

# Working mothers in East and West Germany: a cluster analysis using a three-stage approach

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Working  
mothers in  
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## Abstract

**Purpose** – The second Frankfurt Career Study was conducted in 2017 in East and West Germany to analyze the impact of motherhood on female professional advancement in the specific national context of Germany. In addition, this study aims to present a unique perspective of the similarities and dissimilarities between the Western and Eastern parts of the country.

**Design/methodology/approach** – The research is presented as a three-stage statistical approach based on quantitative data generated from a survey conducted among 2,130 working mothers. In the first step, the authors performed a multiple correspondence analysis to explore the relationships between important categorical variables. Using the object scores obtained in the first step, we then ran a hierarchical cluster analysis, followed by the third and last step: using the k-means clustering method to partition the survey respondents into groups.

**Findings** – The authors found that working mothers in Germany are distributed according to four clusters mainly described by demographics and orientation toward work. East Germany has been found as a more egalitarian context than West Germany with respect to family system arrangements. However, the upper bound of the sample in West Germany presented an atypical female breadwinner model in high-performance households.

**Originality/value** – The authors want to contribute to previous investigations on the topic by providing a more comprehensive view of the phenomenon, especially comparing the two different family systems and social norms from the Eastern and Western parts of the country. The authors ask whether and how career perspectives and female labor supply are influenced by drivers such as work–family conflict determinants, working mothers demographics, partner support and employer support.

**Keywords** Discrimination, Glass ceilings, Career development, Gender stereotypes, Maternity leave, East Germany

**Paper type** Research paper

## 1. Introduction

Germany is considered a prime example of a conservative welfare state that often translates into the “male breadwinner model” (Adema *et al.*, 2017; Barnes, 2015; Baxter *et al.*, 2008; Hochschild and Machung, 1990), with the man usually taking on the paid work and the woman shouldering the bulk of unpaid work at home, including childcare. In this regard, the



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recent COVID-19 pandemic has further exacerbated caregiving responsibilities for working parents in general, and working mothers in particular. As a consequence, the gender gap has widened even further (Clark *et al.*, 2020; Collins *et al.*, 2021).

Especially in the past decade, however, a noticeable increase in the female education level has been associated with a higher female employment rate. In fact, Germany – along with the Scandinavian countries and Switzerland – is now one of the countries with the largest female workforce, with 76% of women in employment in 2018 (Eurostat, 2020). Unfortunately, such statistics only offer a partial perspective on female labor supply in the country. The increase reported in female work participation is mainly driven by part-time jobs or other forms of employment with reduced working hours.

The extant academic literature on this topic is centered around specific domains, such as gender roles in the workplace (Bertrand *et al.*, 2015; Judiesch and Lyness, 1999; Wiese, 2007), familial roles (Cabrera, 2009; Ranson, 1998) and gender dynamics (Alich, 2006; Evertsson, 2013; Kreyenfeld and Zabel, 2005). Therefore, it can only provide a partial understanding of the underlying phenomena.

The purpose of this paper, which is positioned within the research field on female labor supply, is to untangle the complexity behind working mothers' dynamics, specifically in the context of Germany. By doing so, the authors hope to provide a more comprehensive interpretation of the impact of motherhood on female professional advancement. In addition, this work presents a unique perspective of the similarities and dissimilarities between the Western and Eastern parts of the country.

The research is presented as a three-stage statistical approach based on quantitative data generated from a survey conducted among 2,130 working mothers. In the first step, we performed a multiple correspondence analysis (MCA) to explore the relationships between important categorical variables. Using the object scores obtained in the first step, we then ran a hierarchical cluster analysis, followed by the third and last step: using the k-means clustering method to partition the survey respondents into groups.

This paper is structured as follows: In Section 2, we present the theoretical framework of female labor supply by focusing on the most relevant and recent sub-streams of the topic (i.e. work–family conflict, demographics, partner support, employer support); in Section 3, we outline the methodology; in Section 4, we present the results obtained by using the MCA; and, finally, in Section 5, we promote a discussion on this subject by comparing our results with essential findings from previous works.

## 2. Theoretical framework

One of the most heated arguments in work–gender literature continues to be the gender wage gap. It can take the form of an early gender gap, which starts at the very beginning of the woman's work life (Francesconi and Parey, 2018; Goldin and Mitchell, 2017), and then intensifies with the so-called “motherhood penalty” (Adda *et al.*, 2017).

