordination of activities in the field of gender equality in higher education and research as well as a specified budget for support of such activities. In 2002 a 'National Steering Committee on Women and Science' was established at the Ministry of Education and Science. However this body has neither any office(space room) nor any budget. Therefore it could not carry out any activities. In the Bulgarian HE sector (consisting of 51 Universities) as well as in the Bulgarian GOV R&D sector, and in particular at the Bulgarian Academy of Sciences (consisting of 68 research institutes), there are no structures/units (office/officer) in charge of responsibility for implementation of equal opportunity policy in academia and research.

The main stereotype is that according to the statistics data the issue of gender equality in HE and R&D is settled in Bulgaria. In my view the issue is related rather with the question 'Why are women researchers and academics underrepresented at the higher posts of academic hierarchy and at the decision-making bodies?' than with statistics data.

During different workshops and conferences held in Bulgaria in the last five years many local gender experts voiced the urgent need for the transfer of current policy and politics of 'non-discrimination by sex' into a policy and politics of 'gender equality in academia and research' and shared experiences and disappointment that their advocacy in this respect at the different levels of state authorities remained unheard.

Bulgaria is among a group of five EU member states (Bulgaria, Cyprus, Hungary, Poland and Romania) who are not yet committed to gender mainstreaming.¹

It deserves also noting that five of the 'new' EU member states - Bulgaria, Romania, Estonia, Latvia and Lithuania have the highest relative share of women researchers of their R&D sectors - over 40% (EU Commission/She Figures 2006; EU Commission/Enwise Report 2004; EU Commission/Statistics in focus 2003). As the Enwise report² highlights this "optimistic statistics"

¹ Benchmarking policy measures for gender equality in science, EC, 2008, p.42

² See http://ec.europa.eu/research/science-society/page_en.cfm?id=3197

about women researchers in these countries looks very different when crossed with another statistics, the R&D expenditure per capita researcher. It appears that the five countries in question, which have the highest proportions of employed women researchers in their R&D sectors at the same time have the lowest R&D expenditure per capita researcher. Furthermore, if we take into account the so-called horizontal segregation, i.e. the concentration of male and female researchers across the scientific fields and R&D sectors then it becomes evident that women are squeezed out of competitive, high-expenditure R&D sectors, but absorbed into struggling low-expenditure sectors as a kind of 'back-up' human resource (EU Commission/Enwise Report 2004). In short, the current situation as it is seems to be profitable for the R&D sector itself and not for women researchers employed in this sector.

During the transitional period different aspects of gender equality issue have been researched in Bulgaria. For example, the following thematic areas have been largely studied: Women and Politics; Women and Transition; Women and Labor Market; Women and Poverty; Gender Equality Issue; Women's Health; Women's Rights; Family Issues; Women in Bulgarian History and Culture; Women's organizations, etc. However studies in the thematic area "Women and Science" are still few. The researches in this new for Bulgaria field are at their very beginning.

2. Analysis by topics

2.1. Horizontal and vertical segregation

The topics of horizontal and vertical segregation are the most pronounced areas of research in Bulgaria. Nevertheless this area is still highly fragmented and unevenly developed in terms of institutional sector and the respective scale of research. For example the horizontal and vertical segregation in Higher Education sector (HE) is much more explored in comparison with that in the governmental R&D sector. The reason for this could be referred to the availability of the official statistical data for both sectors. Further the researches focused on women academics in the Higher Education sector differ by their scale of research. Some of them deal with a large group of Higher Educational Institutions/Universities while the others – with the gender composition of a single Higher Education Institute or University. As a rule the topic of 'vertical segregation' used to be complemented with discussion about the underrepresentation of women scientists in leadership positions and in decision-making positions and are related with the low sensitivity of the Bulgarian scientific community towards the issue of gender equality in scientific research, including among the women scientists themselves. The discussions on horizontal segregation used to be referred to the issues of existing gender stereotypes and role models.

A bulk of identified studies is focused on women's perspective in private business and/or on female entrepreneurship. They aim at providing a portrait of female entrepreneurs in today Bulgaria and deal with themes like motives for starting a private company as a form of alternative occupation, problems faced by women business owners in the private sector. Despite the fact that women entrepreneurs in particular those being presidents of private companies are educated and career oriented women they are not necessary women academics and scientists. That is why the publications on female entrepreneurship have not been included in GSD database. Nevertheless this bulk of studies deserve mentioning in the Country report because it unveils a new perspective on the traditional values of career and professional advancement.

