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# Switching location—shifting mindset? The attitude towards female employment of East–West migrants in Germany

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The strong migration of former East German residents to the western part of Germany opens a unique way to study the impact of migration modifying gender-related attitudes towards division of labor. While in West Germany more traditional gender attitudes have been prevailing for decades, the East pursued more progressive attitudes regarding the home and labor domain. However, attitudes of East-to-West migrants are mostly unknown. Thus, this article aims at providing a first analysis regarding differing attitudes between domestic migrants and non-movers. Data from the German General Social Surveys (GGSS/ALLBUS) from 1992, 2004, and 2016, including 2428, 2099, and 1486 participants, respectively, were used. Group differences between permanent residents from West Germany (West–West) and from East Germany (East–East) as well as East-to-West migrants were estimated. Pooled regressions were conducted to predict the attitudes towards female employment. East–West migrants' respective attitudes differed from both of the other groups. However, they were more similar to the more traditional West–West group than the more progressive East–East group. Furthermore, East–West migrants who had lived longer in the West exhibited more traditional attitudes than those who had lived there <10 years. Further, the diversity of East-to-West migrants was acknowledged by observing the year of migration (before 1961, 1961–1989, after 1989) which showed that those who migrated before the erection of the Berlin Wall were more traditional. The finding that East–West migrants' attitudes were more similar to their place of residence, while the duration of residence was positively associated with the traditional attitude towards female employment prevalent in the West, gives impetus to further research attitudes of domestic migrants. Future research should test whether a selection effect or assimilation cause East–West migrants' attitudes to resemble their society of residence.

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## Introduction

Gender roles pose an important field of research in Germany. After all, compared to other European countries, Germans exhibit more traditional attitudes towards the division of labor and family (Pfau-Effinger 2004). However, this mostly holds true for people from West Germany, whereas in the East, more progressive divisions are pursued (Barth et al. 2020). Traditional divisions assign the responsibility for house and care work to women and for gainful work to men. Thus, there is a gendered division of the private and public sphere. A more progressive division consists of an egalitarian distribution of these spheres. However, such actions are preceded by attitudes: relying on the reasoned action approach of Fishbein and Ajzen (2010), actions originate from intentions which are, in turn, formed by attitudes. For example, longitudinal analyses showed that women's gender role attitudes predict their later work hours in the United States (Corrigan and Konrad 2007) as well as in Germany (Lietzmann and Frodermann 2021). Therefore, it is beneficial to observe attitudes towards gender roles, because attitudes not only predict actions but potentially influence attitudes and actions of others. That regionally dominant attitudes can influence the individual is indicated by the finding that one's subjective view of the prevalence of traditional attitudes towards female employment combined with individual financial security, increases women's intention to be stay-at-home mothers (Gauthier et al. 2016). Since prevalent attitudes can affect individual intentions, our study focuses on region-specific attitudes, differentiating between East and West Germany. To this end, the attitude towards female employment, which relates strongly to internalized gender roles, institutionalized gender norms, and opportunities, was put into a regional perspective. Germany, with its history of separation and diverging gender norms, gives an ideal starting point to observe the importance of regional context when it comes to gender role attitudes. Due to the division of the western democratic Federal Republic of Germany (FRG) and the eastern socialist German Democratic Republic (GDR) after World War II, different regulations, norms, and laws have shaped persistent attitudes within the respective, formerly separated regions (Adler and Brayfield 1996; Banaszak 2006; Nickel 2011; Barth et al. 2020; Lois 2020). Thus, not only are there prevalent attitudes on a regional level, but also historical influences on attitudes that can be linked to differential socialization processes.

While the differences of gender role ideologies between the former eastern and western states of Germany have been identified in previous research, studies on attitudes of domestic migrants who have moved between the two regions are rather scarce. For the case of domestic migrants, it is questionable whether their attitudes are more strongly associated with their socialization or their current context which relates to partially contradictory prevalent attitudes compared to their place of origin. Since East–West migrants had to neither learn a new language in the West nor adapt to a new economic or political system (except for those who migrated before or shortly after unification), focusing on attitudes of domestic migration exhibits unique opportunities. According to Vatterrott (2015), women who have moved from East to West Germany (East–West migrants) have adopted West German employment patterns associated with childbearing as well as rearing and do not work full-time.

By determining East–West migrants' attitudes towards female employment, this article contributes to the research on domestic migration and disparities in gender role attitudes related to employment. It further aims at encouraging researchers to observe whether differences of attitudes originate from the selective employment-driven migration from formerly eastern to western states (Berth et al. 2007; Glorius 2010; Nickel 2011;

Havlin 2015; Stawarz et al. 2020) or attitude changes after migration to adapt to one's current regional context. By comparing East–West migrants with residents from their place of origin as well as their current location, the importance of socialization and context can be ascertained. Using German data and pooled regressions with three different time points, a broader understanding of the attitudes towards female employment of East–West migrants will be given.

Below, the current state of research on gender role attitudes will be approached to highlight regional differences between former East and West German states. In this way, it can be derived how East–West migrants view female employment. To clarify how socialization as well as current context can influence one's attitudes, these aspects will also be introduced below. Afterwards, results will be presented and finally discussed.

## Literature review

**Influences of socialization on gender role attitudes in Germany.** To fully understand the different attitudes prevalent in the former eastern and western regions of Germany, the socio-historical backgrounds of the former regimes of the GDR and the FRG have to be considered. Institutionalized norms are important factors of socialization and internalized attitudes (Banaszak 2006). State ideologies, policies, and political economies form the attitudes towards gender roles: "The political economy and the associated official state ideology, which is encoded in laws and expressed in 'propaganda', promote certain work- and family-related orientations that serve to either counter or reinforce gender inequality and traditional gender-role expectations" (Adler and Brayfield 1996, p 247). The authors also state that women tend to be more progressive regarding gender equality which is why gender as well as political economy jointly produce gender-role attitudes (Adler and Brayfield 1996). These differing political economies were especially prevalent during times of German division. After World War II, married women who stayed home to take care of the household and their children were incentivized by the government of the FRG. Norms and values reinforced the male breadwinner/female caretaker model (Trübner 2020). This gendered distribution was grounded in state regulations until 1976 (Peuckert 2008), while mothers were promoted to be the best caretakers for their children (Trübner 2020).