However, in the past 40 years, we have observed a substantial reduction of the aforementioned gender wage gap (Charles, 2011). Compared to previous generations of mothers, the growing labor supply plays a major role in this context (Blau and Kahn, 2017; Kluge and Schmitz, 2018): on average, the Organization for Economic Co-operation and Development (OECD) Female Labor Force Participation (FLMP) rate is now 14% higher than in 1977, with Germany, in particular, showing an even greater increase, equating to 24% over the same time period (Mari, 2019). Higher education is, of course, another important aspect (Boll *et al.*, 2017; O'Neill and Polachek, 1993). In the specific case of Germany, Boll and Leppin (2015) came to the conclusion that the residual wage gap is driven by factors such as employment experience, occupational position and hours worked.

In 2019, women in Germany were earning 20% less than men. The difference in earnings between women and men – the unadjusted gender pay gap – was one percentage point lower than in previous years: Women earned an average of €17.72 gross per hour, €4.44 less than men (€22.16). However, there are differences between East and West Germany: in the West, the unadjusted gender pay gap was 21% in 2019, compared to 7% in the East (Statistisches Bundesamt, 2020). In 2020, however, the impact of the coronavirus pandemic contributed to further widening the aforementioned gender gap. Severe restrictions on daycare and school operations pose a challenge to working parents and, at least in the German context, the additional childcare and housework chores have been shouldered by mothers (Müller *et al.*, 2020). In this regard, the SOEP-CoV study clearly shows that the brunt of childcare during the coronavirus-related lockdown in April and May 2020 was borne by mothers, and this was across all educational levels and employment roles (Zinn *et al.*, 2020). In addition, being often employed in sectors such as social care, retail and education, working mothers had less possibilities to work remotely and, therefore, higher occupational risks (Priola and Pecis, 2020). On a positive note, however, it has been argued that the increase in telecommuting time following the COVID-19 pandemic has also increased men's contributions to childcare and, thus, long-term changes in gender equality may be expected (Carli, 2020).

To untangle the dynamics behind female labor supply, we organized the specific literature on working mothers around four themes that we present in the following subsections.

### *2.1 Family vs career dichotomy*

The family vs career dichotomy represents a major conundrum for working mothers, as becoming a mother – often – implies a clear penalty in the workplace. As the human capital theory suggests, an interruption of work, albeit temporary, may initiate a depreciation process in skills and expertise (Mincer and Ofek, 1982). Other early studies found a natural inverse relationship between family and work commitment among working mothers and non-mothers (Altonji and Blank, 1999). More recent investigations characterize dissimilarities among women according to their perspective on gender roles. In this regard, Rahim (2014), using the same classification suggested by Hakim (2000), namely, “home-oriented,” “adaptive” and “career-oriented” mothers, confirmed previous intuitions: for women in particular, there is an inverse correlation between degree of career orientation and length of career interruption due to childbirth (maternity leave) and number of children. The profile of the “home-oriented” mother, in the end, seems to suggest a traditional view of gender roles (male as the main breadwinner, large family, etc.).

Besides the individual perspective, gender role attribution (and, consequently, women's participation in paid work) could also be ascribed to cross-cultural differences among the population. For example, it has been reported that, in 2012, Germany was among the most egalitarian countries when the population was surveyed on topics such as whether a mother should stay at home when she has a preschool-aged child, or whether the mother or the father should take paid parental leave (Adema *et al.*, 2017). At a more micro level, the study also found that Eastern Germany was comparatively more egalitarian than Western Germany.

Furthermore, the gender role attribution seems to somehow escape the intuitive inverse correlation between earnings and unpaid housework. In this regard, Bertrand *et al.* (2015) discovered a non-linear relationship between the two variables, with some evidence suggesting that women in very senior positions often dedicate more time to housework to comply with an “ideal” gender norm representation. However, career advancements for

women in managerial positions normally involve long hours, frequent travel and increasing responsibilities in the workplace (Gill and Davidson, 2001; Lott and Klenner, 2018; Williams *et al.*, 2013). The balancing act between work and family life, and the enormous level of stress that comes with it, sometimes forces high-performing women to downscale from demanding job positions, to seek new career opportunities or to leave the workforce entirely to become a stay-at-home mother (Cabrera, 2009). Other options contemplated by high-profile women go in the opposite direction, such as choosing not to have kids or postponing the decision until a later stage in their work–life cycle (Ranson, 1998). Indeed, it has been reported that, in 2012, 36% of German women aged 25–49 were childless (Miettinen *et al.*, 2015).

