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## Academic Careers in German Higher Education

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# Anett Schenk / Holger Krimmer 

## Academic Careers in German Higher Education

TP 03/02


#### Abstract

About the Project The normative concept of gender equity which exists in European societies is contrasted by a reality in which women in top-level positions are by no means a common occurrence. Against this background, the European Research Training Network Women in European Universities, funded by the European Commission, is a joint research project of partners in seven European countries. Its scientific programme aims at assessing the professional status of women in academia and at analysing the reasons for the under-representation in positions of authority in European Universities. The network structure includes regular conferences and meetings to provide a forum to present outcomes, exchange knowledge and to discuss about research planning as well as findings and outcomes. The Training Paper Series are essays authored by the doctoral students of the project in every research phase. They give an introduction to the research topic and an overview of the findings in the research country of the doctoral student.


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#### Abstract

The Research Training Network "Women in European Universities" focuses on career opportunities of women in higher education in seven European countries (Austria, France, Germany, Poland, Spain, Sweden and the United Kingdom). Within the frame of this network different aspects of career perspectives of women and also men - are investigated. In a first working step a context analysis was conducted in order to give an understanding of the different systems of higher education, their changes and developments. A second working step provided a statistical overview of women's participation in the higher education systems investigated in this project.

A review of available data sets and investigations concerning women in higher education shows that certain information is not covered. Questions of hierarchical relations between women and men in academia or pay gaps are hardly represented in available data. The lack of certain data and questions raised during the first working steps were the main reasons for conducting an inquiry among female and male professors.

This working paper presents first results of the survey that was conducted as a third working step of the Network. Using the data for the German case, course of life and the academic vita of female and male professors, the career planning and the familiar context will be presented and compared.


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## Introduction

Education has to be seen as an important target for reaching gender equality "as it involves the ways in which societies transfer norms, knowledge and skills." (Group of Specialists on Mainstreaming 1998:5) Educational systems can empower women and men, can provide knowledge about the gendered nature of society and can contribute to counterbalance inequalities in society. The enlightening and liberating function of an educational system is an important factor in changing existing gender cultures and reaching gender equality. For doing so, not only the content of the education is important but also the opportunities and positions of women and men within the educational system.

An analysis and comparison of women's and men's opportunities and chances in the academic system needs a range of data such as characteristics of horizontal and vertical segregation, level of salaries, domestic situation or the representation in decision-making bodies. In literature reviews it turned out that quantitative investigations and statistical material that really grasp these topics are rare. Based on literature reviews and earlier working steps the Research Training Network "Women in European Universities" developed a questionnaire that firstly, tried to include important facts on professors career paths and secondly, was enabling the Network to compare academic career systems of all seven participating countries.

In the following the development of the questionnaire just as first data regarding the German data file is presented. Chapter I gives a literature overview on studies concerned with female academics. The second chapter presents basic assumptions that the questionnaire is based upon and methodological considerations. The third chapter contains the data material regarding German professors - both female and male. This material enables to present and compare the course of life and the academic vita of female and male professors, their working situation just as the domestic context.

## I. State of the Art

As earlier research has shown quantitative data on women's scientific employment are hard to find or if they are available the material is hardly useful for a cross-national comparison. (Glover / Bebbington 2000; European Commission 2001; Research Training Network "Women in European Universities" Training Papers 02 www.womeneu.de) The lack of common definitions, different modes of data collection and aggregation make it difficult to compare data of different countries and partly even data of different time-periods. Publications of the European Union and the OECD regarding statistical material on women in academia are a contribution to the debate on women's position in higher education. Nevertheless, for a scientific analysis of women's employment conditions in academia these data are problematic, since both the European Union and the OECD rely on the data material provided by the national statistical offices. This means that no common definitions or procedures for data-collection and manipulation are established.

The comparability of quantitative data occurs as one problem for scientific investigation of women's career opportunities in academia. Another problem is the fact that a range of issues related to women's employment in academia is not covered in databases on higher education. This has been criticised by a range of European bodies. An investigation of data sets of 15 European countries, carried out for the European Commission, showed that data related to women's situation in the
academic hierarchy are mainly neglected. (Glover / Bebbington 2000) For the case of Germany five databases were included:
-The Labour Force Survey, conducted by the German Federal Ministry of Economics and Labour (Bundesministerium für Arbeit).
-The Survey on R\&D, conducted by the German Federal Ministry of Education and Research (Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie).
-The Survey on Structure of Earnings, conducted by the Federal Statistical Office Germany (Statistisches Bundesamt).
-The FemConsult, conducted by the University of Bonn (Rheinische Friedrich-Wilhelms-Universität Bonn).
-The Impulse-Database, conducted by the "Women give new Impulse to Technology" at the University of Applied Sciences Bielefeld (Fachhochschule Bielefeld).

A comparison of these data sets showed that a range of important variables is not included or only in a limited way. Hierarchical segregation could not be assessed in three of the five data sets. The domestic situation of female scientists and the relation of this to their employment status could be ascertained on only one data set. Attrition ${ }^{1}$ was only

[^0]partly assessed in three of the five data sets. (Glover / Bebbington 2000:12, 36ff.) In result a dramatic lack of important data-material has to be considered. ( See also ETAN 2000)

Beside all problems regarding data on women in academic employment there is a range of studies using secondary statistical analysis with focus on women in academia. (Helsinki Group on Women and Science 2002; ETAN 2000; BLK 2000, 2002; Kramer 2000; Teichler 1996; Research Training Network "Women in European Universities" Training Papers 02 www.women-eu.de) Even though women's participation rate in higher education increased during the last decades and beside several equal opportunity measures enacted during the 1980's and 1990's certain patterns remain stable in nearly all European countries: Women's participation in academia is strongly characterised by a horizontal, a vertical and a contractual segregation. Horizontal segregation refers to concentration rates in certain occupational sectors or disciplines while vertical segregation concerns the position of women and men within the hierarchies in academia. (European Commission 2001; ETAN 2000; Fogelberg et al. 2000) Contractual segregation concerns to the status of employment and refers to the fact that women are less likely to have tenure and more likely to have short-term or part-time contracts. (ETAN 2000)

It is interesting to notice that studies conducted with focus on women in academia in the majority prefer qualitative approaches instead of quantitative. This is mainly explained by lower costs and the fact that processes of segregation and
discrimination are hardly to grasp by quantitative methods. (For a broader overview of methods and literature on women in German academia see Majcher / Zimmer 2003) Another reason might be that the feminist research debate was fighting for a stronger state of qualitative methodology. Nevertheless, quantitative approaches can provide data that make segregation and unfair distribution visible. In this sense they contribute to an understanding of processes of marginalisation of women. Taking this into consideration a range of studies is using quantitative data as basis for later qualitative research. (Onnen-Iseman / Oßwald 1991; Strehmel, 1999; Holzbecher / Küllchen / Löther 2002)

A look at the research-questions asked in the studies available shows a range of different foci. During the 1950's and early 1960's studies regarding academic staff focused on women in academia only in a limited way - and if they did they paid mainly attention to women's motivation and character traits. (Plessner 1956; Anger 1960) Influenced by the second wave feminism during the 1960's and 1970's female academics began to conduct research on women in academia with a stronger focus on discrimination, self-perception of female academics just as on reconciliation of family and work. (Bimmer 1972) Until today the combination of working life and family remains as an important issue in research on female academics (Strehmel, 1999; Baus 1994; Onnen-Iseman / Oßwald 1991; Schulz 1991), but during the last years the research on this topic became more differentiated. Having children can not exclusively be seen as an obstacle, since studies have shown
that women with children have an equal or even higher scientific productivity than women without children. (Compare Cole / Zuckerman 1991; Luukkonen-Gronow / Stolte-Heiskanen 1983)

During the 1980's and 1990's research on women in academia received a broader focus. The professional career and the concrete live situation of female academics are central for a range of investigations. (Strehmel 1999; Bauer et al. 1993;) Barriers of different kinds - structural, cultural or informal - and power-relations in academia (OnnenIseman / Oßwald 1991; Geenen 1994; Hasenjürgen 1996) are central for other studies; just as positive preconditions are identified (Baus 1994). Research on female academics is also concerned with female socialisation in their profession, conflict management and identity development. (Macha et al. 2000; Baus 1994) Newer literature is focusing on female academics in non-university research institutions (Wimbauer 1999; Allmendinger 1998) and on evaluating the implementation of gender mainstreaming. (Roloff 2002; Baaken / Plöger 2002)

From a theoretical point of view there are mainly two descriptive concepts regarding women's career opportunities in academia: the concept of 'thresholds' and 'glass ceiling'. The concepts of 'thresholds' assumes that gender differentials are large in the lower ranges of academic achievement, "the processes of professional stratification would be gender neutral for those relatively few promising women who succeeded to overcome certain earlier barriers." (Sonnert / Holton 1995:26) The concept of 'glass ceiling' - the more popular of these two "describes an invisible but real barrier that is
thought to impede women from reaching top positions". (ibid 1995:25) Alternative to the 'glass ceiling' concept Heward (1995) prefers to speak about the 'stone floor' describing a reality "keeping women at the bottom rather than a 'glass ceiling' preventing them getting to the top." (ibid 1995:16)

## II. Methodological Considerations

## Developing the Questionnaire ${ }^{2}$

Our interest is to investigate women's academic career paths. Earlier research showed that women's participation rate decreases the higher the position on the academic career ladder. We used the term "glass ceiling" in order to describe this phenomenon. Glass ceiling implies hidden discrimination, which means the term is referring to structural barriers and attitudes rather than to open discrimination against women. To uncover processes by which hidden discrimination works we have to look at both structures, attitudes and actors including individual characteristics. Based on a rather general reading of studies concerning women in academia, we defined - as a first working step - three main levels that we had to take into account.