Contrary to the FRG, childcare in the GDR was seen as a topic not only dependent on the personal sphere. External childcare facilities were expanded so that mothers could engage in full-time employment which was economically necessary for the state and families (Schenk 1995; Nickel 2011; Trübner 2020). Therefore, unlike the former western region, it has been the standard for a long time in the former eastern states for mothers of small children to work full-time and to make use of external childcare facilities. In conclusion, these institutionalized gender norms led to the normalization of female employment in the GDR, which should lead to more progressive eastern attitudes towards female employment. In contrast, the long division of private and public spheres in the FRG should encourage more traditional attitudes regarding female employment.

The more traditional gender role attitudes in the West are still highlighted in today's labor structures. In 2019, 36.3% of all employed women in Germany worked part-time. This proportion was the second highest in the European Union and far above the mean of 24.2% (OECD 2021), indicating that German women disproportionately prioritize care work over paid work. Nevertheless, this mostly holds true for the former West German states. In contrast to 74% of West German families which pursue the

model of the father as breadwinner and the mother as part-time worker, only 45% of East German families divide their workforce this way (Hobler et al. 2020). Nevertheless, as social security of families increasingly depends on the female participation on the labor market (Nickel 2011), a trend towards liberalization was confirmed for women from the former West German states (Lois 2020). The author observed less traditional attitudes over time due to period and cohort effects. The trend towards liberalization could also be found for other European countries (Neimanns 2021; Sievers and Warner 2022).

Moreover, generations that did not experience the GDR/FRG could indirectly be affected by the parental socialization. The intergenerational importance of the transmissions of values, norms, and attitudes has been emphasized in previous research (Hoellger et al. 2021; Perales et al. 2021). Furthermore, several studies analyzing data from four different European countries showed that gender role ideologies of adolescent migrants are more strongly associated with their mothers' than their classmates' ideology (Sanchez Guerrero and Schober 2021) which also underlines the intergenerational transmission of gender role attitudes. Therefore, assuming the importance of socialization and intergenerational transmission of attitudes, we hypothesize:

**H1a:** East–West migrants' attitudes towards female employment are more similar to East Germans than West Germans.

### Influences of context on gender role attitudes in Germany.

Previous research on domestic migration has indicated that changes in life circumstances, including well-being, resources, and behavior after relocation, occur following relocation. This research has emphasized the influence of a person's current context. For example, East–West migration can increase one's life satisfaction (Switek 2016) and lead to changes in health-related quality of life (Stawarz et al. 2022). In fact, income, good health, as well as locus of control are better for those who moved from East to West Germany compared to those who stayed in the East (Schmalbach et al. 2021). Regarding childbearing behavior, the form of adaptation of East–West migrants remains unclear. East–West migrants' childbearing behavior is not a result of selectivity as they are less likely to bear a child than those remaining in the East, but they do not adapt to West Germany either (Vatterrott 2015). Regarding migrants in Norway, no evidence of a gradual process of adaptation to the dual-earner family model was found over time (Kavli 2015). In contrast to these findings, research on attitude change among domestic migrants is scarce. One exception is a study on the attitude change of domestic migrants in the United Kingdom after couples' relocations. It was found that adaptation is circumstantial as it only takes place when the reason for the relocation is the female partner's job or when women move to larger dwellings or rural areas (Vidal and Lersch 2019).

A possible theoretical explanation for domestic migrants' potential attitude change is acculturation, a concept developed by Berry (1997): it describes a process in which migrants internalize norms, attitudes, and other cultural aspects of the region they moved to. The probability to acculturate to the new context is influenced by how important or valuable it is to maintain one's own cultural heritage, as well as the subjective importance of participating in the new culture (Berry 1997). Thus, a selection bias might increase the likelihood of adapting. This assumption also relies on the finding that a firm regional identity lowers the probability of moving (Vermeulen et al. 2019; Kremer 2022). Those who do not identify with East German gender roles might be more likely to move to West German states. Therefore, a contrasting hypothesis which relies on the importance of the current context implies:

**H1b:** East–West migrants' attitudes towards female employment is more similar to West Germans than East Germans.

Adaptation to the attitudes of the *society of settlement* is considered a long-term outcome dependent on the length of time a person is living in a new context (Berry 1997). Therefore, it can be hypothesized:

**H2:** East–West migrants' attitudes towards female employment are more similar to West Germans the longer they have been living in the West.

### Materials and methods

**Data and study design.** Cross-sectional data from the biennial German General Social Survey (GGSS/ALLBUS) were used in this article. ALLBUS monitors attitudes, behavior, and societal change in Germany. Survey years of 1992, 2004, and 2016 that asked for the attitudes towards female employment were used. In 1992, a multi-stage random sample throughout all of Germany to recruit participants was used. Primary sampling units in the West were electoral districts and municipalities in the East. The response rate was 52.56%. In 2004 and 2016, a two-stage disproportionate random sample in municipalities in both East and West Germany was applied. After that, in the second sample stage, people were selected randomly from the municipal registers of residents. In 2004, the response rate was 45.46%, whereas the number was not published for 2016. Personal interviews with a standardized questionnaire were conducted. While a Paper and Pencil Personal Interview was conducted in 1992, the mode was changed to a Computer-Assisted Personal Interview in 2004 and 2016. Those who were born in the former western states of Germany who moved to the East were excluded due to their small numbers ( $N_{1992} = 32$ ,  $N_{2004} = 17$ ,  $N_{2016} = 72$ ). After excluding missing values,  $N = 2393$  participants were included in 1992,  $N = 2077$  in 2004, and  $N = 1486$  in 2016. In 2016, a split questionnaire was used for questions about attitudes towards female employment. Half of the sample received a different questionnaire to measure the same construct. This is why the number of observations in 2016 was relatively low.