### 2.2 Demographics

Demographics play a decisive role in describing female work dynamics.

Childbirth and number of children, in particular, are crucial factors that trigger specific career pathways. In Germany and the UK, non-mothers tend to work full-time, while mothers usually prefer part-time options and flexible work arrangements, or even opt out of the workforce entirely (Gash *et al.*, 2010; Kenjoh, 2005). Moreover, a mother's work commitment usually starts to decrease following the birth of a second child and intensifies as the number of children increases (Francesconi and Gosling, 2005; Alich, 2006; Andersson *et al.*, 2014; Kreyenfeld and Zabel, 2005).

The “timing” of having a child (i.e. the mother's age at birth) does have an impact on the so-called “family gap.” A study by Frühwirth-Schnatter *et al.* (2016) on Austrian women shows that the decision to delay motherhood can lead either to a higher probability of ending up in a high-wage cluster or to the choice of opting out of the workforce entirely. As for Germany, Fitzenberger *et al.* (2013) found that delayed motherhood causes greater long-term employment losses than early childbearing. Another study by Schröder and Brüderl (2008) investigated whether labor force participation influences the transition to motherhood in West Germany; they discovered that women in employment have significantly lower transition rates to a first child than their unemployed counterparts.

In terms of wage level and its impact on labor supply dynamics, Frühwirth-Schnatter *et al.* (2016) found a strong correlation between education level and wage, with higher educated women being uniformly classified in the high-earning cluster.

The level of education also explains the socio-structural determinants behind the full-time employment gap, where a low-level education degree (i.e. high school certificate or lower) is associated with part-time and often lower-paid career paths, thus limiting the economic independence of the mothers (Geisler and Kreyenfeld, 2005).

### 2.3 Partner support

A third aspect to consider is partner support, which deeply affects the female labor supply both in the short and in the medium-to-long term. Earlier research clearly shows that unmarried mothers tend to go back to work earlier than married mothers, for example, while married women with high-income partners take longer maternity leaves (Leibowitz *et al.*, 1992; O'Connell, 1990). A Catalyst Census (2009) reported that 68% of the respondents considered “personal and family responsibilities as the primary barriers to career success.”

One crucial driver in attaining equal partnership is the attitude toward unpaid work (e.g. family chores) following the birth of a child (Barnes, 2015; Baxter *et al.*, 2008). Indeed, unpaid work is almost equally shared between partners before parenthood, but the situation reverts to a traditional distribution of roles (the man as the breadwinner, the woman as the primary carer) when the couple decides to have a child. For women, this often translates into the so-

called “double shift” (Hochschild and Machung, 1990). It has been reported that, in Germany, 47% of couples with a child younger than 18 do, indeed, still follow this traditional model, with the father working full-time and the mother working part-time (or not at all) as well as shouldering the entire family work load (BMFSFJ, 2015). Interestingly, post-communist couples are, on average, more egalitarian than western couples (Adema *et al.*, 2017).

#### 2.4 Employer support

Finally, *employer support* plays a pivotal role in balancing work and family life, and in reducing work–family conflicts. “Family-friendly” measures may include flexible schedules, working from home and other facilitations of this sort. However, corporate culture, social norms and the “ideal worker stereotype” (i.e. constant availability, face time and sacrifice) are still considered predictors of performance (Matias *et al.*, 2017). Indeed, working mothers often suffer negative outcomes (e.g. low or no salary increases, worse performance assessments) due to parental leave (Brown, 2010). In the end, whether individuals consider part-time and parental leave to be viable options depends upon the workplace culture (Lott and Klenner, 2018; Williams *et al.*, 2013). Weisshaar (2018) investigated the impact of parental leave versus unemployment on future career paths. He found that, in comparison, unemployment is perceived more favorably in the workplace than parental leave, and that there is an apparent penalty for motherhood.