The first level includes internal factors and refers to factors that on a personal level influence a person to start and continue an academic career or to stop at a certain point of time. To these factors belong: Motivation, the support of family members. Partners or supervisors can be understood as a rather important when it comes to the question if to pursue one academic goal or not. Strongly related to this is the second factor, the combination of family and work. Especially for women is the possibility to combine academic working with a family life a crucial factor. The combination of both parts in life can be possible due to double work or

[^1]due to support from the partner, childcare facilities at the workplace or family members helping out. Also an academic home environment just as emotional or personal relations at the workplace have to be seen as possible influential factors on the internal level. Finally sexual harassment as a form of open discrimination was included in the list of internal factors.

The second level is focusing on institutional factors. Since we assume structural barriers to be the major explanation of women's low participation rate on academic top rank positions, this level was planned to take the largest part in the questionnaire. As a starting point we were focusing on the inflexible structures of the university and developed three hypotheses to work on: 1. Structures tend to preserve themselves. 2. They do not easily accept new people. 3. National policies do not matter.

As main factors of the institutional level we defined the gendered nature of academic work, since men tend to do research while women do more teaching. Other factors are mentoring and networking. Strongly related to this is the factor of mobility. Depending on the academic system mobility is required at different times in the academic career, in some systems it is only an additional merit for people on the top ranks. Generally two hypotheses can be built: Firstly, mobility increases career changes - because of the possibility to build up networks with people outside the home-institution. Secondly, mobility decreases career chances - because of the possibility to meet
difficulties to build up stable networks, especially in the home-institution.

The third level is concerned with external influences, two major factors have to be mentioned: Firstly, the situation on the labour market of the non-academic sector may influence decisions about pursuing a certain academic career or not. Secondly, the state ideology is assumed to have an impact on the social class of women we find in the academic world. Since this level of external factors is hardly to grasp in a questionnaire - respondents would give their perception of these factors but no data on the factors itself - it was excluded from the questionnaire. Instead, external factors were analysed in earlier working phases. (See Training Papers of RTN "Women in European Universities www.women-eu.de)

Since the questionnaire was developed within the frame of the European Research Training Network "Women in European Universities" it had to cover seven countries. In a second working step a literature review for each participating country was conducted ${ }^{3}$. Based on these reviews the three levels of influential factors were discussed, certain factors seemed to be more important in some countries while a few factors already were investigated in others. This discussion was the basis for eight hypotheses that were set up as a precondition for further work:

[^2]-Women are less likely to apply for grants and they are less successful.
-Having a family is an obstacle for women in a career, because it is difficult to combine family life with masculine career patterns.
-Because of the existence of "old boys networks" women are not fully integrated into academia. But not all women experience their exclusion as such.
-Motivation, mentoring, networking and promotion are important to build up a successful career but women are more depending on this.
-It is easier to be promoted in one's home university and structural barriers e.g. the habilitation as a precondition for a professorship work negatively for women. But the more formalised and institutionalised the procedure of entitlement (appointment) is, the more women-friendly is it.
-Men tend to do more research, while women tend to do more teaching and administrative work. The institutional structure puts women into less prestigious positions but women accept these positions more easily or even tend to choose these positions without thinking about the consequences for their career. In other words: Women put more stress on different aspects of academic life and career than men.
-Affirmative action can only be successful if it is accepted by the scientific community, but this needs consciousness as a precondition. There is a
gap between statements of political correctness and the real consciousness - which would lead to real action - among professors.
-The intellectual / academic environment (like parents, friends, partners who also work in academia) influence the motivation and even career prospects as a professor.

Based on these hypotheses a first version for the questionnaire was developed. Originally planned as a postal inquiry, the questionnaire had to be modified because of different reasons: First of all the findings of our earlier research phases - the contextual and the statistical analyses - forced us to modify some of our hypothesis. Women may be less successful in applying for grants, but in some countries it has to be doubted if they also apply less than men do. The combination of working life and family is definitely and important issue for women, but at least concerning women's academic productivity it is shown that women with children have an equal or even higher productivity than women without children. (See chapter I. State of the Art)

Secondly, it turned out to be a real problem to make the questionnaire appropriate to all participating countries. That is why, we decided to focus on a range of "core-themes" common for all countries that would be completed by countryspecific questions. We were focussing on the following core themes:

1. Support and mentoring. Support is seen as a precondition for a successful academic career.

It can be given in different ways, for the purpose of our inquiry we distinguish between the following:
-Financial support: can be given either "institutional" (stipends, grants...) or by the family or friends. Beside this, also work outside the academy can be a financial source. -Institutional support: implies technical equipment at the institution of higher education, library holdings, personnel and so on.
-Encouragement: is a more informal form of support; it implies mentorship, but also personal support from friends and partners.
2. Networks in academia. To be a part of a network can open doors on the way on the career ladder. It has to be distinguished between formal and informal networks (we found the latter rather hard to grasp). In order to become a part of a network mobility can be an advantage, as it enables one to build up contacts. Mobility can in contrast also hinder a person from building up stable networks (see above).
3. The relation between work inside and outside academia. Since academics do not only work at universities or university colleges, but also as consultants, physicians, editors and so on, we find it important to ask for (paid) work outside the academy. We want to find out the motives for taking "outside work" and if it was experienced as help or hinder during the career.
4. Glass ceiling. Since one of the main focuses of our project is directed on glass ceiling we also included questions concerning this topic in our questionnaire. If we ask people directly about "Demanding time period" during their career, we receive information about people's experiences. But of course also questions belonging to the other themes will give information about hurdles and points of glass ceiling.
5. Conceptions of prestigious work. Certain actions in academy are seen as more prestigious than others. At the same time we know, that women tend to do more teaching than men, which is seen as less prestigious. By elaborating patterns of time composition of the three elements teaching, research and administration we want to find out if women and men have different conceptions of prestigious work ${ }^{4}$.

## Sample and Data Collection

A sample needs an appropriate size in order to be representative. Nevertheless, the demand that a sample has to be representative is often constrained by financial and personal resources just as time limits. Taking this into account we build our sample based on the following considerations:

[^3]1. Different disciplines have different gender cultures and opportunities for women. This is why the participation rate of women is higher in some fields (e.g. Humanities and Social Sciences) and lower in others (e.g. "hard sciences").
2. Some disciplines have shown a strong development during the last decades (e.g. Engineering) while others were established since the very beginning of universities (e.g. Law studies).
3. The relation between academia and other sectors of the labour market is diverging depending on the field, which gives uneven possibilities for work outside the academic sector; Economics or Engineering may have closer links to non-academic sections of the labour market than e.g. Linguistics.

As it was not possible to include all disciplines in our sample, we decided to select certain fields based on the considerations above. For the "hard sciences" we included Natural Sciences, namely Mathematics, Physics, Chemistry, Biology and Informatics. Humanities are represented by History and Linguistics with focus on the national language; for the Social Sciences Sociology, Political Science and Psychology are included. As a traditional discipline we included Law Studies. Economics (Wirtschaftswissenschaften \& Betriebswirtschaftslehre) represent the fields with stronger links to non-academic sections of the labour market. Also Engineering - excluding Architecture - can be counted as such, but it also represents a developing field.

Two things were important for us by setting up the sample. Firstly, we wanted to have a male group in the total sample. Since women are working in an environment that contains out of female and male colleges it was important to include both groups into the sample. Otherwise women's experiences would be treated like taken out of its real context. Secondly, it is important to notice that the male group is not treated as a control group. A control group has the function to show diversions from the standard, but we do not understand the experiences of men as standard and the experiences of women as diverging. The two groups were set up in order to compare, not to value.

Our goal was to include all female professors working in these fields in our sample. The first sample was conducted by the Network "Women in European Universities" and based on the list of university teachers (Deutscher Hochschullehrerverband 1999). According to this list our sample of female professors would have contained out of 800 units. During the interview the respondents should be asked to name a male college working in the same field, if possible in the same institution and at the same age (plus or minus five years). By doing so the male part of our sample, the male group for comparison should be constructed. The names and addresses of the male professors were collected by the Social Science Survey Centre (Sozialwissenschaftliche UmfrageZentrum SUZ) of the Gerhard-MercatorUniversity in Duisburg.