Research questions

The majority of the researches on this topic are focused on the issue of vertical segregation in academia and research institutions and to lesser degree to horizontal segregation. The issue of horizontal segregation in scientific fields is also analyzed in the historical context, i.e. in relation with the first generation of women academics. It deserves noting that term as 'horizontal segregation' and 'vertical segregation' as well as terms like 'glass ceiling' and 'leaky pipeline' are rarely articulated in the writings of the Bulgarian gender experts. Instead one uses terms like 'professional realization' and/or 'professional development' when discussing the issue of underrepresentation of women scientists at the higher levels of the academic hierarchy. The

difference in terminology used by the Western and Eastern, in particular the Bulgarian scholars might be explained by two circumstances:

1. As it has been nicely pointed in the ENWISE report 'in communist countries, the existing *glass ceiling* was not reflected on, named or criticized by women. Neither was it a theme in social sciences' (p. 26 of the report).

In Bulgaria under communism due to egalitarian and collectivist ideology it was not even accepted to speak openly on the issue of 'career building'. The very term 'career' and/or 'career advancement' had a negative connotation at that period.

2. After the political change of 1989 appeared some feminist studies and some researches on the topics of horizontal and vertical segregation. However the studies on women and science use to apply different terminology, most frequently 'professional realization', 'professional advancement', 'professional development' and similar terms in order to outline the same issue of vertical segregation. There are few exceptions of course – some authors use to apply the terms of horizontal and vertical segregation in their writings on the topic.

The following research questions have been analyzed:

- ✓ The dynamics of scientific promotion of female and male academics and researchers;
- ✓ The underrepresentation of women scientists in the leadership positions in the Bulgarian R&D and HE sectors.
- ✓ Identification of barriers for building of professional careers by women.
- ✓ Women in decision-making positions, in particular **women in manager positions** in the state sector/administration in general. For example the target group of an empirical study carried out in 1994 included the following distribution of women in manager positions: directors of state enterprises, hospitals, etc. – 15.1%, vice-directors – 6,4%, head accountants – 14,2%, directors of units and chief experts – 41.8%, rectors, deans, chairs of departments and assistants in HE - 7,3%, directors of secondary and primary schools – 10,1%,etc.
- ✓ Women in the private sector, i.e. women business owners and entrepreneurs, etc. As it has been mentioned above these women are not necessary women academics and scientists. Therefore these researches/ publications have not been included in GSD database.

Research approaches

- ✓ Compilation of statistical data – analysis and interpretation of available statistics in order to identify some trends.
- ✓ Domination of small-scale quantitative empirical studies with questionnaires. As a rule the respective inquiries involves about 200-300 recipients, i.e. they work with non-representative samples.
- ✓ Qualitative empirical studies aimed to complement the non-representative quantitative studies, which use to apply techniques like interviews, observations and case studies.
- ✓ The majority of the identified empirical studies combine both quantitative and qualitative methods.

Findings

The chance of a woman with university degree to pursue a scientific career in Bulgaria is twice less in comparison with that of her male colleague.

Some empirical studies carried at the very beginning of the 1990s (i.e. during the first few years after the political change in Bulgaria) show a low sensitivity of the Bulgarian women towards the issue of professional promotion and career building. The explanation is that due to the egalitarian and collectivist ideology of the former communist regime the issue of 'professional career' still holds a negative connotation in the social perception of the immediate professional surroundings as well as in the society at large.

In Bulgaria from 1970 onward women students have constituted a higher proportion of the student body than male students. In 1987 (prior to the political change) in Bulgaria had 30 Universities and equivalent higher educational institutions (HEIs) which enrolled 116, 407 students of which 64,034 female students (female share 56%). In 2005/2006 in the Bulgarian HE sector operate 43 Universities and equivalent higher educational institutions (including 7 private Universities), 10 Independent Colleges (including 9 private Colleges) and 40 Colleges at the universities. They enroll 243,500 students in total (the relative share of female students was 53% of the total number of students in 2006). Therefore a decline of women enrolment in higher education is observed.

