

**DR ANNA MATYSIAK**

**DESCRIPTION OF SCIENTIFIC ACHIEVEMENTS**

**1. Information about education and employment**

In 2003 I graduated from Warsaw School of Economics (WSE) from two faculties: (1) Economics and (2) Quantitative Methods and Information Systems. My supervisor in Economics was Prof. Marek Góra. In my master thesis in Economics I verified whether the 'insider – outsider' model can be used for explaining the increase in unemployment during the periods of economic slowdown after 1989. My supervisor in Quantitative Methods and Information Systems was Prof. Irena E. Kotowska. In my master thesis in this faculty I compared the preferred and realized family models in Poland and Germany.

I started to cooperate with the Institute of Statistics and Demography (WSE) in the fourth year of my master studies. In October 2003, right after obtaining my master degree, I was employed as a Research Assistant at the Institute. In parallel I cooperated with the Gdansk Institute for Market Economics, where I was responsible for projecting social expenditures for the Ministry of Economics, Labour and Social Policy.

In years 2005-2007 I was a Fellow at the Max Planck Institute of Demographic Research in Germany. During this time I graduated from the European Doctoral School of Demography and obtained a European Master of Demography. In addition, I completed a course in event history analysis within the International Max Planck School of Demography.

In Mai 2009 I defended my PhD thesis entitled "On the interdependencies between fertility and women's labour supply" at the Warsaw School of Economics (Collegium of Economic Analyses). The thesis was prepared under the supervision of Prof. Irena E. Kotowska. In October 2009 I was employed at the Warsaw School of Economics as a Lecturer.

In December 2009 I received a research grant of 999 990 PLN for conducting the project "Family Change and Subjective Well-being" (FAMWELL) and forming a research team. The grant was funded by the National Center of Research and Development within the Programme LIDER. Thanks to this grant I established a research team at the Institute of Statistics and Demography (WSE), which I led from Mai 2010 till June 2013. It consisted of two post-docs, one PhD student and one master student. Within this project we conducted a social survey "Childlessness and late fertility" and in-depth interviews. Our findings were published 6 research articles in international journals (5 in journals with Impact Factor), 6 research articles in Polish journals and one monograph ([www.sgh.waw.pl/famwell](http://www.sgh.waw.pl/famwell)). In the meantime I also participated in conducting two large research projects conducted at the Institute of Statistics and Demography (WSE) "Gender and Generations Survey" (GGS), led by Prof. Janina Józwiak, and "New Family Patterns in Italy and Poland: Finding the Determinants of the Change" (FAMCHIP), led by Prof. Irena E. Kotowska and conducted in cooperation with the Department of Statistics at the University of Florence. I initiated and co-authored the latter project.

Since August 2013 I have been on a research contract at Vienna Institute of Demography in the Austrian Academy of Sciences where I have been working in the research group supervised by dr Tomasz Sobotka.

## 2. Brief summary of research interests and research conducted before and after the PhD defence

In my work I have aimed at understanding causes of the change in family formation and dissolution and the consequences of family-related behaviours (union formation, childbearing, union disruption) for individuals, in particular their subjective well-being and performance in the labour market. I was mainly interested in the interdependencies between family-related behaviours of individuals and their labour market performance, socio-economic status, gender roles and the cultural, institutional and economic country-specific conditions. I conducted my research for Poland as well as in a comparative perspective, analyzing the situation in selected European countries. In my research I made use of secondary data, incl. individual-level data from social surveys to whose development I contributed. I used a variety of research methods, incl. statistical analysis of cross-sectional data (regression models) and longitudinal data (panel data analysis, sequence analysis, event history analysis, incl. multi-process models) and meta-analysis (i.e. a quantitative literature review). I also used a mixed-method approach, i.e. combined quantitative and qualitative analyses in the cooperation with dr M. Mynarska (responsible for qualitative data analysis).