We are well aware of that our procedure to set up the male sample contains a certain risk to
produce a bias: We can not be sure that the composition of our male sample really matches the composition of the male population of professors in fact it is rather unlikely that it will. But since the focus of our interest are women's perceptions of academic life and the male group is set up for the purpose of comparison, it seems to be more appropriate making the male sample matching to the female sample than to the male population.

Our sample of professors had to be completed later on. Due to new appointments, retirement or changes of working place our list of professors, their working place and telephone numbers was not correct. Research at the homepages of the universities and information from the commissioners for women's issues of the universities completed our list of female professors. This work was done by the Projekt "Wissenschaftskarriere von Professorinnen an Hochschulen in Deutschland" (www.wissenschaftskarriere.de). Later additional research for names and telephone numbers of male professors was necessary because not all respondents were willing to give a name of a male colleague.

All in all the names and addresses of 2016 professors ( 980 women and 1030 men) were collected, it was not possible to get in contact with 284 of them ( 135 women and 149 men ). A range of the contacted professors had not the time or no interest in participating in the inquiry. Finally our data material contains out of 1156 units (619 women and 537 men). This means that 66,7 per cent of all contacted professors (73,3 per cent of
women and 61 per cent of men) took part in the inquiry.

To realise a postal inquiry in all seven participating countries was difficult, because of the sample-size or the responding-rate. This is why each of the participating countries decided about its own way of procedure. This meant in result that we had to design the core part of the questionnaire as flexible as possible in order to make it appropriate for all countries. For the German case the decision was made in favour of telephone-interviews that were completed by other forms of interviewing. 912 interviews ( 517 women and 461 men) were done by phone, 146 interviews ( 83 women and 70 men) were realised by an online questionnaire and 24 interviews ( 18 women and 6 men) could be realised by a postal inquiry. One female professor was interviewed face to face.

The interviews were conducted by the Social Science Survey Centre (Sozialwissenschaftliche UmfrageZentrum SUZ) of the Gerhard-MercatorUniversity in Duisburg. Financially the survey of the German professors was supported by the Federal Ministry of Education and Research. The pre-test was conducted in June 2002 and the inquiry itself was finished in April 2003.

## III. First Results

In the following section first results of the evaluation of the data for Germany will be presented. In view of the wide range of the topic areas covered, an overall view cannot be achieved. However, three areas should be examined in more detail.

1. Careers can be the result of advanced planning or, more likely, the realisation of possibilities, which occur. Different motivational reasons can also be at the root of the same career choice. These aspects of career planning should be looked at more closely.
2. The focus of the investigation is on the career paths of male and female professors. On the basis of significant career milestones, it should be brought to light how strongly the typical career patterns of men and women in academic fields diverge.
3. The problem of compatibility of family and work has been proved in many studies on this theme to be very influential on the career opportunities and paths of women in universities. It is to be demonstrated, whether the submitted data provides further insight into this.
Data on the other topics covered will be taken into consideration in later publications.

## Career planning and self-conception

In a retrospective study such as in the one on hand, the subjective viewpoint of the interviewed persons does play a dual role: on the one hand, the aim must be to gather information concerning their
career planning at the beginning of their occupational history (Lucius-Hoene et. al. 2002). On the other hand, the interviewed person tells a tale of his or her life from a retrospective point of view, constructing a narrative, which is part of his or her identity, part of a 'narrative identity'. The special dynamics of such a tale, which equals the reading of one's own biography, must always be taken into account when looking at the responses given in the interviews. With reference to their career planning the interviewees where asked the following question: "Some people say that they had no preconceived ideas, they took what was offered. How it was in your case?" Here we can observe wide differences between the interviewed, equally between the sexes as well as between the different academic subjects.
Graph $1+2$ (following page): „Some people say that they had no preconceived ideas, they took what was offered. How it was in your case?"
(female interviewees)


## Cohorts



## Cohorts

$\square$ It was totally different in my case
$\square$ It was both: opportunity and
$\square$ It was exactly the same in my case

In general, $38,4 \%$ of the women as opposed to $28,1 \%$ of the men agree that this description is highly adequate or at least relatively adequate of their behaviour. On the contrary, $36,8 \%$ of the women as opposed to $48,1 \%$ of the men responded that this description does not, or rather not correspond to their behaviour.

Interviewees from the field of law present themselves as the most determined. $61,2 \%$ of the respondents of both sexes said that the description did not, or did rather not fit to them. Only 20,9\% considered it as very adequate or rather adequate. In contrast, the interviewees from the field of engineering described themselves as mostly occasion oriented. Only $32,1 \%$ considered the description as not correct at all or rather not appropriate. $42,9 \%$ of the interviewees of these disciplines responded that the statement fitted their behaviour or at least rather fitted it. If one itemizes the responses not only to the sex of the interviewee but also along the different age cohorts an interesting pattern is discernable.

Over $60 \%$ of the female respondents born before 1940 agreed in that their career rather was a matter of taking the opportunities that occurred on the way. Concerning the age cohorts born after 1940, this figure levels off/stabilizes around 35 to $40 \%$ of the respondents. At the same time, the percentage of women led by concrete plans increased from $23,9 \%$ among the age cohort born before 1940 to $43,8 \%$ and was reduced again to $37,8 \%$ among those born between 1961 and 1970. For the age groups born after 1960, the data has to
be considered with reservation, though, as not all respondents have passed the prestigious barrier of a first professorship. A future study starting five or ten years from now would probably calculate its data on the basis of a different sample and would thus lead to slightly different results.

Among the male respondents similarly significant patterns are not discernable. A comparison shows that the figures of the female respondents tend to converge with those of the male respondents, even though the latter still perceive their occupational history as significantly more influenced by concrete plans.

We can conclude that male professors tend to perceive their own career as guided by concrete plans more often than their female colleagues. The latter reconstruct their biography to be more influenced by situational possibilities.

This is especially true for those born before 1940. In the younger age groups the figures converge with the results of the male respondents. This rupture concerning the career planning between those born before 1940 and those born after is being confirmed by the survey of female and male professors by Rosemarie Nave-Herz et al. from 1989. The qualitative interviews showed that only for those born later, a specific attitude towards the own occupational possibilities was existent (OnnenIsemann 1991, p. 40). For the earlier born age groups a stronger reference to traditional female roles was found, which identifies the family as her primary sphere of action.

With reference to the change of generations in the academic sphere taking place in Germany now, a significant modernization trend concerning the attitudes and career orientations of women and a movement away from traditional values can be diagnosed.

To establish the central motives behind the decision for an academic career, the interviewees were presented with a list featuring 10 aspects of possible relevance, which had to be rated according to their importance on a scale of five steps ( $1=$ not at all important / $5=$ very important). Here, an unexpected congruence between the sexes became visible. The most important motives where the wish to follow a specific interest as well as the possibility for autonomous work. $59,9 \%$ of the female respondents identified the possibility to follow a specific interest as "very important" for their choice of an academic career, another $25 \%$ still rated this aspect as "important". In comparison, $62,8 \%$ of the male interviewees considered following a specific interest as „very important" and 22,9\% judged it „important". The rates concerning the possibility to work autonomously are similarly high. Of the interviewed female professors 82,4 \% considered this aspect as „important" or even „very important". Reaching 84,9\%, the results among the male professors are equally high.

Furthermore, the wish to accomplish a task, which is meaningful in a social context, was of great importance. 59,4\% of the female professors rated this aspect as „important" up to „very important". Equally, $53,4 \%$ of the male professors responded that their actions were guided by this conception.

The highest ratings concerning the response option "not important at all" were given with reference to the incentive of job security. ( $35,2 \%$ among the women, $29,8 \%$ among the men), the possibility to make family and working life compatible (35,2\% among the women, $26,8 \%$ among the men) as well as the prestigious nature of the profession (34,1\% of the women, $23,1 \%$ of the men).