In Bulgaria in 1987 (just before the country's political change), on average only 9% of women academics were full professors and 22% associate professors. These figures almost doubled in 2004 and nowadays the Bulgarian case is close to that of the EU-27 average. However, the context of these statistics differs: the current visible trend towards the improvement of gender equality in higher education in Bulgaria reflects the difficult economic situation in Bulgarian society as well as the poor image of science careers, rather than the emergence of a new organizational culture for gender equality in higher education. In addition, as in the other EU countries, the model for scientific career building in Bulgaria is a "male career model". The current situation is also maintained by a widespread lack of gender awareness and sensitivity to gender related discrimination, also among women.

Gaps

Lack of representative quantitative empirical studies as well as of longitudinal studies on gender and scientific careers as well as studies on women scientists in the Industrial sector and in the PNP sector; As it was already mentioned in the HE and GOV R&D sectors the researches on this topic are still highly fragmented. The consequence of this is the current lack of synthetic reports which reflect the state-of-the-arts of vertical and horizontal segregation of women academics and researchers either in the governmental R&D sector as a whole or in the HE sector as a whole. In this regard the Enwise report, which has been translated in Bulgarian remain the only synthetic report of this kind.

2.2 Pay and funding

The current level of R&D funding in Bulgaria is generally low. During the past 10 years R&D spending oscillated around 0.5% of GDP, in 2006 it was 0.48% of GDP, which is far below the so-called 'Barcelona target'. The major part of the Bulgarian research potential is still concentrated in the GOV R&D. The recent report 'Remunerations of Researchers in the Public and Private Commercial Sectors' (commissioned by the European Commission's DG Research) presents an overview of researcher salaries across Europe. According to this report, in about half of the European countries researchers average net yearly remuneration is in the € 20,000–€ 30,000 range (in purchasing power). Bulgaria can be found at the bottom of the list – the average total annual salary of Bulgarian researchers (in purchasing power) is € 9,800; Austrian researchers make over € 30,000 a year, Swiss researchers (top of the list) average € 46,500.

Research questions

- ✓ Development of system of indicators for the identification of the gender pay gap in the field of paid work;
- ✓ Analysis of the factors which determine/shape the gender wage gap in Bulgaria, including the factor of gender discrimination practices.

Research approaches

There is no any identified study in Bulgaria on this topic. During the recent years however appeared few researches dedicated to the broader topic of the gender pay gap in the Bulgarian economic sector. They are not aimed at pay inequality between female and male scientists across the institutional sectors and fields of science. Nevertheless these studies provide some information about gender pay gap by level of education. The reason for this lack might be referred to the fact that the official statistics about the gender pay gap in Bulgaria does not existed before 2002. In 2002 appeared the first publication of the National Statistical Institute of Bulgaria providing **aggregate statistical data** about gender wage gap, which included the time span from 1997 to 2002. However this statistics was built on a **single indicator** – ‘ratio between female’s and male’s average monthly wage and salary’. According to it the relative share of the average female’s monthly salary was 70.8% of the average male’s monthly salary in 1997 and it reached 82% in 2002.

After 2002 appeared few studies which aimed to develop a system of indicators for more nuanced understanding of gender pay gaps.

Findings

In 2002 the average monthly salary of a Bulgarian woman with university degree (bachelor and master) has been 75.5% of that of her male counterpart. The average gender pay gap among the male and female holders of PhD appears smaller, but still exists – the difference is of 11.3%.

Three groups of factors with different ‘weights’ affect the formation of the average monthly salary by gender and underlie the gender wage gap: a) objective factors (relative share - 40%), b) human capital factors (relative share - 30%) and c) discrimination factors (relative share- 30%).

Gaps

There are no any specified studies about the wage discrimination of women scientists in academia and research as well as any study related to the topic of gendered access to research funding.

2.3 Stereotypes and identity

This topic is poorly researched in Bulgaria. The Bulgarian feminist scholars have published on the issue of ‘social construction of identity’ but without any regard to science. There is no any identified study in the field of feminist epistemology of science and/or feminist theory of science as well. In turn the Bulgarian philosophers of science have written on the issue of ‘social construction of science’ mainly from critical perspective. They use to criticize the very idea of inserting **power relations** in the theory of science and its dynamics. In the Bulgarian epistemology of science dominate researches on issues like ‘realism vs. constructivism’; the issue of scientific truth and its relativisation, etc. The gender perspective has not been researched in the field of epistemology of science because of the general disagreement with the thesis of the social constructivists and the questioning of the value of this approach towards theoretical representation of science.