**Data analyses.** All analyses were calculated with the statistical program *RStudio* (version 2023.09.1+494). Pooled regressions were conducted with the package *lme4*. Since the dependent variable was a latent construct, consisting of six indicators of the attitude towards female employment, the scale was tested by implementing exploratory factor analysis (EFA) as well as confirmatory factor analysis (CFA). To compare the three different groups, i.e., West–West, East–East, and East–West, the post hoc Tukey HSD test for significance as well as the  $\chi^2$  post hoc tests for binary variables were applied. Their advantages are that significant group differences can distinctly be identified. In the next step, a pooled regression, including the cross-sectional data from 1992, 2004, and 2016, was used to identify the predictors of the attitude towards female employment. The method was chosen because the same constructs were assessed in all three time points and it was therefore possible to reach a larger sample of East–West migrants for higher power. As can be seen in Table 1, the number of East–West migrants was rather small, especially in 2016 when the sample was split. Nevertheless, it was also tested whether associations between the dependent and independent variables differed between time points. Finally, another pooled regression was conducted, only including East–West migrants to observe the association between the attitude towards female employment and the duration of residence in West Germany.

**Measures.** Figure 1 illustrates the operationalizations of the used variables. It also both accounts for the development of the latent

**Table 1 Descriptive statistics of the items regarding female employment over the years.**

| Item  | a. West-West                  |                             |                             | b. East-East                  |                               |                               | c. East-West                  |                             |                             |
|---|-------------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
|   | 1992                          | 2004                        | 2016                        | 1992                          | 2004                          | 2016                          | 1992                          | 2004                        | 2016                        |
| Item 1: 'A working mother can establish just as loving and secure a relationship with her children as a mother who doesn't work.'                             | 1.73 <sup>b</sup><br>(0.90)   | 1.84 <sup>b</sup><br>(0.95) | 1.57 <sup>b</sup><br>(0.79) | 1.38 <sup>a</sup><br>(0.64)   | 1.37 <sup>a,c</sup><br>(0.69) | 1.35 <sup>a</sup><br>(0.65)   | 1.56 <sup>b</sup><br>(0.78)   | 1.69 <sup>b</sup><br>(0.89) | 1.41<br>(0.66)              |
| Item 2: 'It's more important for a wife to help her husband with his career than to pursue her own career.' (inverted)  | 1.90 <sup>b</sup><br>(0.88)   | 2.28 <sup>b</sup><br>(1.00) | 1.79 <sup>b</sup><br>(0.78) | 1.64 <sup>a</sup><br>(0.75)   | 2.09 <sup>a</sup><br>(0.98)   | 1.81 <sup>a,c</sup><br>(0.83) | 1.94<br>(0.83)                | 2.27<br>(0.98)              | 1.98 <sup>b</sup><br>(0.90) |
| Item 3: 'A small child is bound to suffer if his or her mother goes out to work.' (inverted)  | 2.75 <sup>b,c</sup><br>(1.02) | 3.10 <sup>b</sup><br>(0.98) | 2.36 <sup>b</sup><br>(0.96) | 1.99 <sup>a,c</sup><br>(0.93) | 2.53 <sup>a,c</sup><br>(1.08) | 1.90 <sup>a</sup><br>(0.88)   | 2.40 <sup>a,b</sup><br>(1.02) | 3.05 <sup>b</sup><br>(0.97) | 2.15<br>(1.02)              |
| Item 4: 'It is much better for everyone concerned if the man goes out to work and the woman stays at home and looks after the house and children.' (inverted) | 2.24 <sup>b</sup><br>(1.00)   | 2.56 <sup>b</sup><br>(1.07) | 1.94 <sup>b</sup><br>(0.91) | 1.71 <sup>a,c</sup><br>(0.82) | 2.08 <sup>a,c</sup><br>(1.00) | 1.60 <sup>a</sup><br>(0.79)   | 2.28 <sup>b</sup><br>(1.06)   | 2.61 <sup>b</sup><br>(1.11) | 1.85<br>(0.88)              |
| Item 5: 'A child actually benefits if his or her mother has a job rather than just concentrating on the home.'  | 2.52 <sup>b</sup><br>(0.89)   | 2.80 <sup>b</sup><br>(0.94) | 2.26 <sup>b</sup><br>(0.85) | 1.87 <sup>a,c</sup><br>(0.76) | 2.23 <sup>a,c</sup><br>(0.94) | 2.32 <sup>a,c</sup><br>(0.97) | 2.83 <sup>b</sup><br>(1.07)   | 2.79 <sup>b</sup><br>(1.07) | 2.22 <sup>b</sup><br>(0.90) |
| Item 6: 'A married woman should not work if there are not enough jobs to go round and her husband is also in a position to support the family.' (inverted)    | 2.18 <sup>b</sup><br>(1.02)   | 2.52 <sup>b</sup><br>(1.10) | 1.79 <sup>b</sup><br>(0.92) | 1.83 <sup>a,c</sup><br>(0.90) | 1.11 <sup>a,c</sup><br>(1.07) | 1.63 <sup>a,c</sup><br>(0.82) | 2.19 <sup>b</sup><br>(0.98)   | 2.53 <sup>b</sup><br>(1.14) | 1.98 <sup>b</sup><br>(0.94) |

The values vary between 1 ('Completely agree') and 4 ('Completely disagree'). Some variables have been inverted to give agreements to traditional statements high values. Superscript letters indicate the results of the Tukey HSD Test, comparing the three groups to one another (p < 0.05; a = significant difference to the West, b = significant difference to the East, c = significant difference to East-West migrants). Standard deviations are indicated in brackets.

dependent variable of the attitude towards female employment and the subsequent pooled regressions.