If one has a look at the most pertinent motivational incentives differentiated according to age cohorts, the findings can be related to the research going on in the field of societal value transformation. Helmut Klages has developed the thesis of a movement from values enforcing duty and compliance to values of self-actualization in the German post-war society (Klages, 1988, 2002). According to this concept, preconceptions of a ,good life" guiding individual action are no longer based on an ethos of responsibility and duty towards the social community, but are oriented towards selfactualization and an autonomous lifestyle. This handy but rather one-dimensional formula fits with the findings that the chance to accomplish a task, which is of value to society is lower in the younger age-cohorts. This tendency is valuable for both sexes, even though significant differences between them are visible. $56,5 \%$ of the men born before 1940 indicate that accomplishing a task which is of value to society is „rather important" or „very important" to them. This response is given by only $47,8 \%$ of those born between 1951 and 1960 and only $42 \%$ of those born after 1961. In contrast, $24 \%$ out of those born after 1961 are of the opinion, that a conception of their work as a social commitment is "rather unimportant" or even „not important at
all". Women do relate to a social dimension of their work more often and this in all age groups. 67,4\% of those born before 1940 in comparison to $54,8 \%$ of those born after 1960 rated the contribution their work made to society as "important" or "very important". The percentage of respondents among the youngest age cohort who consider this dimension of their work as „rather unimportant" or „not important at all" is of $17,7 \%$. An increasingly important drive behind the choice of an academic career is the incentive of self-actualization and the chance to work autonomously. $88,7 \%$ of the women and $96,1 \%$ of the men of those born after 1960 consider the last aspect as „important" or „very important". Opposed to this are $68,6 \%$ of the women and $73,0 \%$ of the men of the age cohort born before 1940. These figures are surpassed marginally by the overall concept of selfactualization. $98 \%$ of the men and $91,1 \%$ of the women born after 1960 rated this self-conception of their work as „important" or „very important". As for autonomy, a significant increase in the importance of self-actualization in comparison to the older cohorts is visible.

On the whole, the findings concerning the different age groups do fit with Klages' image of a transformation of values. Self-actualization is an increasingly important factor in the work motivation of elites in the academic field. However, the claimed direction of the transformation process and the tendency of self-orientation connected to it are to be found more often among the male respondents, of whom almost a $100 \%$ consider autonomy and selfactualization as "important" or "very important". Even if those incentives are of great significance to
the women, too, this is still the case to a much lesser extent. In contrast, the quota of women who relate their work to a social context is $14 \%$ higher than among the men.

## Career paths

Academic careers are mainly shaped by passing the various status levels that occur on the way to professorship. This refers to four crucial points in a life which rest upon having finished an important step and the subsequent need to reorient towards the following step: i.e. graduation with a masters or diploma, the dissertation, the habilitation or the first professorship. Exceptions like leaving out habilitation - can most likely be found, however, they are rather rare.

The personal biographies that develop passing those four levels of academic status are the basis of academic careers. They do not yet allow for a conclusion about drive, effort, resources used, abandonment or support from outside that led to success. On the contrary, comparable data in personal biographies rather show that the combination of different factors have obviously played an important role.

Graph 3) Average age at different career steps broken by age cohorts and sex

|  | Year of birth |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Until 1940 | $1941-1950$ | $1951-1960$ |  |  |  |
|  | m | f | m | f | m | f |


| Master | 25,9 | 25,4 | 25,6 | 25,0 | 25,6 | 24,7 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Ph.D. | 30,3 | 30,9 | 29,9 | 30,5 | 30,3 | 29,8 |
| Habilitation | 37,1 | 41,2 | 38 | 40,4 | 37,0 | 37,8 |
| First <br> professorship | 40 | 43,7 | 41 | 43,9 | 40,1 | 40,3 |

However, biographic data is a significant indicator since it shows how individual and external factors combine and matter for the success of the professional career. Still, comparable or different background for academic careers should not be inferred from these data. Moreover, explanations can only be derived with the help of further indicators. Graph 3 shows that the average age when finishing or reaching the respective status level differs by age groups and gender. It shows that male career paths have been rather stable over time. On average, the first degree, master or diploma, was reached at age 25, the first professorship at age 40. In the female age group born before 1940, the age when reaching the point of a PhD is almost identical to their male counterparts. However, when reaching habilitation women were on average four years older than their male colleagues. This difference stays stable till the point of beginning the first professorship. Looking at the age group born between 1941-1950 this difference between habilitation and first professorship has reduced to two and a half years, whereas in the youngest age group those genderrelated differences have vanished completely.

Yet, calculating the average is never a sufficient means to show the distribution of the different elements in a single factor. Rosemarie Nave-Herz et al. for instance support the idea of a significant "delay in a female biography" on the basis of data collected in 1980. She therefore calculated the time passing between dissertation and habilitation, divided by gender. It showed that 34.4 \% of the male but 15.4 \% of the female candidates needed less then five years to pass this level. 47.7 \% of the women and 50.5 \% of the men needed between six and ten years. Women clearly dominated in the group which needed more than ten years for this academic level (36.9 \% women / 15.1 \% men).

To re-evaluate this information on the basis of our data, it makes sense to ignore all interviewees who are younger than fifty years at the time of the interview. Those being older than fifty by the time that they start their first professorship would otherwise not be considered. This would lead to the exaggerated picture of accelerated career biographies drawn due to methodological errors.

Graph 4) Time between Ph.D. and Habilitation

|  | Year of birth |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Until 1940 |  |  |  |  | $1941-1950$ |  | $1951-1960$ |
|  | m | f | m | f | m | f |  |  |


| Up to two <br> years | - | - | 2,5 | 1,6 | 2,4 | 0,5 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $3-5$ years | 29,9 | 15,9 | 22,0 | 4,8 | 25,3 | 10,9 |
| 6-10 years | 55,2 | 47,6 | 52,2 | 55,6 | 64,7 | 71,0 |
| More than <br> 10 years | 14,9 | 36,5 | 23,3 | 38,1 | 7,6 | 17,6 |

Graph 4 shows such a picture. An accelerated biography appears here for female career paths as well. Among those in the age group born before 1940, 36.5 \% of the women still needed more than ten years to successfully complete their habilitation after their PhD ( $14.9 \%$ of the men).

In the age group born between 1951 and 1960 the share of women that needed more than ten years to accomplish this career step reduced to 17.6 \% ( 7.6 \% among the men) in comparison to the age group, born before 1940. The share of those who needed between six and ten years at the same time rose from $47.6 \%$ to $71.0 \%$. The same tendency could be observed for the male candidates. Here, $55.2 \%$ of their first age group stated that they had needed between six and ten years to finish their habilitation in contrast to $64.7 \%$ from the youngest age group. Far more than half of those in the younger age groups had a time lack of six to ten years in their biographies between dissertation and habilitation. That equally applies to both sexes. The share of those who needed more than ten years as
well as of those who needed less than six years has reduced. However, it still cannot be assumed that gender-related differences have truly equalized. While in the youngest age group 27.7 \% of the male professors have passed this career step in less than five years, this was only the case for $11.4 \%$ of their female colleagues. On the other hand, the share of women who needed more than ten years for their habilitation exceeded their male counterparts by more than ten percent.

Overall, a pattern of convergence can be observed for male and female career paths. For the career level calculated, both sexes cumulate around six to ten years. The careers of female professors have accelerated, yet without any sort of assimilation while those of their male colleagues have slowed down a little. The differences that still exist point to significant distinctions in the way of career management of male and female researchers. Those need further explanation.

## Family, social background

Looking at the social background of the interviewees with regard to the highest educational degree of their parents, only slight differences occur compared to the educational level of the father. Compared to the mother, however, clear differences occur. $21.3 \%$ of the fathers of female professors have graduated from a vocational school or with an intermediate high school certificate (Mittlere Reife). The same applied for $26.8 \%$ of the fathers of their male colleagues. On the other side, $29.1 \%$ of the fathers of female professors could look back on a university degree or a degree from a university of
applied science (Fachhochschule) while this applied for 22.3 \% of their male colleagues only.

A much greater influence on future career plans especially of the female interviewees seems to have come from the mother's educational level. After all 31.6 \% of the female professors' mothers have either graduated from high school (Abitur) (17.4 \%), have started university studies but never finished them ( $2.1 \%$ ) or have graduated from a university with either a master's degree or a diploma ( $12.1 \%$ ). On the other hand, the highest educational degree of mothers of male professors was either primary school (13.8 \%) or vocational school and an intermediate high school certificate, respectively ( $42.1 \%$ ). Only $19.1 \%$ of those mothers had either graduated from high school (10.4 \%), started to study at a university (1.3 \%) or even graduated from a university (7.4 \%). A significant influence of the father's educational level equally applies for both sexes. In $37.7 \%$ of the cases the father had either graduated from a university (26.0 \%) or had successfully finished a PhD (10.9 \%). Thus, the share of university graduates clearly dominates the picture.

The most striking differences between male and female professors occurred regarding family life. While only 8.2 \% of the male colleagues are single, separated or divorced, this is the case for 35.4 \% of their female counterparts. $21.0 \%$ of the female professors are single, $14.4 \%$ are separated or divorced. $88.8 \%$ of the male professors live in a relationship or are married, which applies for 60.4 $\%$ of their female colleagues only. These differences
between the sexes persist with regard to children. While $80.8 \%$ of the male professors have one or several children, this is the case for $48.6 \%$ of the female professors.