Nevertheless the issue of gender stereotypes appears as particular aspect/dimension of almost all publications related with all other topics like horizontal and vertical segregation, professional career, science as labor activity, policy issue, etc. Usually it is referred to still traditional patriarchal organization of the Bulgarian society or is connected with the lack of information about the contemporary on-going European discussions on women and science.

There are however some empirical studies on female managers, which use to emphasize the importance of the gender stereotypes on the career advancement of women in manager positions.

Research questions:

- ✓ Process of creation of gender images, roles and stereotypes in Bulgaria
- ✓ Life strategies and behavioral models of female managers in the state sector
- ✓ Cognitive base of the high school graduates' choice of professional career
- ✓ Gendered roles stereotypes and professional career of women managers

Research approaches

Theoretical analysis; Empirical sociological surveys which apply structural questionnaires, semi-structural interviews, focus group studies, etc.

Findings

The socialist doctrine and its follow-up which use to de-emphasize the difference between the genders actually concealed the existing patriarchal mechanisms and in long run preserved the male patterns of behavior and thought;

Several empirical studies on women in managerial positions show that to some extent the women are sensitive to the existing prejudices against them yet they frequently view these **as their own problems, not as barriers erected by others or as issues which should be brought to the awareness of the public.**

Scarce of women 'role models' for young women academics and researchers

Young women in science show low sensitivity towards the issue of equal opportunities in science

Gaps

The lack of studies in the field of feminist epistemology of science and/or feminist theory of science which are assumed to back the specific investigations on the relation of **gender and power** in science construction as well as empirical studies about gender stereotypes in HE and R&D sectors.

2.4 Science as a labor activity

In Bulgaria there are some publications related with the issues of 'Working time and work/life balance' and 'Personal and professional life-course'. However these publications are dealing with working women in general and are not specified or focused on women scientists and academics as a particular group of professional women.

Nevertheless I identified three groups of studies respectively publications related to this topic:

1. A group of historical studies dedicated to professional and personal paths of the first generation of Bulgarian women academics and researchers at the end of 19th and the beginning of the 20th century.
2. The other group of identified publications which are somehow related (though partly) to the topic 'Science as a labor activity' use to discuss the most 'hot questions' of HE and R&D sectors of the transitional Bulgarian society. These questions are as follows:
 - a) The issue of unemployment among highly educated women – academics and scientists, in particular - among young women with university degrees;

- b) The issue of emigration, including the academic migration ('brain drain') from Bulgaria.

These identified articles are written by Bulgarian gender experts in the fields of economics, population studies, sociology, etc. They reflect the current specific and topical problems as well as the current situation faced by the Bulgarian HE and R&D sectors, which might have some parallels with the situation of the other 'new' EU member states (in particular with that of HE and R&D sectors in Romania) and might have not any parallels with the case of the 'old' EU member states. I refer this group of publications to the GSD topic 2.6 'Gender in research contents'.

3. There is only one identified study in Bulgaria which corresponds to the GSD description of the topic 'Science as labor activity. The topic 'Science as labor activity' has been researched in the majority of other publications from the perspectives of the current challenges faced by the Bulgarian academic women, namely the issues of unemployment and emigration.

Research questions

- ✓ The struggle of Bulgarian women for access to higher education at the end of the 19th C; Historical and biographical analysis of the first generation of women scientists and barriers to their access to scientific positions at the beginning of the 20th C;
- ✓ Obstacles, deficiencies and gaps faced by the young women scientists (PhD students and early career researchers and academics) in the advancement of their academic careers
- ✓ Specific gender issues of young women scientists (work/life balance, personal and professional life-course)

Research approaches

Documentary analysis of different sources of historical studies; exhaustive research of the archive documents from the end of 19th and the beginning of 20th C. like Central State Archive (Sofia) as well as other institutional and private funds, e.g. archive documents of Sofia University (the only Bulgarian University at that time), archive documents of the Bulgarian Academy of Sciences, data from statistical annuals and reports from higher schools, archive documents of the Bulgarian Parliament (for respective legislative decisions taken during that historical period), survey of public discussions carried out in printed media and specialized journals at the end of the 19th C. in support of women access to higher education and scientific profession, etc.