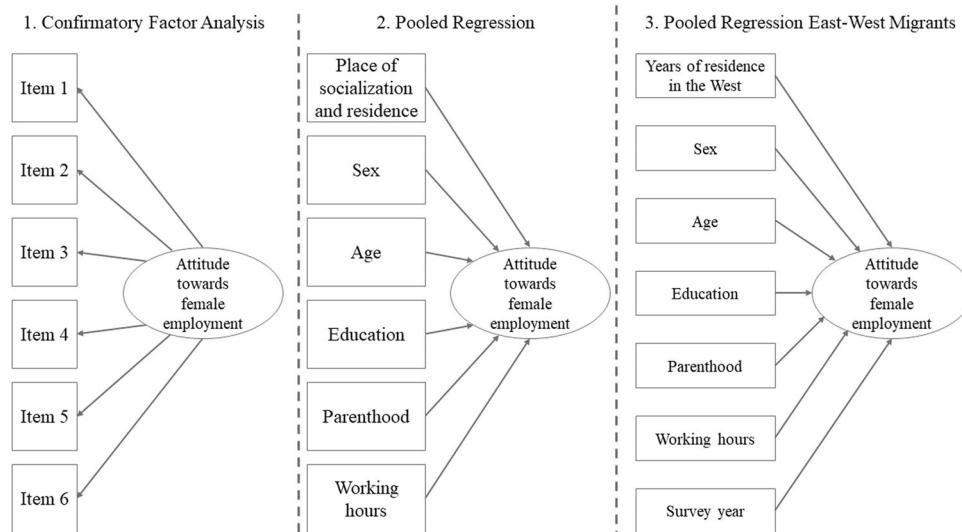
*The attitude towards female employment.* Table 2 shows the items used to indicate the attitude towards female employment which served as dependent variable. On a scale from 1 'completely agree' to 4 'completely disagree', participants could rate items assessing attitudes concerning adequate behavior of wives and mothers. Model fitness was tested, using both EFA and CFA. The resulting fit indices can be found in Table 2. A factor score was then built to estimate the attitude towards female employment.

*Place of socialization and residence.* ALLBUS offers variables that monitor the region where a person was born (1992, 2004) or spent the majority of their youth in (2016), as well as the region where the interview took place. Therefore, participants who were both socialized and interviewed in the West were coded as 1 (West-West). Participants who were both socialized and interviewed in East Germany were coded as 2 (East-East). Participants who were socialized in East Germany but moved to the former western states after the age of 14 years were coded as 0 (East-West). The item served as a central independent variable as well as a grouping variable. ALLBUS distinctly differentiates between residences in former East or West Berlin. Supplement 1 includes a robustness check which compares pooled regressions including and excluding Berlin. Participants from Berlin were included, because excluding participants from Berlin hardly changed standardized beta coefficients and significance levels (see Supplement 1). In 1992 and 2004, participants who migrated before the age of 14 were excluded as it made the interpretation of their socialization too complex. In 2016, the question changed to where the participants have lived most of their youth without asking for the age of migration.

*Sociodemographic variables.* Important sociodemographic variables were used as additional independent variables. Sex only assessed identification as male or female, as other genders were not included in the questionnaires. It was included since gender role attitudes differ between men and women as described above. The highest secondary school degree was transformed into school years and thereby included as a quasi-metric variable in the analyses. School years and age were centered for the regressions. Work hours per week were included, with unemployed and otherwise not employed participants coded as working 0 h/week. Especially for mothers, working hours are a crucial indicator for traditional or progressive gender divisions. Having at least one child, regardless of whether they resided with their parents, was dichotomously coded (0 = no, 1 = yes). Despite formerly progressive attitudes, the birth of the first child oftentimes leads to a change in the attitude towards gender roles, as then, distributions within the household convert to a more gender-specific way (Fthenakis et al. 2002; Corrigan and Konrad 2007; Grinza et al. 2022). Thus, mothers have more traditional attitudes than women without children (Boehnke 2011).

**Results**

**Validation of the construct attitudes towards female employment.** To estimate the attitudes towards female employment, six variables were used to build a factor score, resulting from an ordered CFA with a diagonally weighted least squares method that is suggested for categorical data (Liu et al. 2017). The fit indices of the CFA of the respective years can be seen in Table 2. They mostly showed adequate values and fit the criteria of the comparative fit index (CFI) as well as the Tucker-Lewis index (TLI) larger than at least 0.90 and the standardized root mean



**Fig. 1 Model specification of the analyses.** The latent variable of the attitude towards female employment was a factor score, built from the six items indicating the attitude.

**Table 2 Fit indices of the indicators of the attitude towards female employment.**

| Factor loadings of the indicators |      |      |      |
|-----------------------------------|------|------|------|
|                                   | 1992 | 2004 | 2016 |
| Item 1                            | 0.49 | 0.52 | 0.52 |
| Item 2                            | 0.49 | 0.59 | 0.46 |
| Item 3                            | 0.63 | 0.71 | 0.65 |
| Item 4                            | 0.82 | 0.84 | 0.81 |
| Item 5                            | 0.60 | 0.63 | 0.51 |
| Item 6                            | 0.61 | 0.62 | 0.57 |

| Fit indices of the factor scale |       |       |       |       |
|---------------------------------|-------|-------|-------|-------|
|                                 | CFI   | TLI   | RMSEA | SRMR  |
| 1992                            | 0.979 | 0.960 | 0.091 | 0.056 |
| 2004                            | 0.978 | 0.959 | 0.111 | 0.061 |
| 2016                            | 0.968 | 0.940 | 0.104 | 0.064 |

All presented fit indices are robust. Cronbach's  $\alpha$ : 1992: 0.78, 2004: 0.82, 2016: 0.76. CFI comparative fit index, TLI Tucker-Lewis index, RMSEA root mean square error of approximation, SRMR standardized root mean square residual.

squared residual (SRMR) smaller than 0.08 (Hu and Bentler 1999). Nevertheless, the values of the root mean square error of approximation (RMSEA) fall above the cut-off of <0.08 (van de Schoot et al. 2012). As the other fit indices were adequate, the analyses were continued by building factor scores for each survey year. The factor scores were transformed so that they vary between 0 (most progressive) and 100 (most traditional), with 50 being the average value.