### 3. Methodology

The authors of this paper conducted their survey for the second Frankfurt Career Study on Career Perspectives of Working Mothers, following a similar survey in 2010. The working mothers were approached via major women’s associations, unions and social network interest groups in Germany. Both the associations and the interest groups were asked to distribute the link to our survey to their members.

The relevant data on working mothers were collected using an online survey created with the survey tool SurveyMonkey and carried out between January 13, 2017 and May 11, 2017. A total of 2,130 women took part in the survey. The analyses were conducted by using the adjusted sample with 1,879 working mothers[1].

Compared to the national average, the sample includes working mothers who are younger, better educated and have more children.

The composition of the sample of working mothers is consistent with the geographical distribution between West and East Germany. However, the authors acknowledge a possible distortion of the data collected from the online survey due to self-selection bias. Nevertheless, the size of the sample does ensure statistical representativeness for working mothers with a higher level of education in the context of Germany.

To address our research question, we used a three-stage statistical approach. In the first step, we used an MCA to explore the relationships between important categorical variables and to map out spatial coordinates for each of the attribute categories. In the second step, starting from the object scores obtained in the first step, we ran a hierarchical cluster analysis to partition the survey respondents into groups. The limitation of the hierarchical method is that the clusters formed first are more homogenous than the clusters formed later. Indeed, as noted by Wiedenbeck and Züll (2001), k-means clustering is an iterative partitioning method and forms clusters with “medium” homogeneity. The main problem with k-means clustering is that the number of clusters needs to be specified in advance, which requires preliminary knowledge about the cluster structure. In the third step, we built relatively homogeneous clusters

with the k-means clustering method, taking as initial values the mean scores of the clusters formed in Step 2 with the hierarchical method.

4. Analysis

The MCA approach allowed us to simultaneously characterize a multitude of features of the sample in a standard two-dimensional space. More specifically, the characteristics included in the analysis were:

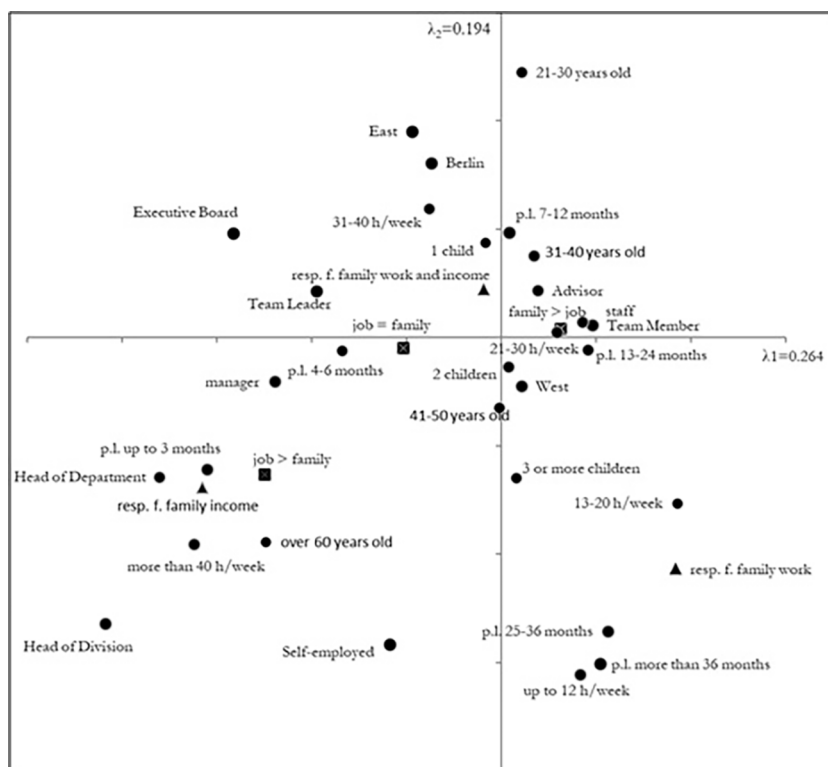
- Region;
- number of children;
- age group;
- current position;
- leadership role;
- family vs work focus;
- paid vs unpaid work; and
- length of parental leave.