Focus group interview sessions and questionnaire surveys focused on two target groups: female Bulgarian PhD students and Bulgarian early career women academics and researchers (i.e. before habilitation) in 'hard' and 'soft' sciences employed in the HE and GOV R&D sectors.

Findings

The Sofia State University was founded in 1888 and the Bulgarian women received access to it **very quickly** in comparison with the case of women in the other European countries. The issue of women admission to higher education was settled by legislation yet in 1897 and the first women students were enrolled in Sofia State University in 1901. In 1912 the share of women students at Sofia State University was 24.6% out of the total. Statistical data shows that at that time female students preferred subjects of pedagogical nature – in the field of linguistics (31.1%), humanities (24.4%) and natural sciences and mathematics (20.8%). Slavonic philology, medicine, law and pedagogy were the most preferable subjects of study of female students; undesired were veterinary medicine, state and economic sciences, and theology.

In the public debate of the 19th C. the educated Bulgarian men supported the women's admission to Sofia State University (the only Bulgarian University at that time). The women themselves took part in this public debate and wrote competent articles in defense of their own

human right – access to higher education. In doing so they attracted public attention and male supporters for their cause. However the first women assistant lecturers were appointed at Sofia University after World War I and on limited work contracts. The lives and professional careers of the first generation of Bulgarian women academics provide evidence about difficulty and barriers met in their paths in science and particular mechanisms of gender discrimination practiced at Sofia University during this historical period.

The nowadays generation of young women scientists (PhD students and early career researchers before habilitation) appreciate the work-life balance but give priority to career building over their social role of mother and wife. It deserves also noting that according many recent national and international demographic inquiries there is a trend towards raise of the average age of the women giving birth to their first child as well as the age for marriage. This is true for Bulgaria as well as for most of the European countries.

Most of the respondents of the carried focus group interviews with young women scientists were convinced that they have experienced no gender discrimination at their working place. However they face difficulty to give examples of successful woman scientist in their field. Most of them claim that they do not know any. In this regard the following conclusions could be drawn. Firstly, in Bulgaria on higher levels of the academic hierarchy and of scientific prestige dominate male scientists. There are a lot of reasons for the current-state-of-the-art and probably one of them is the **implicit discrimination** of women scientists, impeding them from reaching the top levels of the academic career. This is the reason why the respondents cannot point out concrete examples of successful women scientists: obviously there are no enough successful women. Secondly, even in humanities where women dominate, the respondents do not point out leading women scientists, because they think there are none. One possible explanation could be related to the lack of clear criteria for scientific achievements' measurement in the fields of social sciences and humanities – the consequence is the impossibility to clearly define the leaders. Another one is related to relatively slow up development of these fields in comparison to the technical sciences for example.

Gaps

There are no any large-scale empirical studies addressing the institutional practices of research organizations and universities in terms of work organization, working conditions and working time and their impact on work-life balance and female scientific careers. The findings of the single small-scale empirical study (focus group interviews with young women scientists) cited above are limited in scope in order to grasp the whole picture in a fair way.

2.5 Scientific excellence

This topic has not been researched in Bulgaria. I identify only two small-scale publications dealing with scientific productivity of women and men in academia.

Research questions

- ✓ Bibliometrical study of women-authors in Bulgaria and of women's literary production from the establishment of Bulgarian state in 1878 until 1944. This is a historical study.
- ✓ Analysis of the differences in the rate of scientific productivity of women and men academics in two Higher Engineering schools/Technical Universities by the following indicators: number of articles, textbooks, practical methodic guides, monographs, etc published in Bulgaria and abroad; number of citations, and participation in research projects. This study has been done in 2002.