Graph 5) Number of Children


Even the amount of children differs significantly. $44.2 \%$ of the female interviewees have one child, $45.5 \%$ two and only $9.6 \%$ have three or more children. On the other hand, $22.8 \%$ of the males interviewed have on child only, 44.0 \% two and 38.2 \% have three or more children. These differences continue when looking at the distribution of
housework and infant child care. Here, 20.4 \% of the female and $3.0 \%$ of the male professors stated that they were primarily in charge of infant child care and education. On the other side, $62.6 \%$ of the male interviewees compared to $7.4 \%$ of the females stated that his duty was mainly covered by their partner. Correspondingly, the share of female professors that rely on privately or publicly funded child care institutions is with 28.1 \% much higher than among male professors ( $6.5 \%$ ).

This sort of double burden that has to be accomplished overproportionally by women goes along with sacrifices in other areas of life. This particularly shows with regard to social life and friendships. Overall, $57.2 \%$ of the female professors stated that they had either often or very often sacrificed their private life in order to achieve the position they are in right now. The same is the case for $42.1 \%$ of the male professors.

## Summary and Discussion

In colloquial English, the term "career" originally stood for a driven out coach drivers path (Kutscherweg) or channel (Fahrrinne). The image which is connected to a person's occupational history here is rather one-sided. It is conveyed that the only challenge for the traveler is to make a decision at the crossings of the way one has chosen - the crises - and apart from that the path will reliably lead him through the unknown country he ventures. In the social context this could be interpreted in the following manner: Career paths are not completely individual efforts, they are marked ways for which individual actors dispose of something like virtual scripts, which have to be appropriated to realize a successful biography. The only point of uncertainty is the choice of the correct script: for this, no guidance is available.

Is it possible, that this image corresponds only rather to male careers? In the allegory, humans are seen as actors only in the act of planning. Careers are planned course patterns, which are designed to put them into practice. All uncertainties and contingencies are cut out from this image, as far as they cannot be reduced to the central - decision, i.e. which direction to select. Life planning is embedded into a structure of technical rationality, a chimera, in which situative flexibility is not necessary.

For the assumption, a female rationality of career planning may deviate, there are plausible and obvious reasons. In the first half of the twentieth century, career planning was a new terrain for women. There were no ready-made
scripts to pick up but only outdated ones to strip. Careers of women have not only been - and still are, today - subjected to different obstacles and caveats, but also to a problem, which since only recently is no longer considered specific to women: the compatibility of family and profession.

The preliminary results of our survey, which were shown here, could point in this direction. However, there are other possibilities to indicate differences between the career paths of men and women, which should be pursued in further work and data analysis. Primarily, the following points should be considered:

1. Of crucial significance to the success of careers is the integration in a social network. In particular, the horizontal flow of information, but also the mental stabilization through the social structure of the working environment are two important achievements of weak ties. Here, extensive data was ascertained that needs to be evaluated.
2. Individual relationships between mentor and protegé can be of even more significance. In general, it is about the process of the development of a less experienced person by the support of a far more experienced person (mentor) (Dolff/Hansen, 2002, P.9). However, the different forms of mentoring must be differentiated: whether the providing and receiving of support is on a formal or informal basis, but also whether it is a same sex or cross-sex mentoring.

Only when these and also social influences on the career paths of women and men in academic fields have been systematically valued, can an answer be
attempted to the question: how the quantative under-representation of women professors in German universities has come about.

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## Questionnaire WEU

Country:
01 Austria
02 France
03 Germany 04 Poland 05 Spain 06 Sweden 07 United Kingdom
1.Thinking back, how important to you have been the following reasons in choosing an academic career?
Please mark each item:
1)To follow my specific interest/self-fulfilment ..... 9
not at all 1-2-3-4-5 very important
2)To be autonomous in my work10
not at all 1-2-3-4-5 very important
3)To teach ..... 11
not at all 1-2-3-4-5 very important
4)Financial reasons ..... 12
not at all 1-2-3-4-5 very important
5)Prestigious job ..... 13
not at all 1-2-3-4-5 very important
6)Professional advancement ..... 14
not at all 1-2-3-4-5 very important
7)To be able to combine family and employment ..... 15not at all 1-2-3-4-5 very important8)Job security16not at all 1-2-3-4-5 very important
9)To do a socially meaningful work17
not at all 1-2-3-4-5 very important
10)Other:
not at all 1-2-3-4-5 very important

##  <br> 20

1a. Some people say that they had no preconceived ideas, they took what was offered. How it was in your case?
it was totally untrue 1-2-3-4-5 it was totally true 2
2. Looking at your current situation at your university, how would you evaluate your position now?
Please mark each item:
Are you able

1) To follow your specific interests/self-fulfilment?

\[\)|  2not at all  $1-2-3-4-5$ |  very much  |
| :--- | :--- |

\]

| 2) To work autonomously? |  |
| :--- | :--- |

not at all 1-2-3-4-5 very much
3) To have satisfactory income?
not at all 1-2-3-4-5 very much
4) To have a prestigious job?
not at all 1-2-3-4-5 very much
5) To advance professionally?
not at all 1-2-3-4-5 very much
6) To combine family and employment?
not at all 1-2-3-4-5 very much
7) To have job security?

8not at all 1-2-3-4-5 very much
8) To do socially meaningful work?
not at all 1-2-3-4-5 very much
9) Other, please specify: 30
not at all 1-2-3-4-5 very much


STUDY AND CAREER
3a.In which year did you complete/finish your study and obtain your first M.A., M.Sc.? Year $\qquad$

3b. In which year did you obtain your second M.A., M.Sc.? Year $\qquad$ 99. Not applicable

4a. Where did you obtain your first M.A./ M.Sc.:

1) In the university in which you are working now
2) In another national university. Where?
3) In a foreign university. Where?
$\qquad$

4b. Where did you obtain your second M.A./M.Sc.:

1) In the university in which you are working now
2) In another national university. Where?
3) In a foreign university. Where?
4) Not applicable
5. After completing your study (e.g. M.A., M.Sc.) did you:
1) Immediately started your work on Ph.D.
2) Started another career/ job at the university/ in research institute without starting a work on PhD
3) Started another career/ job outside university/ research institute
6a.In which year did you complete your first Ph.D. ..... ?42
6b. In which year did you complete your second Ph.D.? 99. not applicable7a. Where did you obtain your first Ph.D.1)In the university in which you are working now2)In another national university/ research institute. Where?453)In a foreign university/ research institute. Where?46

7b. Where did you obtain your second Ph.D.:
1)In the university in which you are working now
2)In another national university/ research institute. Where?

48
3)In a foreign university/ research institute. Where?

49
9) Not applicable
8. How did you finance yourself to complete this career step ?

|  | 1)Yes | 2) No |
| :--- | :--- | :---: |
| 1)By employment at a university / research institute (more <br> than 3 months) |  |  |
| 2)By employment in the commercial or public sector (more <br> than 3 months). |  |  |
| 3)By occasional employment in the commercial or public <br> sector (less than 3 months). |  |  |
| 4)By occasional employment at a university / research <br> institute (less than 3 months). |  |  |
| 5)Self employment | 52 |  |
| 6)By scholarship or grant |  | 53 |
| 7)My parents or my family supported me |  |  |
| 8)My partner supported me |  | 54 |
| 9)Other source, please specify: |  | 55 |

9. In which year did you complete your habilitation? $\qquad$ 99. Not applicable
10.Where:
1) In the university in which you are working now
2) In another national university/ research institute. Where?
3) In a foreign university/ research institute. Where?
4) Not applicable
11.How did you finance yourself to complete this career?

|  | 1)Yes | 2)No |
| :--- | :--- | :--- |
| 1)By employment at a university / research institute (more <br> than 3 months) |  |  |
| 2)By employment in the commercial or public sector (more <br> than 3 months). |  |  |
| 3)By occasional employment in the commercial or public <br> sector (less than 3 months). |  |  |
| 4)By occasional employment at a university / research <br> institute in the (less than 3 months). |  |  |
| 5)Self employment |  |  |
| 6)By scholarship or grant |  |  |
| 7)My parents or my family supported me |  |  |
| 8)My partner supported me |  |  |
| 9)Other source, please specify: |  |  |

9)Other source, please specify:
(T)
12. In which year did you obtain your title of professor? ___ 99.not applicable

13a. Where did you obtain your first post of professor?

1) In the university in which you are working now
2) In another national university/ research institute. Where?
3) In a foreign university/ research institute. Where?
4) Not applicable

14 How did you finance yourself to complete this career step ?

|  | 1)Yes | 2)No |
| :--- | :--- | :--- |
| 1)By employment at a university / research institute <br> (more than 3 months) |  |  |
| 2)By employment in the commercial or public sector <br> (more than 3 months). |  |  |
| 3)By occasional employment in the commercial or <br> public sector (less than 3 months). |  |  |
| 4)By occasional employment at a university / research |  |  |


| institute in the (less than 3 months). |  |  |
| :--- | :--- | :--- |
| 5)Self employment |  |  |
| 6)By scholarship or grant |  |  |
| 7)My parents or my family supported me |  |  |
| 8)My partner supported me |  |  |
| 9)Other source, please specify: |  |  |

WORK
15 How many years have you been employed in higher education or research institutes (including current year)?
16. How many years have you been employed at your current university (including current year)?