Table 1 exemplifies all the characteristics we took into account in our analysis. In Figure 1, we present the results of our MCA.

|                     |                                   |                              |                                        |
|---------------------|-----------------------------------|------------------------------|----------------------------------------|
| Region <sup>a</sup> | East Germany (East)               | Paid vs unpaid work          | Responsible for family work            |
|                     | West Germany (West)               |                              | Responsible for paid income            |
|                     | Berlin                            |                              | Responsible for family work and income |
| # children          | 1 child                           | Family vs work focus         | Work > Family                          |
|                     | 2 children                        |                              | Work = Family                          |
|                     | 3 or more children                |                              | Family > Work                          |
| Age groups          | 21–30 years old                   | Working hours                | up to 12 h/week                        |
|                     | 31–40 years old                   |                              | 13–20 h/week                           |
|                     | 41–50 years old                   |                              | 21–30 h/week                           |
|                     | 51–60 years old                   |                              | 31–40 h/week                           |
|                     | Over 60 years old                 |                              | More than 40 h/week                    |
| Current position    | Executive board/senior management | Length of the parental leave | p.l. up to 3 months                    |
|                     | Head of division/sector           |                              | p.l. 4–6 months                        |
|                     | Head of department                |                              | p.l. 7–12 months                       |
|                     | Team leader                       |                              | p.l. 13–24 months                      |
|                     | Advisor                           |                              | p.l. 25–36 months                      |
|                     | Team member                       |                              | p.l. more than 36 months               |
|                     | Self-employed                     |                              |                                        |
| Leadership role     | Manager                           |                              |                                        |
|                     | Staff                             |                              |                                        |

Table 1.  
Characteristics that were included in the analysis

Notes: <sup>a</sup>“West Germany” refers to the federal states that formed the Federal Republic of Germany before the reunification. “East Germany” refers to the five (former) states of the German Democratic Republic, which were re-established on July 22, 1990, following the reunification. Berlin is considered separately because, before the reunification, part of it belonged to the German Democratic Republic and another part to the Federal Republic of Germany



**Figure 1.**  
Plotted characteristics of working mothers using multiple correspondence analysis (MCA)

In this representation, two main types of information can be extrapolated from the distance between categories and the distance between each category and the axes. The smaller the distance between two (or more) categories, the higher their similarities (Blasius and Mühlichen, 2007). For example, in the bottom-right quadrant of Figure 1, the two categories “*p.l. more than 36 months*” and “*up to 12 h/week*” are very close to each other; this can be interpreted as “*working mothers who work up to 12 hours per week often took parental leave for more than 36 months*.” The axes can be treated as latent variables, and the variable categories can be interpreted in relation to the axes. As for the closeness to the axes, categories placed near the interception between the *x*- and *y*-axis represent average values and are therefore less meaningful for the interpretation of latent dimensions. Close proximity of a category to a given axis means that the category is strongly determined by it (Thiessen and Blasius, 1998).

We can see that categories such as “*staff*,” “*team member*” and “*advisor*” are located in the top-right quadrant; in contrast, high-performance individuals such as “*manager*,” “*executive board member*” and “*head of division*” are located in the left quadrants. Therefore, this dimension can be interpreted as the career dimension, in which negative values characterize high-profile individuals, while positive values indicate a medium-to-low positioning in the workplace hierarchy. This dimension can be interpreted in terms of the family vs career dichotomy as identified in the theoretical framework.

Finally, the vertical axis exemplifies demographic categories such as age and number of children. The upper section of the *y*-axis, in particular, includes categories of young age (“35–40 years old”) and low number of children (“1 child”). The lower section of the *y*-axis, on the other hand, is characterized by higher age (“41–50 years old” and “over 60 years old”) and higher number of children (“3 or more children”). This dimension corresponds to the demographics aspect described in the literature, with the focus more on the age and number of children.

Having extrapolated this information, we then assigned specific values to each respondent in the two dimensions we had identified, namely, “*career*” (i.e. positioning in the workplace hierarchy) and “*biography*” (i.e. age and number of children). After obtaining the object scores through the MCA, we ran a two-stage cluster analysis to clearly assign each respondent to a specific group. We identified four types of working mothers:

- (1) Cluster 1: work-oriented mothers (20%);
- (2) Cluster 2: newbie working mothers (44%);
- (3) Cluster 3: housewives with sideline employment (27%); and
- (4) Cluster 4: strongly career-oriented mothers (9%).