### The period 2003-2009 (before the PhD defence)

During this period I concentrated mainly on studying interdependencies between fertility and women's economic activity in Europe. In particular, I studied the variation in this relationship across Europe as well as the causes of this variation. I contributed to the field mainly by providing empirical evidence on post-socialist countries (which were often missing from studies on this topic) and in particular on Poland. This evidence is based on my analyses conducted on both the aggregated and the individual-level data which comes from the retrospective survey "Education, Family and Employment" (EFES). This survey was initiated and co-designed by me and was carried out in 2006. The findings of my research were presented in my PhD thesis „On the interdependencies between fertility and women's labour supply" and in a series of research articles:

- Matysiak, A., 2009, Employment first, then childbearing: women's strategy in post-socialist Poland. *Population Studies* 63(3): 253-276
- Matysiak A., Steinmetz S. 2008. Finding Their Way? Female Employment Patterns in West Germany, East Germany, and Poland, *European Sociological Review* 24(3): 331-345.
- Matysiak A., Vignoli D. 2008. Fertility and women's employment: a meta-analysis, *European Journal of Population* 24:363-384.

In parallel to the studies described above I was interested in understanding other causes of fertility decline in Poland as well as the process of cohabitation diffusion. My findings were presented in the following two publications:

- Kotowska I.E., Józwiak J., Matysiak A., Baranowska A. 2008. Poland: Fertility decline - a response to profound societal change and transformations in the labour market? *Demographic Research*, 19, Article 22, 795-854.
- Matysiak, A., 2009, Is Poland really "immune" to the spread of cohabitation? *Demographic Research* 21, Article 8: 215-234.

I was also interested in demographic projections as well as the use of their results for projecting the labour force and social expenditures. My interest in demographic projections was reflected in the publication:

Matysiak A., Nowok B., 2007, Stochastic forecast of the population of Poland, *Demographic Research* 17: 301-338

I conducted the labour force projections as well as the projections of social expenditures at the Gdańsk Institute of Market Economics for the Ministry of Economics, Labour and Social Policy. In those projections I followed the methodology developed by the International Labour Organisation.

#### The period 2009-2016 (after the PhD defence)

After defending my PhD I continued my research on the interdependencies between women's economic activity and childbearing:

- I prepared my PhD thesis for publication. This means that I introduced comments of my reviewers and work colleagues, but also that (1) I updated data in one of the chapters (the data was unavailable at the time I worked on my PhD thesis), which allowed me to make new observations and draw new conclusions, (2) I substantially modified one of the chapters (chapter 4). In my PhD thesis in this chapter I narratively discussed the institutional and cultural conditions of work and family reconciliation. In the revised chapter not only do I discuss these conditions, but also propose to assess them quantitatively. I construct indexes of the institutional, structural and cultural incompatibilities between work and family as well as the total index of those incompatibilities. The modified version of my thesis was published in 2011 by Springer as a monograph entitled "Interdependencies between fertility and women's labour supply".
- I further continued my work on the quantitative assessment of the conditions for work and family reconciliation in cooperation with dr Dorota Węziak-Białowolska (Joint Research Centre of the European Commission, she defended her thesis in 2008), who specializes in constructing composite indicators. As a result, I further elaborated the conceptualization of the conditions for work and family reconciliation which I introduced earlier. Dr Węziak-Białowolska, in consultation with me, introduced a series of methodological innovations into the indexes I proposed (e.g. accounting for possible correlations between the components of the main indicator, performing the sensitivity and uncertainty analysis, using generalized mean). The computed indices refer to the new period and use a wider set of variables.
- I conducted comparative analyses on the interdependencies between work and family in Poland and Italy with dr Daniele Vignoli (University of Florence, defended his thesis in 2008) within the project "New Family Patterns in Italy and Poland: Finding the Determinants of the Change" (FAMCHIP) as well as between Poland and Hungary with Ivett Szalma (PhD student at the Hungarian Academy of Sciences) within the research project „Reconciling Work and Welfare” (RECOWE, 7<sup>th</sup> EU Framework Programme); the findings of these studies contributed to a better understanding of the relationship between women's economic activity and fertility in post-socialist countries as well as in countries where the level of reconciliation of paid work and family is fairly difficult (i.e. Poland, Hungary and Italy).