16a. Since which year?
17. At how many different institutions of higher education or research institutions have you ever held an academic appointment (in the country and abroad)?
GER: Only regular employment (feste Stelle) POL: All forms of employment

|  | Number of institutions |
| :--- | :--- |
| 1)Between finishing your study and <br> Ph.D. | 95 |
| 2)Between finishing Ph.D. and <br> Habilitation (for the countries which <br> have habilitation) | ............................................................... <br> $. .99 . n o t ~ a p p l i c a b l e ~$ |$\quad 96$

18. Looking back, since your first academic appointment: Did you have interruptions longer than six months?
1) Yes, I had
2) No, I had not. (Go to the question 21)

If YES:
19.How many:

GER: For how many months
20. Because of:

GER: Reason of interruption of the first academic employment
Please choose all proper answers.

1) Military service 102
2) Illness 103
3) Child rearing 104
4) Care of relatives 105
5) For financial reasons (e.g.to take a better paid job) 106
6) To look for something more interesting 107
7) Change of academic field 108
8) Change of residence due to partner 109
9) Social and/or voluntary work 110
10) Political activities 111
11) Unemployment 112
12) Other, please specify: 113
(3) 114

21. People play an important role in shaping one's career. These individuals may have supported, trained, provided advice or endorsed you in your career development in academy. Whom they have been at that time?
A)Male
B)Female
1) Yes
2) Yes
3) Not
4) Not
applicable
5) Not
6) Not applicable

|  |  | A)Male | B)Femal <br> e |
| :--- | :--- | ---: | ---: |
| 1) | Supervisor in your institution (e.g. Dean, Director of Institute) | 116 | 128 |
| 2) | Direct supervisor (e.g. Head of the Chair) in your institution | 117 | 129 |
| 3) | Colleagues in your institution | 118 | 130 |
| 4) | Teacher/professor in other institution | 119 | 131 |
| 5) | Colleagues in other institutions | 120 | 132 |


| 6$)$ | Partner | 121 | 133 |
| :--- | :--- | ---: | ---: |
| 7$)$ | Other family members | 122 | 134 |
| 8$)$ | Friends | 123 | 135 |
| 9$)$ | Political acquaintances | 124 | 136 |
| 10$)$ Other, please specify: | 125 | 137 |  |

$126 \quad 138$
$127 \quad 139$
22. After you obtained your Ph.D. (up to now) were you helped by your colleagues in your career and especially in...:?
A)Male
B)Female

1) Yes
2) Yes
3) Not
4) Not
5) Not
6) Not
applicable
applicable

|  | A)Male | B)Femal <br> e |
| :--- | ---: | ---: |
| 1) Obtaining a research grant or stipend | 140 | 144 |
| 2) Going abroad | 141 | 145 |
| 3) Writing articles/books | 142 | 146 |
| 4) Obtaining a position | 143 | 147 |

23.From your personal point of view, besides your scientific accomplishments, were the following factors important in obtaining your full professorship?

|  | 1)Yes | 2)No |
| :---: | :---: | :---: |
| 1) Earlier cooperation with faculty members of your current university |  |  |
| 2) Other personal contacts |  |  |
| 3) Programmes promoting women (gender parity) |  |  |
| 4) New openings because of expansion of higher education |  |  |
| 5) Your formal or informal position in non-academic world |  |  |
| 6) other, please specify: |  |  |

24. How many times did you apply for your first post as full professor?

ACADEMIC WORK
25. How many of the following scholarly contributions have you published in the past two years?
GER: Number of chapters published in academic book and journals given together (3+4)
GER: 'Other' refers to the articles published in a different form than given above
POL: The translation of 'contributions published' is: scientific achievements accomplished

|  | number of publications in past two <br>  <br> years |  |
| :--- | ---: | ---: |
|  | in your country | Abroad |
| 1)Scholarly book you authored | 157 | 167 |
| 2)Scholarly book you edited | 158 | 168 |
| 3)Article published in an academic book | 159 | 169 |
| 4)Article published in journal | 160 | 170 |
| 5)Research report or monograph written for funded <br> project (e.g. by public, private institutions) | 161 | 171 |
| 6)Article written for newspapers or magazine | 162 | 172 |
| 7)Other, please specify: |  |  |

163......Number $165 \quad 173$ Number 175
164......Number 166174 Number 176
26.The research projects have you conducted (alone or in cooperation) within the past two years, how many of them were founded by the following sources? Please, take into account the main sponsor.

|  | Number of projects in past two years |
| :---: | :---: |
| 1) Your university |  |
| 2) Government (national, regional, local) |  |
| 3) Other academic or research institutions |  |
| 4) National research funds |  |
| 5) Private business |  |
| 6) Private foundations |  |
| 7) International organisations |  |
| 8) Other, please specify: |  |
| 184.... |  |
| 186. |  |

27. Over your whole scientific career, have you ever stayed abroad to study, teach or conduct research longer than three months:

|  | 1) <br> Yes | 2) <br> No | 99) not <br> applicable |
| :--- | :---: | :---: | :---: |
| 1)Before you completed PhD (for all countries) |  |  | XXXXXX <br> XXXX |
| 2)Between your PhD and Habilitation (for the countries <br> which have habilitation) |  |  |  |
| 3)Between your Habilitation and your first professorship <br> (for the countries which have habilitation) |  |  |  |
| 4)Between your PhD and first professorship (for the <br> countries which have no habilitation and for people without <br> habilitation) |  |  |  |
| 5)Since your first professorship |  |  |  |

28.In the last five years: How many times have you got grants or stipends from national, foreign, international institutions allowing you to stay three months or longer at a foreign university to teach or do research?
Please, take into account the main sponsor.

| Number of times |  |
| :--- | :--- |
| 1$)$ National | 193 |
| 2$) \quad$ Foreign | 194 |
| 3$) \quad$ International | 195 |

29. In the last five years: Did you help any junior colleagues (after the PhD ) in your university in their career development and especially in...:?
A)Male colleagues
1) Yes
2) Not
3) Not
applicable
4) Yes
5) Not
B)Female colleagues
6) Not applicable

|  | A)Male colleagues | B)Female colleagues |
| :--- | ---: | ---: |
| 1) Obtaining a research grant or <br> stipends | 196 | 200 |
| 2) Going abroad | 197 | 201 |
| 3) Writing articles/books | 198 | 202 |
| 4) Obtaining a position | 199 | 203 |

POSITIONS AND ACTIVITIES IN ACADEMIC WORLD
30. Have you ever held any of the following positions within your institution?

1) President/vice-president of university

| 1) Yes/No |  |
| :--- | :--- |
| 2) If yes Year | to - |
| 205 | 206 |
| 3) If yes Year | to - |
| 207 | 208 |
| 4) If yes Year | to - |
| 209 | 210 |

2) Dean/vice-dean

| 1) $\mathrm{Yes} / \mathrm{No}$ |  |
| :--- | :--- |
| 2) If yes Year_ |  |
| 212 | to - |
| 3) If yes Year | 213 |
| 214 | to - |
| 4) If yes Year_ | 215 |
| 216 | to - |

3) Director/vice-director

GER: It refers to the Head of the Institution

1) $\mathrm{Yes} / \mathrm{No}$
2) If yes Year $\qquad$ to - $\qquad$ 219 220
3) If yes Yea to 221 222
4) If yes Year to -
223
224
5) $\mathrm{Yes} / \mathrm{No}$

| 2) If yes Year | to - |
| :--- | :--- |
| 3) If yes Year | 234 |
| 235 | to - |
| 4) If yes Year | 236 |
| 237 | to - |

6) Other, please specify:
7) $\mathrm{Yes} / \mathrm{No}$

239
Which?
240
2) If yes Year $\quad$ to -

Which?
3) If yes Year $\quad 244 \quad$ to -

Which?
4) If yes $\mathrm{Year} \quad$ to -
31. Have you ever held any of the following positions (activities) outside your institution in academic world in your country?

|  | 1)Yes | 2)No |
| :--- | :--- | :--- |
| 1)Member of editorial boards |  |  |
| 2)Member of decision-making bodies in scientific <br> institutions (e.g. national science foundation, other <br> foundations) |  |  |
| 3)Reviewer of accomplishments of persons working in <br> academic world |  | 250 |
| 4)Expert |  |  |
| 5)Member of decision-making national professional <br> associations |  | 251 |
| 6)Other, please specify: |  | 252 |

32. Have you ever held any of the following positions (activities) outside your institution in academic world in international context?

|  | 1)Yes | 2)No |
| :--- | :---: | :---: |
| 1)Member of editorial boards |  |  |
| 2)Member of decision-making bodies in scientific <br> institutions (e.g. sponsored by EC; UNESCO, UN, WHO, <br> ) |  |  |
| 3)Expert/consultant |  |  |
| 4)Participant of international projects |  |  |
| 5)Member of decision-making bodies in international <br> professional associations |  |  |
| 6)Other, please specify: |  |  |

## POSITIONS AND ACTIVITIES IN NON-ACADEMIC WORLD

33. Have you ever held any of the following positions (activities) outside academic world (in your country and/or abroad)?

|  | 1)Yes | 2)No |
| :---: | :---: | :---: |
| 1)Member of editorial boards |  |  |
| 2)Member of decision-making bodies in public or private sector (e.g. bank, trade union, political party, parliament) |  |  |
| 3)Consultant (working for government, corporations, political party etc.) |  |  |
| 4)Member of decision-making bodies in other institutions supporting financially and organisationally research and teaching |  |  |
| 5)Other, please specify: |  |  |

POLLSTER: Please, hand the Card 4.
34. In the last year: How frequently have you engaged in following activities?