Research approaches

Documentary analysis; Empirical study with questionnaire

Findings

The data from the historical study show that the literary works of Bulgarian women for the period 1878 to 1944 are estimated to be 982 which is comparatively small number of a total of 55 851 books published at that period. The women's literary works could be divided according to 'genres' – greatest is the women's contribution to fiction, **second come textbooks (and other books for the purposes of education)** followed by books in field of traditional women activities (cooking, sewing, knitting, raising of children, etc). A number of other significant bibliometrical indicators are studied, such as the average size of the books, their circulation, etc. Data is supplied on the most prominent women authors and their contribution.

The mentioned empirical study of 2002 shows that women academics in engineering had produced more textbooks, practical methodic guides and scientific articles in comparison with their male colleagues. However the men academics have bigger number of published monographs in their field. In general women in engineering are less productive than their male colleagues. By the indicators: 'number of citations' and 'Principal Investigator' and/or participant of research project men academics in engineering also dominate over their female colleagues.

Gaps

Lack of either theoretical or empirical studies which address excellence's definition and/or peer-review practices of evaluation across all institutional sectors and fields of science in general and from gender perspective, in particular. The 'masculine' model of success in science and building of scientific career has been just mentioned in some publications but did not appear as a specific subject of study. In addition the single existing bibliometrical study in the field of engineering discussed above is of limited scope in order to get the national picture on this topic. It deserves also noting that the general issue of 'scientific excellence' became very topical and 'hot' issue in Bulgaria during the last two years in two contexts: a) the evaluation of the projects submitted for financing to the National Science Fund (NSF), being the only granting body in Bulgaria and b) the structural reforms of the Bulgarian Academy of Sciences, consisting of 68 research institutes in all field of science. In this connection I should stress the existing trend towards **internationalization** of the respective evaluations' procedures. I mean that in 2008 all projects submitted to NSF for funding on a competitive base passed international evaluation. Currently all BAS's research institutes are passing an international evaluation which is supposed to be completed by the end of 2009. We still do not know how these two developments would affect the current-state-of-the-arts of the Bulgarian women scientists.

2.6 Gender in research contents

The main body of publications which seems partly related to the topics of the GSD database has been produced from the Bulgarian scholars in the field of social sciences and humanities, in particular in the field of sociology, economics, population studies, philosophy, ethnography, etc. Some of the researchers in these fields (both female and male) use to insert and consider **the gender dimension** of their particular research topic.

These publications could be considered as 'examples of good practice' in the fields of Economics (Labor market) and Sociology, Cultural studies, Medicine, etc.

Research questions

Here one could distinguish between three streams of publications which rise different research questions:

- 1) The first one is in the field of Economics, Sociology and Population Studies. For example the academic scholars in these fields have largely published on Gender Problems of the Labor Market; Women's employment; Women's Labor; The preference of women for future employment; Gender dimension of labor market, employment and social security; Gender aspect of pensions based on length of service and old age, etc. These studies are not necessary focused on women in academia but on professional and working women in general. From this bulk of numerous publications I tried to

extract only those publications which are **particularly dealing with the current situation of women with university degree** on the labor market.

- 2) In the field of Cultural studies and Ethnography there are few publications dealing with issues like ethnic Images of masculinity and femininity: power and competence; the re-vitalization of the patriarchal model at the cultural level of everyday life, etc.
- 3) In the field of Medicine two studies were identified which have inserted gender dimension in the respective subject of study like: Gender and Psychosomatic Diseases; Lateral asymmetry of male and female thinking styles

Research approaches

Compilation of statistics, empirical studies

Findings

Economics, Sociology and Population Studies: Immediately after the political change in 1989 , in particular during the period **1990-1995** appeared numerous publications which use to discuss the most 'hot questions' of HE and R&D sectors of the transitional Bulgarian society like the issue of unemployment among highly educated women – academics and scientists, in particular - among young women with university degrees and few studies related to the issue of emigration, including the academic migration ('brain drain') from Bulgaria. The most dramatic and sever situation reported by the carried out studies is related with professional **women in engineering**. Two or three decades ago these women (being yet girls) made a choice to study engineering because the engineering profession was the most prestigious in Bulgaria at that time and because of the official policy that the country needs engineers for its prosperity and last but not least because of the encouragement of young women to study in Higher Engineering Schools/Technical universities. Nowadays (because of the collapse of the Bulgarian industry) these numerous women engineers have been fired from their working places and have to look for new qualifications and realizations on the labor market.