**Descriptive results.** As Table 1 shows, differences between survey years as well as groups could be observed regarding the individual items used for the CFA. Overall, agreeing to statements that are rather traditional occurred significantly ( $p < 0.001$ ) more often in former western states compared to former eastern states. Looking at the individual statements, there was only one significant ( $p < 0.05$ ) difference between East–West migrants and inhabitants of the former western states, occurring in 1992: West–West participants agreed more often than East–West migrants to the

statement that small children suffer if their mothers are employed. The gap between East–West migrants and the East–East group was larger. Both groups differed substantially from one another regarding most years and items. Like East–West migrants, the West–West group's values were most traditional in 2004. In each group, the values of 2016 were lower than those of 1992 and thus more liberal. The same peak of 2004 held true for the East–East group, though in two cases, the values were more traditional in 2016 compared to 1992.

Table 3 depicts the descriptive statistics of all used variables. Missing values were excluded. The mean factor scores indicating the attitude towards female employment were similar regarding East–West migrants and the West–West group. Both groups differed significantly from the more progressive mean factor score of the East–East group ( $p < 0.001$ ). Furthermore, all three groups exhibited differing mean ages, with East–West migrants being the oldest group and the West–West group being the youngest. The West–West group as well as the East–East group showed distinctly diverging shares regarding parenthood. Moreover, it was observed when East–West migrants came to the West. The majority settled in West Germany before unification (69.05%). The minority of respondents migrated to the West during times of the Berlin Wall ( $n = 44, 26.19\%$ ); most migrated to the West before 1961 ( $n = 72, 42.86\%$ ). East–West migrants were potentially motivated by differing drivers to migrate and experienced their migration in disparate ways. More distinct descriptive statistics over time points can be found in Supplement 2. Overall, traditional attitudes decreased over the years in each group.

**Regression results.** Table 4 shows the results of the pooled regression predicting the attitude towards female employment (reference group = East–West migrants). The results indicate that in comparison with East–West migrants, the West–West group was significantly more traditional (std.  $\beta = 0.13$ , std. CI = 0.03–0.24), whereas the East–East group was significantly more progressive (std.  $\beta = -0.44$ , std. CI =  $-0.55$  to  $-0.34$ ). These results further support H1b, while declining H1a: East–West migrants' attitudes towards female employment are more similar to the attitudes of the West–West group.

Furthermore, as previous research implied, female East–West migrants were also more progressive in their attitudes towards

**Table 3 Descriptive statistics of the dependent and independent variables.**

| Variables                                    | Total (n = 6013) | a. East-West migrants (n = 273) | b. West Germans (n = 3718)   | c. East Germans (n = 2022)   |
|--|------------------|---------------------------------|------------------------------|------------------------------|
|  | N (%) / M (SD)   | N (%) / M (SD)                  | N (%) / M (SD)               | N (%) / M (SD)               |
| Attitude towards female employment           | 41.18 (21.48)    | 45.11 <sup>c</sup> (21.73)      | 45.58 <sup>c</sup> (21.24)   | 32.56 <sup>a,b</sup> (19.18) |
| Female<br><i>ref = male</i>                  | 3100 (51.55%)    | 132 (51.65%)                    | 1916 (51.53%)                | 1052 (52.03%)                |
| Age  | 46.98 (16.87)    | 52.82 <sup>b,c</sup> (17.42)    | 46.20 <sup>a,c</sup> (16.84) | 47.63 <sup>a,b</sup> (16.68) |
| Years of education                           | 9.94 (1.88)      | 10.03 (1.85)                    | 9.89 <sup>c</sup> (1.98)     | 10.02 <sup>b</sup> (1.69)    |
| Children<br><i>ref = no children</i>         | 4357 (72.46%)    | 203 (74.36%)                    | 2525* (67.91%)               | 1629* (80.56%)               |
| Work hours                                   | 22.03 (21.87)    | 19.80 (22.04)                   | 21.72 (21.54)                | 22.91 (22.43)                |
| <i>Characteristics of East-West migrants</i> |                  |                                 |                              |                              |
| Migration before or after unification        |                  |                                 |                              |                              |
| Migrated until 1989                          | 116 (69.05%)     |                                 |                              |                              |
| Migrated after 1989                          | 52 (30.95%)      |                                 |                              |                              |
| Years since migration to the West            |                  |                                 |                              |                              |
| 0-9 years                                    | 53 (31.55%)      |                                 |                              |                              |
| 10-19 years                                  | 31 (18.45%)      |                                 |                              |                              |
| 20-29 years                                  | 6 (3.57%)        |                                 |                              |                              |
| 30-39 years                                  | 27 (16.07%)      |                                 |                              |                              |
| 40-49 years                                  | 37 (22.02%)      |                                 |                              |                              |
| 50-59 years                                  | 14 (8.33%)       |                                 |                              |                              |

As cross-sectional data were used, pooled observations for the years 1992, 2004, and 2016 are portrayed. The superscript letters indicate the significance levels of the Tukey HSD test for metric variables and superscript stars the  $\chi^2$ -test for the binary variables sex and children ( $p < 0.05$ ). Characteristics of East-West migrants could only be assessed for the years of 1992 and 2004, since the years since migration have not been implemented in the questionnaire of 2016.  
<sup>a</sup>A significant difference to East-West,  
<sup>b</sup>to West-West, and  
<sup>c</sup>to East-East.