1) Presentation at public meeting

Not at all 1-2-3-4-5 very often
2) Appearance on radio or TV

Not at all $1-2-3-4-5$ very often
3) Being interviewed for newspapers of magazines

Not at all $1-2-3-4-5$ very often

## FINANCIAL SITUATION

35. Do you currently held other paid jobs outside your university?

|  | 1)Yes | 2)No |
| :--- | :--- | :--- |
| 1)Academic job |  |  |
| 2)Non-academic job |  |  |

2)Non-academic job
36. Of your overall earned income, what percentage comes from the following sources?
(figures should add to 100 percent)

1) Basic salary from your university $\qquad$ \%277
2) Supplementaries from your university __ \% 278
3)Other academic endeavours (including publications of scientific books) \%
3) Non-academic work $\qquad$ \%280
37. How would you rate your own academic salary (in your university)?

Very poor $1-2-3-4-5$ very good

## GER: Scale reversed. Recode from...to...

1-5
2-4
3-3
4-2
5-1
38. What was your total earned net income in 2001 in your university (including all extra payments)?

In Germany two options possible, in Euro and in DM

## FEELINGS ABOUT WORK

POLLSTER: Please, hand the Card 4.
39. Taking into consideration your work at the university, how often do you feel overload with

1) Teaching
not at all 1-2-3-4-5 very often283
2) Research
not at all 1-2-3-4-5 very often
3) Administrative work

$$
\text { not at all } 1-2-3-4-5 \text { very often } 285
$$

4) Serving on committees
not at all $1-2-3-4-5$ very often 286
5) Other, please specify

287
not at all 1-2-3-4-5 very often
$\qquad$
40. How often in the past year have you experienced symptoms of overwork such as exhaustion, anxiety, or feeling burnt out?

Very seldom $1-2-3-4-5$ very often

## POL: Instead of 'very seldom' is 'never'

41. All in all, how satisfied are you with your career progress?

Not at all 1-2-3-4-5 highly satisfied
42. If you could decide: Would you choose an academic career again?

1) Yes
2) No

FAMILY
43. Are you (check only one):

1) Single/never married
2) Married/living together
3) Separated/divorced
4) Widow
44. Have you ever been divorced in the past?
3) Yes
4) No

POLLSTER: Please, hand the Card 5.
45. If you have husband/wife/partner: (If you don't have husband/wife/partner please move to question 50)
What is the profession/position of your husband/wife/partner? (Instructions: If the partner retired or stopped to work for health reasons, is actually unemployed what was his profession/position? In such a case go next to the question 49)

1) Civil servant or manager in a higher position
2) Civil servant or manager in a middle position
3) Faculty member at a university
4) Teacher
5) White collar worker
6) Blue collar worker
7) Farmer
8) Business person
9) Professional (e.g. lawyer, physician)
10) Housekeeper
11) Other, please specify:

POLLSTER: Please, hand the Card 6.
46. How do you judge the present position of your husband/wife/partner and would you please compare it with your own position with regard to the following aspects:

1) Work load

| lower - rather lower - the same - rather higher - higher --- irrelevant |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $1-$ | $2-$ | $3-$ | $4-$ | $5-$ |

2) Prestige
lower - rather lower - the same - rather higher - higher --- irrelevant $\begin{array}{llllll}1- & 2- & 3- & 4- & 5- & 99\end{array}$
3) Income
lower - rather lower - the same - rather higher - higher --- irrelevant $\begin{array}{llllll}1- & 2- & 3- & 4- & 5- & 99\end{array}$
4) Responsibility in job
lower - rather lower - the same - rather higher - higher --- irrelevant $\begin{array}{llllll}1- & 2- & 3- & 4- & 5- & 99\end{array}$

GER: There is an option: "not important"
47. Over all, do you think that your husband/wife/partner has a better position then you?

1) Yes
2) No
3) Difficult to say
48. What is your attitude towards his/her present job and its demands?
1) Very positive
2) Positive
3) Neutral
4) Negative
5) Very negative
49. What is your partner's attitude towards your present job and its demands?
1) Very positive
2) Positive
3) Neutral
4) Negative
5) Very negative

## GER: The order of questions 48 and 49 reversed

## 50. If you live alone now:

Please indicate what was the profession/position of your husband/wife/partner? (Instructions: In case of more than one husband/wife/partner consider the relationship that lasted longest)

1) Civil servant or manager in a higher position
2) Civil servant or manager in a middle position
3) Faculty member at a university
4) Teacher
5) White collar worker
6) Blue collar worker
7) Farmer
8) Business person
9) Professional (e.g. lawyer, physician)
10) Housekeeper
11) Other, please specify:
51. If you are/ were married or living together with a husband/wife/partner: Is or was your husband/wife/partner active in voluntary, social or political organisations?
1) Yes
2) No
3) Not applicable

For all:
52. Do you have children?

1) Yes
2) No (Go to question 58)

If YES:
53. How many?
54. In which year was your the first child born?
$\qquad$
55. In which year was you the youngest child born?
56. When/if your children were/are under school age: How were/are they primarily cared for? Please, choose maximally two answers.

1) Primarily by myself
2) Primarily by my partner
3) Equal share between me and my partner
4) Primarily by a combination of family members
5) Primarily in privately financed care (also babysitter)
6) Primarily in publicly financed care
57. When/if your children were/are of school age: How often did/does the issue of the children's after-school-hours impair your ability to perform your job?

Never 1-2-3-4-5 very often
58. How often do you experience a conflict between the demands of your work at university and the demands of your life outside work?

Never 1-2-3-4-5 very often
59.To what extent did you have to make the following personal sacrifices to get where you are today?

1) personal time, free time

Not at all 1-2-3-4-5 a lot
2) social time, friendship

Not at all 1-2-3-4-5 a lot
3) time with children

Not at all 1-2-3-4-5 a lot
4) time with partner

Not at all 1-2-3-4-5 a lot
5) not having children, delaying children

Not at all 1-2-3-4-5 a lot
6) material standard

Not at all 1-2-3-4-5 a lot
7) Other, please specify:

321
Not at all 1-2-3-4-5 a lot
60. To what extent do you yourself take care of domestic work in your household?

1) not at all
2) less than half
3) half
4) more than half
5) completely

WOMEN'S PLACE IN SOCIETY AND IN ACADEME
POLLSTER: Please, hand the Card 7.
61. Women are less well represented than men in the top positions in society. Please indicate whether you agree or disagree with each of the following explanations. Check all items; circle the chosen code for each item

1) This is what women themselves prefer
strongly agree $1-2-3-4-5$ strongly disagree
2) Lack of specific training
strongly agree $1-2-3-4-5$ strongly disagree
3) Isolation in a mainly male environment
strongly agree $1-2-3-4-5$ strongly disagree
4) Society is organised in such a way that women are prevented from reaching top positions
strongly agree 1-2-3-4-5 strongly disagree
5) Due to how women are brought up
strongly agree $1-2-3-4-5$ strongly disagree
6) Lack of participation in powerful informal networks
strongly agree $1-2-3-4-5$ strongly disagree
GER: Scale reversed. Recode from ...to...
1-5
2-4
3-3
4-2
5-1

POLLSTER: Please, hand the Card 7.
62. To what extent do you agree with the following statements as describing the women's situation in academic world?
Check all items; circle the chosen code for each item:

1) Women are accepted in positions of professors in my field
strongly agree $1-2-3-4-5$ strongly disagree
2) Women are accepted in positions of leadership in research
strongly agree $1-2-3-4-5$ strongly disagree
3) Women are accepted in top university positions
strongly agree $1-2-3-4-5$ strongly disagree
4) Women have to achieve more than men to receive the same degree of recognition in my field
strongly agree $1-2-3-4-5$ strongly disagree
5) Power in academic world is primarily based on networks in informal relations 335 strongly agree $1-2-3-4-5$ strongly disagree

GER: Scale reversed. Recode from ...to...
1-5
2-4
3-3
4-2
5-1

POLLSTER: Please, hand the Card 7.
63. To what extent do you agree with the following statements. Check all items; circle the chosen code for each item:

1) When jobs are scarce, men should have more right to a job than women.
strongly agree $1-2-3-4-5$ strongly disagree
2) All in all, family life suffers when the woman has a full-time job.
strongly agree $1-2-3-4-5$ strongly disagree
3) Having a paid job is the best way for a women to be an independent person.
strongly agree $1-2-3-4-5$ strongly disagree

GER: Scale reversed. Recode from ...to...
1-5
2-4
3-3
4-2
5-1
64. Rank the prestige of the following occupations according to your own opinion on a scale of 1 to 5 where 1 is very low and 5 is very high prestige.