At the same time my research interests widened to two new research areas. First, I started to investigate reasons for which people remain childless, choose cohabitation instead of marriage or opt for divorce. My research on those topics was conducted mostly for Poland where these reasons were still largely unexplored. But I also conducted comparative studies. My main motivation to conduct this research was to find out whether the ongoing family change is mainly driven by an ideological change (rejection of traditional values, such as marriage and the family) or it is caused by certain constraints which make it difficult for the youth to form a family (insufficient income, employment instability, difficulties with combining paid work and care, etc.). Answering these questions is important not only for understanding the causes of the ongoing demographic change but also for improving the quality of life of the population. This relates to my second research interest which I developed after my PhD. Namely, I got interested in investigating how family-related behaviours (such as union formation, a childbirth or divorce) affect subjective well-being. Subjective well-being and its relationship with family-related behaviours or socio-economic status attracted attention of many economists and demographers in the last decade (Billari 2008, Easterlin 2010, Layard 2010, Myrskylä and Margolis 2014, Margolis and Myrskylä 2015). I pursued my interests in these two research fields within two research projects, i.e. "Family change and subjective well-being" (FAMWELL), which I led, and the project "New Family Patterns in Italy and Poland: Finding the Determinants of the Change" (FAMCHIP), which was led by Prof. Irena E. Kotowska and which I initiated and co-authored.

Last year I got also interested in fatherhood and the role of men in the process of family formation and dissolution. Traditionally demographic research concentrated mainly on women, treating men mainly as economic providers who do not experience opportunity costs of parenting. Men's social roles have been changing, however, and fathers increasingly take up the caregiving roles and make use of parental leaves. The topic of fatherhood is becoming increasingly present in demographic research, but demographers still study it from the perspective of women and their difficulties in the labour market or the perspective of children and their well-being. We miss the perspective of men on their caregiving roles and the limitations men face when they increase their time spent at home. Against this background in November 2015 I applied for the ERC Starting Grant in which I proposed to apply men's perspective to men's involvement in the family life and its consequences for the fertility and union stability.

**3. Scientific achievement presented for the evaluation (Article 16, point 2 of the Act from 14.03.2003 - Dz.U. no 65 position 595 with changes)**

My scientific achievement presented for the evaluation consists of a series of publications, linked thematically, which I entitled "New patterns of family formation and dissolution: their conditions and impact on subjective well-being". This series of publications comprises: a series of research articles, one book chapter and a monograph edited by myself (incl. several chapters which I (co-)authored). Ten out of these publications are in English and six are published in journals with an Impact Factor. Six articles and the monograph were prepared under the research project "Family Change and Subjective Well-being" (FAMWELL) which was prepared according to my concept and conducted by a team of researchers under my supervision (one master student, one PhD student and two young post-docs). All publications which are to be evaluated and which I co-authored were conducted in collaboration with PhD students or post-docs with a experience in research similar as me or shorter.

No	Publication	My % involvement	IF acc to Web of Science	Points of the MNIŚW
<b>RESEARCH ARTICLES PUBLISHED IN JCR JOURNALS</b>				
1.1.	Matysiak, A., Węziak-Białowolska, D. Country-specific conditions of work and family reconciliation: An Attempt at Quantification <i>European Journal of Population (Online First)</i>	50%	1.622	35
1.2.	Matysiak, A., Szalma, I., 2014, Effects of Parental Leave Policies on Second Birth Risks and Women's Employment Entry. <i>Population The English Edition</i> 69(4): 599-636	75%	0.548	20
1.3.	Mynarska, M., Matysiak, A., Rybińska, A., Tocchioni, V., Vignoli, D., 2015, Diverse paths into childlessness over the life course. <i>Advances in Life Course Research</i> 25, p. 35-48	35%	0.953	35
1.4.	Matysiak, A., Styrac, M., Vignoli, D., 2014, The educational gradient in marital disruption: A meta-analysis of European research. <i>Population Studies</i> 68(2): 197-215	33,3%	2.150	35
1.5.	Baranowska-Rataj, A., Matysiak, A., Mynarska, M., 2014, Does Lone Motherhood Decrease Women's Happiness? Evidence from Qualitative and Quantitative Research. <i>Journal of Happiness Studies</i> 15(6): 1456-1477	35%	1.683	35
1.6.	Matysiak, A., Vignoli, D., 2013, Diverse effects of women's employment on fertility: insights from Italy and Poland. <i>European Journal of Population</i> 29(3): 273-302	60%	1.20	35
<b>RESEARCH ARTICLES PUBLISHED IN OTHER JOURNALS</b>				
1.7.	Baranowska A., Matysiak, A. 2011, Does Parenthood increase Happiness? Evidence from Poland. <i>Vienna Yearbook of Population Research</i> 9, 307-325	50%		5
1.8.	Matysiak, A., 2011, Posiadanie własnego mieszkania a rodzicielstwo w Polsce (Home ownership and parenthood in Poland). <i>Studia Demograficzne</i> 1(159): 37-55	100%		13
1.9.	Matysiak, A. 2011, Fertility developments in Central and Eastern Europe: the role of work-family tensions. <i>Demográfia – The English Edition</i> 54(5): 7-30	100%		5
1.10.	Mynarska, M., Matysiak, A., 2010, Diffusion of Cohabitation in Poland. <i>Studia Demograficzne</i> 1-2 (157-158): 11-26	45%		13
<b>BOOK CHAPTERS:</b>				
2	Matysiak, A. Macro-Context and Its Cross-Country Variation. W: Matysiak, A. (2011). Interdependencies between fertility and	100%		