In the description of the clusters, the aspects described in the theoretical framework – such as the family vs career dichotomy, demographic characteristics and partner support – are included. Employer support was not taken into account in the evaluation. For reasons of space, we have omitted detailed tables describing the clusters. Detailed information on the clusters can be provided upon request.

#### 4.1 Cluster 1: work-oriented mothers (20%)

Working mothers from East Germany and Berlin are more common in this group. The cluster is characterized by middle age and a high level of educational qualification. Also, the number of PhD holders in this cluster is above average. The mothers in this group have relatively few children (1–2).

Two thirds of the group have a leadership position such as member of the executive board or team manager. Mothers with full-time jobs form the majority of this group, the average parental leave per child is relatively short (34 % maximum six months, 52% maximum one year), and almost half of the group returned to their original position after maternity and parental leave. The relationship of the couples in this cluster can be characterized as *egalitarian*, i.e. both partners are equally responsible for income and family work. Work is very important to the mothers in this group – in fact, half of this cluster rate their job and family as equally important. However, more than a fifth of the group state that their work–family balance is not ideal, and in a third of the instances, the partner has not taken any parental leave, though in 86% of cases the partner does support or at least tries to support the respondent.

#### 4.2 Cluster 2: newbie working mothers (44%)

The second cluster is characterized by young age (approximately 70% are under 40 years old) and “*staff*” positions. Eastern Germans with fewer children occur above average in this cluster. We named this cluster *newbie working mothers* because the women in this group are newbie mothers and newbies to work life and career.

Part-time jobs are relatively common for this group and the typical parental leave for this group lasts 7–12 months.

Relationships within the family generally follow an egalitarian model with supportive partners who also take parental leave. The majority of this group states that their family is more important than their job, and they can usually balance work and family life pretty well.

#### 4.3 Cluster 3: housewives with sideline employment (27%)

The third cluster, mainly located in West Germany, is characterized by a relatively high age and “staff” positions with a relatively low education level. The respondents in this group are mothers with several children (mothers with three or more children are overrepresented in this group).

This group has the fewest working hours per week of the entire sample (about 53% work less than 20 h per week and the number of mothers working up to 12 h/week is above average). The average parental leave of this group is the longest in the sample (a quarter of the group took more than two years’ and 14% more than three years’ leave).

The mothers in this group have sole responsibility for family work and, out of the entire sample, have the least support from their partners, either because of the partner’s workload or due to social norms. As a consequence, only a third of the partners have taken parental leave, and approximately half of the partners have neither taken parental leave nor reduced their own working hours.

Three quarters of working mothers in this cluster state that their family is more important than their job, and they are well able to reconcile work and family life.

#### 4.4 Cluster 4: work-committed mothers (9%)

The fourth cluster has the highest age in the sample (almost 40% are over 50 years old) and includes a higher number of older working mothers in leadership positions (e.g. executives, heads of departments or divisions) who are mainly located in West Germany.

Having a university degree is very common for this cluster, which includes mothers with multiple children (mothers with four children are overrepresented in this group).

The cluster has the longest working hours per week, with almost half of the respondents working more than 40 h per week.

Out of the entire sample, this group took the shortest parental leave: 36% stayed at home for up to three months and 26% for 4–6 months. Many of them returned to their original position after maternity and parental leave, though often with changed conditions. Compared to the whole sample, the non-traditional role of the woman as the breadwinner is overrepresented in this group. Nevertheless, the majority of this cluster manages to reconcile work and family life well.