The issue of gender distribution of paid and unpaid work in the modern Bulgarian family has been studied but without any regard to science profession and occupation. Gender evaluation of the extent of equal treatment under gender divisions in the household and family related to three main spheres of the unpaid work – domestic, care work and subsistence production in the family. In this connection the defined problem areas are as follows: practical applying of the different forms of flexible male and female employment; stimulating of the fathers' assistance of mothers after birth and raising the children; implementation of schemes for flexible use of different kinds of parental leave; giving legal rights for use of long-time family leave like "career breaks leave"; improvement of the currently functioning infrastructure for services and institutions for child care; development of a system for deinstitutionalized care for old people. These studies however do not address women scientists, but working women in general.

Cultural studies and Ethnography: The relationship between 'the feminine' and 'the masculine' and the gender role stereotypes have been studied within the folk culture of different ethnic communities in Bulgaria as well as within the ethnography, social anthropology and the sociology of everyday life. During the post-communist period the public discourse of the patriarchal model (male breadwinner model) was re-vitalized in the media space but it is rarely practiced in the everyday life of the social actors. According to some authors the former '**state patriarchal model**' is replaced with the '**labor market** patriarchal model' which affects the issues of family life, child care and the gendered ratio of paid/unpaid work in general. However these studies do not address the case of science profession and occupation. Therefore they might be considered as 'examples of good practice' in the respective field of research.

Medicine: I identify only two empirical studies in this field. The one is dealing with gender and psychosomatic disease; the other with lateral (brain) asymmetry of female and male thinking styles. The results of the second empirical study are consistent with the concept that males perform better activities related to the functional competencies of right hemisphere.

Gaps

Lack of studies on feminist epistemology, feminist theory of science as well as critical analysis of gender bias of scientific knowledge and practice in the fields of philosophy of science, epistemology, sociology of science and science studies; the gender dimension is rarely inserted and systematically researched in the field of health sciences.

2.7 Policy towards gender equality in science

As it has been noted at the beginning of the report in Bulgaria there is no official policy towards gender equality in science (See 'Policy context') and respectively any measures and/or programmes towards gender equality in research. In addition up to date Bulgaria has not committed towards the EC policy of gender mainstreaming in scientific research.

Research questions

The identified publications on this topic aimed at informing the Bulgarian scientific community about the European policy for women and science, about the best practices adopted by different EU countries on their national levels in terms of legislation, adoption of positive action measures like targets, role models and mentoring, funding lines, etc. and to advocate for adoption of similar policy and positive action measures in Bulgaria. For example:

- ✓ Mainstreaming gender equality: What does it mean for scientific research financed from the EU?
- ✓ Women and science – a key issue of integration of European Research Area
- ✓ Bulgarian R&D related legislation from the point of view of gender-balance and age-balance Issues
- ✓ Profiles of national policies of Austria, Germany, Switzerland and Bulgaria and the academic mentoring programmes
- ✓ What do young women scientists expect from the introduction of the academic mentoring programme in Bulgaria?

Research approaches

- ✓ Dissemination of different 'best practices' to the Bulgarian national environment; Publications aimed at informing the Bulgarian scientific community about the EU gender mainstreaming policy, which is largely unknown in the country;
- ✓ Transfer of best practice of positive measures, in particular transfer of knowledge about **academic mentoring** from German speaking countries to Bulgaria

Findings

The Bulgarian legislation in the field of R&D and HE is not gender sensitive.

In general the culture of networking of Bulgarian women scientists is low because of the low sensitivity towards the issue of gender equality in scientific research and of existing shortage of information about the current EU gender mainstreaming policy.

On the basis of the national analyses one can notice many common features of the situation of the women in all post-communist countries: low representation in the decision-making bodies, the stop of the scientific carrier on the lower levels, difficulties in balancing between professional and family duties. This calls for the common policies as well. The situation of women in the 'old' member states displays similar problems. However it seems that in recent years those countries enjoy the policy improvement and many positive actions have been taken to promote women in science, which is not the case with the 'new' EU member states and with Bulgaria in particular.

The knowledge of academic mentoring has been transferred to Bulgaria and the ground for the start-up of academic mentoring programme in Bulgaria is prepared. The positive step is the elaboration of the first on-line database for BAS's women scientists (<http://womeninscience.bas.bg>) which is uploaded on the official site of the Bulgarian Academy of Sciences.