	women's labour supply". Springer, Dordrecht			
<b>MONOGRAPH (EDITORSHIP AND (CO-)AUTHORED CHAPTERS)</b>				
3	Matysiak, A. (red.). „Nowe wzorce formowania i rozwoju rodziny w Polsce. Przyczyny oraz wpływ na zadowolenie z życia” (New patterns of family formation in Poland. Their causes and the impact on subjective well-being”). Wydawnictwo Naukowe Scholar, Warszawa 2014			
3.1.	„Urodzenia w kohabitacji: wybór czy konieczność (Childbearing within cohabitation)” (p. 24-53) – A. Matysiak and M. Mynarska	55%		
3.2	„Praca kobiet a macierzyństwo: rola poziomu wykształcenia i wykonywanego zawodu (Women's employment and motherhood: the role of education and occupation)” (p. 77-104) – A. Matysiak	100%		
3.3	„Które do bezdzietności? Analiza ścieżek życia kobiet, które nigdy nie zostały matkami (Pathways to childlessness)” (p. 105-162) – M.Mynarska, A. Matysiak, A. Rybińska	35%		
3.4	„Aktywność zawodowa kobiet a trwałość małżeństwa w zmiennych warunkach społeczno-instytucjonalnych (Women's economic activity and marital stability in changing socio-institutional conditions)” (p. 163-186) – M. Styrc and A. Matysiak	35%		
3.5	„Jak zachowania w zakresie formowania i rozwoju rodzin wpływają na zadowolenie z życia? (How family-related behaviours affect subjective well-being)” (p. 187-208) – A. Baranowska-Rataj and A. Matysiak	50%		
3.6	Introduction (p. 9-23) and Conclusions (p. 209-219).	100%		

The enumerated publications have following objectives:

- Description of changes in family formation and dissolution in Poland,
- Analysis of several potential reasons of the ongoing family change (options for combining paid work and care, home ownership, material well-being, quality of the relationships between partners, institutional and cultural conditions),
- Study of the impact of family-related behaviours on subjective well-being of Poles.

My interest in the aforementioned topics was driven by a desire to understand causes and selected consequences of the changes in family formation and dissolution which started to be observed in Western Europe in the second half of the previous century and in Poland since the early 1990s (except for changes in fertility which started to be observed already in the 1980s). Those changes are reflected in a decline in the intensity of marriage formation, an increase in cohabitation, a postponement of parenthood, a decline in the family size, an increase in childlessness, a rise in non-marital fertility and a decrease of marriage stability (Kotowska 2002, Sobotka 2008, Sobotka and

Toulemon 2008). European countries vary in the intensity of the ongoing changes. In Poland, the change in fertility was most pronounced: Poland – which was considered as a country with high fertility at the beginning of the 1980s – moved to the group of countries characterized by lowest low fertility (i.e. countries where the period total fertility rate does not exceed 1.35). Several processes are responsible for a decline in period fertility in Poland: postponement of childbearing to higher ages, resignation from higher order births (Bongaarts and Sobotka 2012) and an increase in the proportion of women who remain childless (Frejka 2008a, b). The process of union formation and dissolution has been undergoing a change as well, but its intensity is much weaker. Nonetheless, Poland experienced a decline in the intensity of marriage formation, increase in non-marital childbearing as well as a decline in marriage stability.