1) Secretary
2) Writer
3) Carpenter
GER: Installateur

## Very low 1-2-3-4-5 very high

|  | Very low 1-2-3-4-5 very high | 341 |
| :---: | :---: | :---: |
| 4) Physician/doctor |  |  |
|  | Very low 1-2-3-4-5 very high | 342 |
| 5) Priest |  |  |
|  | Very low 1-2-3-4-5 very high | 343 |
| 6) Accountant |  |  |
|  | Very low 1-2-3-4-5 very high | 344 |
| 7) | Manager of an international company |  |
|  | Very low 1-2-3-4-5 very high | 345 |
| 8) | Bank manager |  |
|  | Very low 1-2-3-4-5 very high | 346 |
| 9) | University professor |  |
|  | Very low 1-2-3-4-5 very high |  |

10) Taxi driver

Very low 1-2-3-4-5 very high
4) Physician/doctor

Very low 1-2-3-4-5 very high

Very low 1-2-3-4-5 very high

Very low 1-2-3-4-5 very high

Very low 1-2-3-4-5 very high

Very low 1-2-3-4-5 very high

Very low 1-2-3-4-5 very high

Very low 1-2-3-4-5 very high
11) Teacher of secondary school

Very low 1-2-3-4-5 very high
12) Nurse

Very low 1-2-3-4-5 very high
13) Journalist

Very low 1-2-3-4-5 very high
14) TV-host

Very low 1-2-3-4-5 very high
65. Are there affirmative action programmes to promote women in your university? ${ }_{353}$

1) Yes
2) No (Go to question 65e)
3) I don't know (Go to the question 65e)

If YES:
65 a. Should they be continued?

1) Yes
2) No

65 b. Should they be changed?

1) Yes
2) No

65 c . Should they be stopped?

1) Yes
2) No

65d. Do you know women promoted due to affirmative action programmes?

1) Yes
2) No

## If NO:

65 e. Should such programmes be introduced?

1) Yes
2) No
66. Do you know cases of discrimination at your university on following grounds?

|  | 1)Yes | 2)No |
| :---: | :---: | :---: |
| 1) Nationality/ Race/ ethnicity |  |  |
| 2) Age |  |  |
| 3) Confession |  |  |


| 4$)$ | Sex |  |  |
| :--- | :--- | :--- | :--- |
| 5$)$ | Sexual orientation |  |  |
| 6$)$ | Other, please specify |  |  |

67. Do you know cases when a woman was discriminated on the ground of sex (in direct or indirect way) in your university?
1) Yes
2) No

POLLSTER: Please, hand the Card 4.
68. Looking back at your career track: Have you ever felt discriminated?

1) When you were working on your $\mathrm{Ph} . \mathrm{D}$

Not at all 1-2-3-4-5 very often
2) When you were working on your Habilitation

> Not at all 1-2-3-4-5 very often 9) Not applicable
3) When you were applying for a professorship

Not at all 1-2-3-4-5 very often
69. *Looking back over your career, have you ever experienced any form of sexual harassment, such as:
POL: Do you know cases of sexual harassment in your own institution?
POL: There are 5 options (as fourth there is unwanted physical contact)

|  | 1)Yes | 2)No |
| :--- | :--- | :--- |
|  |  |  |
| 1)Uninvited and repetitious sexual advances |  |  |
| 2)Sexual blackmailing (threats or promises) |  |  |
| 3)Exhibitionism |  |  |
| 4)Sexual violence (rape etc.) |  |  |
| 371 |  |  |
| 373 |  |  |
| 374 |  |  |

PERSONAL INFORMATION
70. In what year were your born?
71. In which country were you born?

## 72a. What is your nationality? <br> GER: What is you citizenship

73. What is the highest educational degree of your mother, father, partner?

GER: First mother
A) Father

1) Primary school
2) Vocational school/unfinished secondary school
3) Secondary school
4) Unfinished university education
5) University
6) Postgraduate
7) Ph.D.
8) Other, please specify:
9) Not applicable
B) Mother
10) Primary school
11) Vocational school/unfinished secondary school
12) Secondary school
13) Unfinished university education
14) University
15) Postgraduate
16) Ph.D.
17) Other, please specify:
18) Not applicable
C) Partner
19) Primary school
20) Vocational school/unfinished secondary school
21) Secondary school
22) Unfinished university education
23) University
24) Postgraduate
25) Ph.D.
26) Other, please specify:
27) Not applicable
74. What has been the profession/position of your father and your mother when you where 14 years old? (Please mark only one for father and one for mother)
GER: First mother
GER: The order of professions different than in question 45. Recode from...to...
1-1
2-2
3-3
4-4
8-5
9-6
5-7
6-8
7-9
A) Father
1) Civil servant or manager in a higher position
2) Civil servant or manager in a middle position
3) Faculty member at a university
4) Teacher
5) White collar worker
6) Blue collar worker
7) Farmer
8) Business person
9) Professional (e.g. lawyer, physician)
10) Housekeeper
11) Other, please specify:
12) Not applicable
B) Mother
13) Civil servant or manager in a higher position
14) Civil servant or manager in a middle position
15) Faculty member at a university
16) Teacher
17) White collar worker
18) Blue collar worker
19) Farmer
20) Business person
21) Professional (e.g. lawyer, physician)
22) Housekeeper
23) Other, please specify:
24) Not applicable
75. Have your father and/or your mother been active in voluntary, social or political organisations when you where 14 years old?
GER: They ask firstly for mother, or for both and then specifically about the father - phrasing unclear
A) Father
1) Yes
2) No
3) Not applicable
B) Mother
4) Yes
5) No
6) Not applicable
76. Have you been
1) a single child (Go to the question 78)
2) you have/had brothers/sisters
77. If you have brother and sisters have you been:
1) first child
2) second child
3) third child
4) fourth child or further
78. Are you:
1) a man
2) a woman
79. Name of the current university:
80. Town where your current university is located:

394
81. Main discipline in which you work:
82. Your current position in your university:

## Disciplines

## Hard sciences:

1) Math
2) Physics
3) Chemistry
4) Biology
5) Computing sciences?

## Humanities:

6) National philology (literature)
7) History

## Social sciences:

8) Sociology
9) Political Science
10) Psychology
11) Law
12) Economics and Business administration (management)
13) Engineering (without architecture)

## Sample:

Women full professors and matching group (in terms of dicipline, institute and age $+/-$ 5 years older or younger) of men full professors .

## 1. TRAINING PAPERS

- Research Phase 1: Contextual Analysis -

| Author | Title | Serial no. |
| :--- | :--- | :---: |
| Jessica <br> Bösch | The Integration of Women in Austria's <br> Universities | TP 00/01 |
| Susana Vázquez- <br> Cupeiro | The System of Higher Education in the UK | TP 01/01 |
| Anett <br> Schenk | The System of Higher Education in Sweden | TP 01/02 |
| Stéphane <br> Portet | Higher Education System : Poland's Main Facts | TP 01/03 |
| Lisa <br> McGurk | Women in German Higher Education | TP 01/04 |
| Agnieszka <br> Majcher | Austria's System of Higher Education | TP 01/05 |
| Christian <br> Poulsen | Women in Spanish Universities | TP 01/06 |
| Jessica <br> Bösch |  | TP 01/07 |

## - Research Phase 2: Statistical Analysis -

| AUTHOR | Title | Serial no. |
| :---: | :---: | :---: |
| Susana | Are Women the creeping "Proletariats" of | TP 02/01 |
| Vázquez-Cupeiro | British Academia? - A Statistical Portrait |  |
| Anett | Women in Swedish Higher Education - A | TP 02/02 |
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| Stéphane | Women in Polish Academia - A Statistical | TP 02/03 |
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[^0]:    ${ }^{1}$ Attrition refers to the fact that the higher the level of scientific education and employment, the lower is the level of women's representation. (see Glover / Bebbington 2000:6)

[^1]:    ${ }^{2}$ The questionnaire used for the survey is to find in the appendix.

[^2]:    ${ }^{3}$ For the literature review concerning Germany see chapter I. State of the Art.

[^3]:    ${ }^{4}$ The questions concerning conceptions of prestigious work were mainly included because they also will be used as a part of a doctoral thesis, which is written within the framework of the Research Training Network "Women in European Universities". (See: Christian Poulsen: Prestige in Academia - A Glance at the Gender Distribution, forthcoming)