**Table 4 Results of the pooled regression predicting the attitude towards female employment.**

| Predictors                       | Estimates | std. $\beta$ | CI              | std. CI        | p                |
|----------------------------------|-----------|--------------|-----------------|----------------|------------------|
| (Intercept)                      | 48.76     | 0.24         | 41.15 to 56.36  | -0.12 to 0.59  | <b>&lt;0.001</b> |
| Group (ref = East-West migrants) |           |              |                 |                |                  |
| West-West                        | 2.82      | 0.13         | 0.58 to 5.06    | 0.03 to 0.24   | <b>0.014</b>     |
| East-East                        | -9.55     | -0.44        | -11.86 to -7.25 | -0.55 to -0.34 | <b>&lt;0.001</b> |
| Control variables                |           |              |                 |                |                  |
| Women (ref = men)                | -7.22     | -0.34        | -8.18 to -6.26  | -0.38 to -0.29 | <b>&lt;0.001</b> |
| Age (centered)                   | 0.22      | 0.17         | 0.18 to 0.25    | 0.14 to 0.20   | <b>&lt;0.001</b> |
| Years of education (centered)    | -2.66     | -0.23        | -2.93 to -2.40  | -0.26 to -0.21 | <b>&lt;0.001</b> |
| Children within household        | -1.17     | -0.05        | -2.32 to -0.01  | -0.11 to -0.00 | <b>0.047</b>     |
| Work hours                       | -0.11     | -0.11        | -0.13 to -0.08  | -0.13 to -0.09 | <b>&lt;0.001</b> |

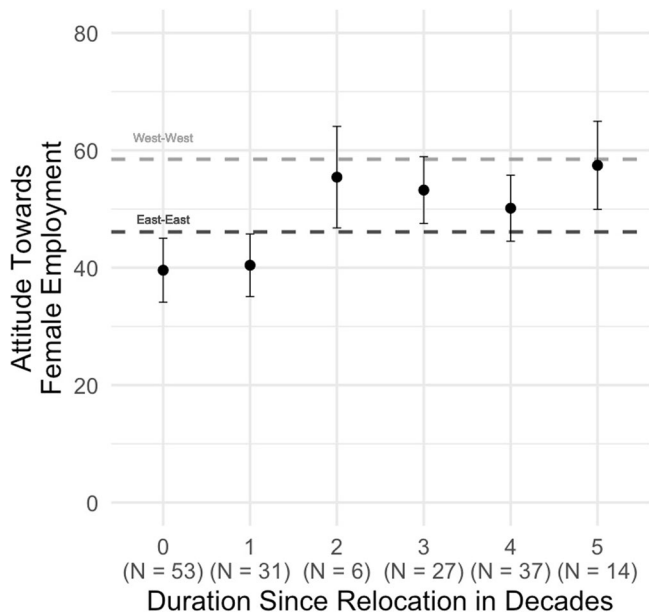
Results for 6013 participants from 1992, 2004, and 2016 are shown. Marginal  $R^2 = 0.223$ , conditional  $R^2 = 0.308$ . Significant  $p$  values ( $<0.05$ ) are printed in bold. East-West migrants = participants socialized in East Germany and currently living in West Germany, West-West = participants socialized and currently living in West Germany, East-East = participants socialized and currently living in East Germany.  
 std. standardized, CI confidence interval.

female employment than men (std.  $\beta = -0.34$ , std. CI =  $-0.38$  to  $-0.29$ ). East-West migrants of an age above the mean were more traditional (std.  $\beta = 0.17$ , std. CI =  $0.14$ - $0.20$ ). Years of education above the mean were associated with a more progressive attitude towards female employment (std.  $\beta = -0.23$ , std. CI =  $-0.26$  to  $-0.21$ ). In contrast to previous research, having at least one child was related to more progressive attitudes (std.  $\beta = -0.05$ , std. CI =  $-0.11$  to  $-0.00$ ). Finally, respondents who worked longer hours were less traditional in their attitudes towards female employment (std.  $\beta = -0.11$ , std. CI =  $-0.13$  to  $-0.09$ ).

Figure 2 portrays the intercepts indicating mean values of East-West migrants' attitudes towards female employment per decade they have been living in West Germany. Those who have been living in the West <20 years exhibited the lowest and therefore most progressive levels. In contrast, the most traditional

levels were given by East-West migrants who have been living in the West for at least 2 decades. However, due to the small sample size, the reference group which has been living in the West <10 years only differed significantly from East-West migrants with durations of residency of 3 (CI =  $1.69$ - $25.62$ ,  $p < 0.05$ ) and 5 (CI =  $0.33$ - $35.40$ ,  $p < 0.05$ ) decades. H2 could be partially confirmed, as these two groups differed significantly from the group related to a short residency in the West. However, as not all groups reached sufficient significance levels, larger sample sizes are needed to confirm the assumption that a longer residency in the West is associated with more traditional attitudes towards female employment.

**Additional robustness checks.** In addition to the robustness check regarding Berlin, further tests were conveyed to account



**Fig. 2 Mean values of East-West migrants' attitude towards female employment stratified by decades of residency in the West.** Results for 161 East-West migrants from 1992 to 2004 are illustrated. Intercepts of each decade living in the West are portrayed, resulting from a pooled regression. Sex, age, education, children, work hours, and survey year were controlled for. The lighter dashed line portrays the intercept of the West-West group from another pooled regression with the same control variables, while the darker dashed line shows the equivalent for the East-East group.  $M =$  intercept,  $n =$  number of observations. 1 decade:  $CI = -9.42$  to  $11.11$ ,  $p = 0.871$ ; 2 decades:  $CI = -1.93$  to  $33.65$ ,  $p = 0.080$ ; 3 decades:  $CI = 1.69$ - $25.62$ ,  $p = 0.026$ ; 4 decades:  $CI = -2.84$  to  $23.96$ ,  $p = 0.121$ ; 5 decades:  $CI = 0.33$ - $35.40$ ,  $p = 0.046$ . Marginal  $R^2 = 0.279$ , conditional  $R^2 = 0.333$ .

for the robustness of the results. These are reported in Supplements 3–6. First, the pooled regression which only included East-West migrants was compared to an alternative model which acknowledged the year of leaving East Germany (see Supplement 3). This way, it could be tested if there were differences between those who have fled the GDR until 1989 or those who left afterwards. The results showed that those who migrated until 1989 were less progressive than those who migrated afterwards. While the beta coefficient was significant (std.  $\beta = -0.41$ ,  $p < 0.05$ ), upon including years since domestic migration, significance was lost (std.  $\beta = -0.20$ ,  $p = 0.338$ ). As years since migration better fit the line of reasoning regarding potential attitude change, the model only integrating this variable was preferred. However, both variables seem influential and should be tested with larger samples.