The changes in family formation and dissolution which have been taking place in Europe have been subject to numerous empirical studies. Their causes are in general explained by two major, not necessarily exclusive, theoretical approaches. The first one, the theory of second demographic transition, refers to ideological change and explains the ongoing family change by changes in the value system as well as an increase in the occupational, educational and consumption aspirations (Van de Kaa 1994, Lesthaeghe 1995, Van de Kaa 1996, Van de Kaa 2001, Surkyn and Lesthaeghe 2004). The second approach underlines the role of constraints young persons encounter when they want to start a family. These constraints may result from the difficulties with finding a partner (Van Bavel 2012), finding and maintaining employment or maintaining the stable source of income (Billari 2004, Adserà 2005, 2011, Kreyenfeld et al. 2012), difficulties with buying a flat (Mulder 2006a, Mulder and Billari 2010) or difficulties with combining paid work and childcare (Billingsley and Ferrarini 2014, Esping-Andersen and Billari 2015, Goldscheider et al. 2015). These difficulties may occur at the individual-level (lack of human capital, insufficient financial resources or inability to solve conflicts) as well as at the country level (economic condition of the region, unemployment rate, access to mortgage, housing prices, access to childcare institutions, ratio of women and men in a given age and educational group, perception of social roles of women and men). Empirical research conducted in Europe does not suggest which out of the two mechanisms – the ideological one or the other linked to constraints of every day life – is responsible for the ongoing change in family formation and dissolution. Many studies point out, however, the importance of various constraints. These constraints may also affect the quality of life of the young adults if we consider that satisfaction with family life constitutes one of the most important components of life satisfaction (Cummins 1996, Easterlin and Sawangfa 2007).

Research on the causes and consequences of family change in Poland was for a long time dominated by descriptive studies, conducted mostly at the country-level rather than the individual-level. Such a macro-level approach allowed for assessing the intensity of the ongoing demographic change (Slany 2002, Kwak 2005, Kotowska et al. 2008, Frątczak et al. 2011a, Frątczak et al. 2011b), assessing the ideological change (Giza-Poleszczuk and Poleszczuk 2004, Pongracz and Spèder 2008, Stankuniene and Maslauskaite 2008) and formulating hypotheses about possible causes of the ongoing changes (Frątczak 1999, Kotowska 1999, 2004b, a, Strzelecki 2004, Frejka 2008b, Sobotka 2011). An improvement in the access to individual-level data, especially panel and retrospective data, which took place in the last decade, created the possibility to conduct an in-depth analysis of the causes of the ongoing family change and its consequences for subjective well-being. I contributed to this improvement in the access to individual-level retrospective data personally, by initiating a social survey “Employment, family and education” (conducted in 2006) and participating in the large-scale

data collection "Gender and generations survey" (GGS) in the years 2010-2011. I also benefited from the improved access to individual-level retrospective data, first at the stage of the preparation of the PhD thesis and later after my PhD defense. In the years 2009-2010 I initiated two research projects which aimed at a better understanding of the conditions of the ongoing family change. The first one "Family change and subjective well-being" (FAMWELL), funded by the National Centre of Research and Development, was conducted under my supervision. The second "New Family Patterns in Italy and Poland: Finding the Determinants of the Change" (FAMCHIP), was financed by the National Science Center, was led by Prof. Irena E. Kotowska and was conducted in cooperation with the Department of Statistics at the University of Florence. FAMWELL was conducted in line with my research concepts and ideas. I was also the author of the FAMCHIP project (together with dr Daniele Vignoli – defended his PhD in 2008).

Within these two projects I:

- (1) deepened the knowledge on cohabitation diffusion in Poland
- (2) characterized the population of the childless women in Poland
- (3) extended our knowledge on the interdependencies between fertility and women's economic activity
- (4) studied the relationship between fertility and home ownership in Poland
- (5) contributed to our knowledge on the interdependencies between marital stability, women's educational attainment and economic activity
- (6) analysed of the impact of parenthood and union formation and dissolution on subjective well-being in Poland

Below I briefly summarise my achievements in those six areas.