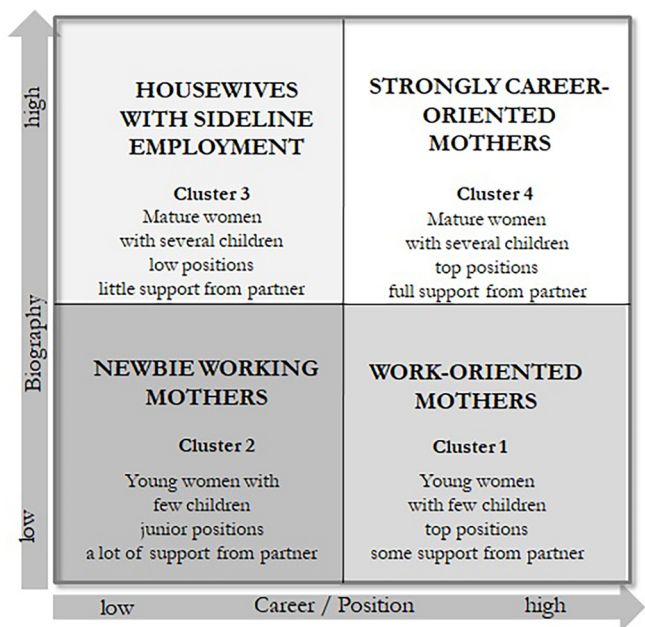
This group receives the greatest partner support, both in the form of support to achieve professional goals and support by taking paternal leave to address the needs of the family.

### 5. Discussion

The following Figure 2 offers a simplified representation of the four clusters previously identified, according to their positioning within the two dimensions “Career” and “Biography.” In particular:

- Cluster 1 (“work-oriented mothers”) includes highly work-oriented mothers with moderate difficulty balancing work and family life;
- Clusters 2 and 3 (“newbie working mothers” and “housewives with sideline employment”) include individuals with a focus on unpaid work and a good work–family balance; and
- Cluster 4 (“Strongly career-oriented mothers”) is a statistical outlier with a disproportionate distribution of mothers who state that work is more important than family (7% vs a total of 1.5%). Nonetheless, this cluster claims to have a good work–family balance.

**Figure 2.**  
The four clusters for  
the dimensions career  
and biography



The clusters we found seem to be concentrated around specific *geographical areas* within Germany. While East Germans and Berliners were more common in Clusters 1 and 2 (“work-oriented mothers” and “newbie working mothers”), Clusters 3 and 4 (“housewives with sideline employment” and “strongly career-oriented mothers”) centered on West Germany.

In terms of *biography*, the analysis suggests that, compared to their Western counterparts, East German respondents are, on average, younger with fewer children. The younger age of East German mothers coincides with the observations of [Hank et al. \(2004\)](#), whereby the availability of public daycare has a positive impact on the decision to have a first child in the East, while in the West, only the availability of private care by grandmothers has a statistically significant effect. The availability of daycare centers clearly plays a major role in labor market participation of mothers and, in Western Germany especially, it has been found that such participation is significantly reduced due to the lack of suitable childcare places ([Büchel and Spieß, 2002](#)).

As expected, regarding the *career positioning*, we observed close similarities between Clusters 1 (“work-oriented mothers”) and 4 (“strongly career-oriented mothers”), where middle- to advanced-age working mothers worked long hours in leadership or high-level positions. Surprisingly, however, Cluster 4 does not depict the dichotomy of career vs family that is usually associated with high-performance individuals ([Cabrera, 2009](#); [Ranson, 1998](#)). Instead, the number of children does not seem to be a limiting factor for the career advancement of the high-performing individuals in our sample. This clearly contradicts previous studies conducted in Germany by [Alich \(2006\)](#) and [Kreyenfeld and Zabel \(2005\)](#) about the negative relationship between family commitment (expressed through number of children) and career orientation. A new hypothesis could be that this small cluster of professional, well-organized women is also able to keep their family life well-organized, giving them the confidence to have more children. In this cluster, there is an above-average

tendency for the partners to interrupt their careers to support the working mother. It is also possible that the women in successful positions are better paid and thus able to finance a support system for their family. In accordance with Evertsson (2013), short-term reductions in labor supply for women tend to fade in the medium-to-long run. Clusters 2 (“newbie working mothers”) and 3 (“housewives with sideline employment”), on the other hand, do not show this strong directionality as they include either young or advanced-age mothers who work in “staff” positions with part-time arrangements.

*Education* is a feature with a strong correlation to the career dimension, as demonstrated by Frühwirth-Schnatter *et al.* (2016); Clusters 1 and 4 do include the high-level education component of our sample, which – in the long run – results in high-profile professionals in very senior positions. However, the extant literature states that highly educated working mothers tend to have easier access to flexible working arrangements (e.g. flextime and telework) (Herr, 2015). In our sample, though, we observed that the less educated women were relying on reduced work schedules more heavily than the high-performance individuals who did not reduce their labor supply.