The datasets did not include indicators of accessibility to external care facilities. However, Supplement 4 integrated a variable on the number of residents where respondents were living. Following the Federal Office for Building and Regional Planning, the generated variable differentiated between 0 'large cities with at least 100,000 residents', 1 'rural areas with fewer than 5000 residents', 2 'small towns with 5000 up to below 20,000 residents', and 3 'medium-sized towns with 20,000 up to below 100,000 residents'. While as compared to large cities, smaller populated areas were related to more traditional attitudes towards female employment, the integration of the variable did not change coefficients or significance levels of the other independent variables. Therefore, the integration of population size was neglected in the main analyses to focus on more crucial predictors.

Furthermore, the pooled regressions were also applied to the indicators of the attitude towards female employment (see Supplement 5). Coefficients and significance levels regarding place of socialization and residence hardly differed between the factor score and its single indicators. Two exceptions are the items 'It is much better for everyone concerned if the man goes out to work and the woman stays at home and looks after the house and children' and 'A married woman should not work if there are not enough jobs to go round and her husband is also in a position to support the family'. In these cases, West Germans did not differ significantly from East-West migrants.

Finally, three ordinary least squares regressions were conducted for each time point (1992, 2004, 2016) as reported in Supplement 6. Here it can be seen that West Germans' attitudes towards female employment did not differ significantly from East-West migrants in 1992 and 2016. However, coefficients for those years are similar to those estimated with the pooled regression, whereas the coefficient for the year 2004 was distinctly higher. It becomes apparent that sample sizes of East-West migrants were too small to refrain from pooled regression to be able to compare their attitudes to West Germans. The direction, however, did not change: West Germans consistently exhibited more traditional attitudes towards female employment than East-West migrants. The small coefficients could also suggest similarity between East-West migrants and West Germans, but standardized confidence intervals were too broad to make sound assumptions. Larger sample sizes are thus required. Nevertheless, coefficients and significance levels regarding East Germans hardly differed from the pooled regression, suggesting similar trends in the cases of East Germans and East-West migrants over time.

**Discussion**

In this article, attitudes towards female employment were compared between permanent residents in East and West Germany as well as domestic migrants who moved from former eastern German states to the West. Due to the differing gender ideologies that were promoted between the GDR and the FRG, divergent attitudes were assumed. Migrants from East to West offer a unique chance to study the impact of relocation to a region with different prevailing norms vs. prior socialization. To this end, it was tested if East-West migrants' attitudes towards female employment were more similar to their society of origin, East Germany, or to their society of residency, West Germany. To account for the latent attitude towards female employment, ordered categorical CFAs were used to build factor scores for the further analyses. Pooled regression including three time points (1992, 2004, 2016) of cross-sectional data was estimated. Furthermore, the duration of living in the West was integrated in an additional pooled regression to observe the differences in decades of residence.

The analyses revealed that the attitudes towards female employment of East-West migrants differed profoundly from both the East-East and the West-West group. However, they were closer to the more traditional West-West group. East-West migrants therefore seem to differ from gender norms which have been institutionalized in their society of origin. This raises the question whether a selection bias explains that predominantly those East Germans migrated to the West who differed from the GDR or if assimilation took place. Because of the large share of respondents who migrated to the West before 1961, selection takes up a crucial role. Those who migrated before 1961 left before the GDR enhanced its family policies to reconcile care work and paid labor to incentivize childbearing. This is reflected in the finding that the group which migrated before 1961 was the most traditional one. However, age-period-cohort analyses are needed to disentangle the distinct influences on the attitude towards female employment

regarding time, age, and also time spent in West Germany. To resolve the question of selection effects, longitudinal data are required. Maintaining traditional attitudes and thus respective behavior may not only lead to financial shortcomings and dependency of mothers, it can have effects on their health as well: Sweeting et al. (2014) could show that traditional gender role attitudes are generally associated with higher psychological distress for both men and women. Furthermore, as was discussed in the introduction, attitudes precede action. Thus, East–West migrants' more traditional attitudes might predict traditional household divisions. While this might lead to a gendered segregation of the home and labor domains, being a mother and an employee reduces extreme reactions to negative life events and distress in general (Barnett and Hyde 2001). Therefore, it is beneficial for mothers to pursue paid labor. Future research should further investigate which aspects influence inhabitants in West Germany to assume that especially mothers' paid labor is detrimental to their children. With such insights, family policies can specifically aim at improving the situation of mothers.

It could also be shown that the duration of residency in the West was associated with the attitude towards female employment of East–West migrants. The attitudes towards female employment were more progressive among those who had been living in the West for up to two decades compared to those who had been living there for a longer period. This finding suggests that future research should use longitudinal data to test the process of a potential attitude change before and after domestic migration. Potentially, several decades need to be included to analyze the course of attitude change which related to Berry's (1997) assumption that adaptation to the society of residence is only a long-term outcome. Another evidence of adaptation could be given by the finding that especially economic integration has led to adopting the dual-earner family model in Norway (Kavli 2015): since East–West migrants often migrated because of employment opportunities in the former western states (Berth et al. 2007; Hahn 1994), economic integration similar to the process in Norway can be assumed. In contrast, there is enough evidence that domestic migration is a selective decision which is why it can be assumed that East–West migrants differ from non-mover East Germans regarding their attitudes before migration. For example, the life goals of East–West migrants are more materialistic than those of easterners who remain in the former eastern parts of Germany; they tend to prioritize the acquisition of property and income (Berth et al. 2007). This might be one reason why Vatterrott (2015) found that East–West migrants postpone childbirth. Also concerning the topic of adaptation or assimilation, the regional use of external daycare centers for children should serve as an adequate indicator of normalization of external care use and employment of mothers. Implementing such an indicator should be advantageous in future research on regional impacts on the attitude towards female employment. Globally, domestic migration stems on push and pull factors: regions with a higher gross domestic product, larger incomes and lower unemployment rates pull people, while the opposite pushes them away (van Der Gaag and Van Wissen 2008; Alvarez and Royuela 2022). Regarding East–West migration, a selection effect of relocation can thus be assumed. Moreover, it needs to be mentioned that many former East–West migrants remigrated to the East (Rosenbaum-Feldbrügge et al. 2022). It is common that those remigrate, who have a partner and children or whose social integration in the West was not successful (Lang and Hämmerling 2013). Therefore, it is plausible to assume that East–West migrants rather stay in the West if their labor-related or family-related attitudes are more similar to West Germans. For a full picture of potential attitude change, remigration thus needs to be acknowledged.