#### (1) Cohabitation diffusion in Poland

Cohabitation became a common form of unions in Western and Northern Europe. In Poland, according to the data from National Population Censuses the proportion of couples living in cohabitation does not exceed 5%. These data for a long time constituted a basis for studies on cohabitation in Poland (Kwak 1999, Slany 2002, Fihel 2005) and suggested that cohabitation is a marginal phenomenon. These studies provided us also with a basic socio-economic characteristic of cohabitants. In my research on cohabitation conducted before I obtained the PhD I contributed to our knowledge on cohabitation in Poland, using retrospective instead of cross-sectional data. I showed that the intensity of entering cohabitation had been increasing and that cohabitations constituted around 30% of first unions formed at the early 2000s by women from cohorts 1965-1981 (Matysiak 2009). First unions formed as cohabitations are relatively short, however, and often precede a marriage. Thus their proportion among all unions observed in a given year (in a cross-section) is small.

In my research on cohabitation in Poland published after my PhD defence I further contributed to our understanding of cohabitation in Poland. This research was conducted in collaboration with dr M. Mynarska (Lecturer at the Cardinal Stefan Wyszyński University, defended her PhD in 2009) who specializes in qualitative data analysis in demography. My experience in quantitative data analysis and the experience of dr M. Mynarska in qualitative data analysis allowed us to combine both approaches in order to get a deeper knowledge on cohabitation in Poland. In particular, the use of

qualitative data allowed us to formulate new hypotheses which we further tested using quantitative data. Moreover, qualitative data enhanced our interpretation of our quantitative findings. In our publication [1.10], using a four stage model of cohabitation diffusion proposed by Kiernan (2002), we studied which stage of cohabitation diffusion Poland is at. Quantitative data analysis allowed us to measure the intensity of entering cohabitation, analyse changes in the intensity over time and assess cohabitation incidence in certain socio-economic groups. Qualitative data analysis enabled us to explore the meanings attached to cohabitation and to interpret the quantitative findings. As a result, we showed that cohabitation in Poland often precedes marriage and is used for testing the union. It is not perceived, however, as a union which replaces marriage. Neither is it perceived as the right union for raising children. Given these findings we concluded that Poland is at the second stage (out of four) of cohabitation diffusion. The quantitative findings presented in this publication were obtained by me after I submitted my PhD thesis but before the defense. Nonetheless, the concept for the publication, the formulated research hypotheses, combination of qualitative and quantitative findings and their interpretation, all conducted in collaboration with dr M. Mynarska, were carried out in the post-doctoral stage of my research.

In the publication [3.1] we again combined the qualitative and quantitative approach in order to answer the question who and why decides to have children in cohabitation in Poland, i.e. in a country in which most of the births take place in a marriage and persons living in a cohabitation are not protected in case of the death of the partner or union dissolution as it is the case in marriage. Are these highly educated persons who reject traditional values and at the same time have better financial situation and thus are better protected against the risks of union dissolution? Or are these low educated persons who decide to have children in cohabitation because they face numerous constraints, i.e. formal constraints (civil status of one of the partners) or subjective constraints (dissatisfaction with the union, poor financial situation, negative experiences with marriage in the past)? This time we used qualitative data in order to formulate our hypotheses which were further verified on quantitative data. Qualitative data analysis was performed by dr M. Mynarska who used data from in-depth interviews carried out within the FAMWELL project. I conducted the quantitative data analysis. I estimated competing risk models on the data from the „Generations and Gender Survey” which was carried out at the turn of 2010 and 2011 on a sample of 20 000 Poles aged 18-79. Our findings demonstrate that persons who raise children in cohabitation more often belong to the group of the low educated. They often have children from previous unions, are unsatisfied with their current union or/and had negative experiences with intimate relationships in the past. Our study allows us thus to reject the hypothesis which states that most of the couples decides to have children in cohabitation because of the ideological reasons (rejection of marriage and traditional family values). Our findings are also consistent with the findings for other European countries (Perelli-Harris et al. 2010) or the US (Brown and Booth 1996, Edin and Kefalas 2005). Our study also an important practical implication because it shows that couples who raise children in cohabitation are in a worse financial situation. They may thus need external support in case of union dissolution. Cohabitants in Poland are not entitled to such support, however.

To sum up, in my studies on cohabitation I contributed to deepening our knowledge on the diffusion of cohabitation in Poland, to the understanding of its role in the process of union formation in Poland as well as to our understanding who decides to cohabit and have children in cohabitation in Poland.