Gaps

Bulgarian Ministry of Education and Science (MES) has not developed a national policy for gender equality in higher education and research because it has to address other priorities of its agenda setting. The consequences are that the MES lacks organizational and administrative structure engaged with the coordination of activities in the field of gender equality in higher education and research as well as a specified budget for support of such activities. In the Bulgarian HE sector (consisting of 51 Universities) as well as in the Bulgarian GOV R&D sector, and in particular at the Bulgarian Academy of Sciences (consisting of 68 research institutes), there are no structures/units (office/officer) in charge of responsibility for implementation of equal opportunity policy in academia and research. Therefore neither gender equality plans in universities and research institutes have been developed nor any monitoring reports published in the field of women and science.

3. Conclusions

After the political change in Bulgaria in 1989 appeared a pronounced interest in the field of women's studies and gender studies from the side of Bulgarian female scholars in social sciences and humanities. I present here three main developments in the context of this report:

- A) The establishment of the Bulgarian Association of University Women (BAUW) as a successor of that of 1924 (which was closed during the communist period, because at that time no women networks are allowed to exist). BAUW is a non - governmental organization of women with higher education in any field of science, engineering, the humanities and social sciences, irrespective of their present occupation or employment status. Some of BAUW activities are related with: a) designing and implementing research projects in all fields related to Women's Studies, Gender Studies and feminist issues in general and b) launching educational projects for members and non-members of the BAUW with special emphasis on training and re-training of unemployed women with university education. In the context of this report BAUW is an important actor because it has developed and inserted a **'historical trend'** in the field of Gender studies here. Authors like K. Daskalova and G. Nazarska from BAUW have largely published on women movements, **women scientists**, women painters, etc. in the Bulgarian history. Due to their numerous publications a lot of information is now available about the first generation of Bulgarian women academics and scientists from the beginning of the 20th C. Unfortunately BAUW scholars have not published on the contemporary issues of women in science.
- B) With some delay (in comparison with the other post-communist countries) in 1999 in Bulgaria was established a Center for Gender Studies at the Sofia University (Department of Philosophy). It offers M.A. and Ph.D. degrees in the interdisciplinary study of women and gender in culture and society. The Center offers courses in both Bulgarian and English and targets all Bulgarian and international students who have B.A. or M.A. degrees and who are committed to a career in the interdisciplinary field of Gender Studies. The Faculty of the Center includes 6 core members and 25 affiliated faculty members from departments across the university, who teach and **explore the intersections of gender, ethnicity, and sexuality** in the various perspectives of philosophy, history, sociology, anthropology, legal studies, political science, and literature. The publication profile of the staff of this Centre is **feminist studies**, in particular feminist ethics. This Centre (being the only one academic Centre for Gender studies in Bulgaria) unfortunately is not engaged with research in the field of women and science.

- C) The main publications which are partly related with the topics of the GSD database have been produced from the Bulgarian scholars in the field of social sciences and humanities, in particular in the field of sociology, economics, population studies, philosophy, ethnography, etc. Some of the researchers in these fields (both female and male) use to insert and consider the gender dimension of their particular research topic. I refer this bulk of publications to the GSD topic 'Gender in research contents'.

In conclusion it could be said that only the topic 'Horizontal and Vertical Segregation' has been studied to a sufficient degree – both in historical and in contemporary plan. As it was already noted the terms as 'horizontal segregation' and 'vertical segregation' as well as terms like 'glass ceiling' and 'leaky pipeline' are rarely articulated in the writings of the Bulgarian gender experts. Instead one uses terms like 'professional realization' and/or 'professional development', 'professional career' when discussing the issue of underrepresentation of women scientists at the higher levels of the academic hierarchy. There are also some studies dealing with women in the position of managers in the state sector as well as on women entrepreneurs in the private sector.

The other GSD topics are indeed very poorly researched and in fact only partly relevant to the provided descriptions of topics for the GSD database. In general the gender problems still have not found their appropriate place in the public debates and in the scientific researches. There is a lack of specialized research centers and in fact this problematic is not presented in the universities teaching programs. Again it means that the research activities in the area of women and science issues are at its very beginning in Bulgaria.

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