In terms of *length of parental leave*, our results are coherent and consistent across all clusters, with the more performance-oriented clusters going back to work very early (parental leave between three and six months) and typically returning to the same employer and to a similar position. This is consistent with a male-dominant, “gendered” culture at work (Judiesch and Lyness, 1999). In this regard, Wiese (2007) performed a series of experimental studies aimed at investigating the relationship between maternity leave and workplace perception. The results revealed that women who did not plan any maternal leave or who decided to temporarily work part-time were judged more positively with regard to professional attributes than women who planned to take longer leaves (i.e. for more than one year). As a confirmation of this social norm, we found that a short parental leave seems to be a widespread policy in East Germany in particular.

As for the *work vs family dichotomy*, our results suggest a mixture of commonsense and counterintuitive observations. In line with Bertrand *et al.* (2015), we found that, among the working mothers in Cluster 4, the top performers devoted even more time (relative to other working mothers) to family and housework to escape social judgment. The analysis of the family system did not present any discrepancies compared to the status quo. In East Germany, our results were very directional, with both partners splitting the responsibilities for paid and unpaid work. As discussed earlier, previous research found that post-communist couples tend to be more egalitarian than western couples (Adema *et al.*, 2017). As a confirmation of this, Wenzel (2010) has shown that the modern attitudes of East Germans toward gender roles survived the German reunification, with large differences still existing between East and West Germany. Our sample, however, depicted a more articulate interpretation of West Germany. On the one side (Cluster 3), we still have the traditional male-breadwinner model, while on the other side, Cluster 4 shows a non-traditional role of women, in which they are the breadwinner and their partner plays a supporting role.

Finally, in terms of *partner support*, our results are consistent with the rest of the analysis, with households in the East being very collaborative and Western couples distributed at both ends of the scale. More specifically, while Cluster 3 received the smallest amount of help from their partners, with almost none of them taking parental leave or reducing their working hours, Cluster 4 received the highest support for achieving their professional goals. This last result contradicts the study by Wheatley and Wu (2014), which came to the conclusion that, even for high-performance partners, the phenomenon of “double shifts” for women still persists.

## 6. Conclusion and future research

The aim of this paper was to contribute to the academic debate about working mothers, with specific reference to the German context. Being the archetype of the conservative welfare state, Germany remains a country where the male-breadwinner model is still dominant. The recent COVID-19 pandemic has widened the preexistent gender gap even further, with working mothers being more exposed to economic and social consequences triggered by the pandemic. Our paper investigates the phenomenon of working mothers in Germany by providing specific insights about the impact of motherhood on labor supply for women. In addition, the work also discusses similarities and differences between the Western and Eastern parts of the country. More specifically, our cluster analysis, based on a three-stage approach, identified four main clusters of working mothers, each sharing peculiar features in terms of demographics and career perspectives.

East German mothers are, on average, younger with fewer children, confirming the importance of family-oriented policies in general, and public daycare in particular. Ultimately, we discovered a significant and positive correlation between the availability of daycare centers and female labor supply. In this regard, future research could focus on the impact of actual and prospective family-oriented policies on female labor supply dynamics, ideally in other geographical contexts.

Contrary to previous research, we found that Cluster 4 (“strongly career-oriented mothers”), usually middle- to advanced-age working mothers with multiple children working long hours in leadership roles, were, indeed, able to attain a good work–life balance. Our hypotheses are that above-average organizational skills and high partner support may have played a role. In this regard, the coronavirus crisis could have changed the situation for strongly career-oriented mothers. An interesting research avenue may be re-testing our hypotheses and assumptions in a post-COVID context.

Ultimately, East Germany emerged as the more egalitarian region, with both partners splitting the responsibilities for paid and unpaid work. West Germany, on the other hand, included two extreme approaches, namely, the traditional male-breadwinner model (Cluster 3) and a new, non-traditional role for working mothers (Cluster 4), where they took on the role of breadwinner instead. In this regard, it will be interesting to find out from future research whether the differences between East and West Germany diminish with every new generation of working mothers.

## Note

1. 251 cases were excluded from the analyses: 115 respondents had no children and 112 were not working at the time of the survey. Another 24 respondents stopped the survey at the very beginning.

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