Before unification, migration reasons were predominantly political under the oppressive socialist system and many East Germans

fled illegally to the West, partially due to expropriation, missing opportunities, restricted freedom, or economic disadvantages (Geißler 2014). After unification, the main motive was better job opportunities in the West compared with the East (Berth et al. 2007; Hahn 1994). Gender role theories suggest an interest-based approach which claims that people are more likely to display feminist attitudes when their defined interests benefit from gender equity (Bolzendahl and Myers 2004). This applies mostly to women, as their profit resulting from gender equity should be higher (Dirksmeier 2015). Therefore, it is not surprising that women exhibited less traditional attitudes than men, especially in the case of female East–West migrants who predominantly migrated due to career-oriented motives. Furthermore, previous research showed how migration to countries with more equal gender roles, attitudes, and behaviors empowers women (Awoonor-Williams and Overå 2022). Thus, the question arises how the opposite affects migrant women. In this study, they moved from a more egalitarian gender regime to a rather traditional one. This could also be confirmed empirically with data from 1990 till 2001 as female East–West migrants' work hours and thus annual salary decreased after migration while their employment probability or hourly wage do not differ significantly from female stayers (Zaiceva 2010). Possibly, only moving to more urban areas leads to higher education and wages (Eryar et al. 2019). Future research should thus observe how female East–West migrants are affected by living in a more traditional context regarding female employment attitudes, differentiating between urban and rural areas.

Previous research found that for West Germans, the birth of their first child leads to the new parents' attitudes towards female employment becoming more traditional (Fthenakis et al. 2002; Corrigan and Konrad 2007; Grinza et al. 2022). As the data used for this article were cross-sectional, such an assumption could not be tested for East–West migrants. However, it could be shown that East–West migrants with children in their households were more progressive than those without children in their households. It cannot be ruled out that these parents were more progressive before the birth of their first child, but the finding still gives impetus to analyze the effects of new parenthood of domestic migrants on parenting norms and values in future research.

This article does not address the willingness to maintain the migrants' original cultural identity or the reasons for their migration due to lack of data. Still, the possible change in attitudes should be observed and intensified in future research. Furthermore, with the improved infrastructure of external daycare over the last decades in West Germany, the question arises whether it is the attitudes or the opportunities that affect parents more in their decision to outsource childcare. The inclusion of domestic migrants should enhance research questions such as that because the risk of conflicting opportunities and attitudes is higher than with the other two groups, as their cultural origin differs from the culture of their current surroundings, thus possibly being less congruent.

**Limitations.** Because of the cross-sectional nature of the data, this article could not analyze within-person change and adaptation of East–West migrants to more western attitudes towards female employment. Furthermore, the comparably small sample size of domestic migrants led to difficulties regarding the power of the analyses. Though the pooled regression was used to increase power, the groups of East–West migrants might consist of people differing in their reasons to have settled in the West and their motivations to remain in the West between time points. Since sample sizes of specific time points were especially small, future research should benefit from larger numbers to observe potential period, age, or cohort effects.

Motives and reasoning for moving to the western part of Germany need to be highlighted further. These also differ by the time people left the GDR. Starting in 1952, with the

collectivization and communization, emigration rates from the GDR peaked in the 1950s (Geißler 2014). Therefore, political reasons exhibited the prevalent motive to leave the GDR before unification. Those inner migrants might be more likely to distance themselves from values and attitudes of the GDR regime, thereby also indicating an aversion for mothers to combine care and paid labor. As mentioned above, after unification, in most cases better job opportunities are the reason for inner migration to the West. Thus, a highly selective group of people with a higher probability of more homogenous attitudes and with a partly different cultural background moved to the West. As they turned out to be more progressive, it can be assumed that the drive to find better job opportunities, which led those inner migrants to the West, also relates to the acceptance of mothers to pursue a job. A career might thus be a more focal part to their lives as compared to those who rather migrated due to political reasons.

Furthermore, in some cases, the age at the time of migration might be relevant and could be considered in future research. Moreover, the integration of domestic migrants following unification has not been well-researched yet. It is unclear if they face problems because of their different background or if they assimilate well. A poor integration may pose a higher potential for health risks and low life satisfaction. Moreover, those East–West migrants who were discontent in the West might have remigrated to the East, suggesting that there might be selectivity regarding those who remained in their new surroundings. In consequence, reasons for migration, motivation for maintaining or changing one's own cultural identity, as well as a real change in behavior, attitudes, or values should be implemented in future research.

Furthermore, it should be noted that the scale indicating the attitude towards female employment was edited in the past, signaling that the one used might not be ideal to measure this construct. This might be related to the potential problem, that the construct is not consistent by both referring to wives and to mothers. It remains unclear if respondents still think of mothers, even if the question refers to wives.

## Conclusion

In conclusion, the attitudes towards female employment of German East–West migrants lay between those of non-mover West and East Germans but tended towards the more traditional West German attitudes. Additionally, East–West migrants who have been living in the West for a longer time were more traditional in their attitude towards female employment than those who have been living there for <10 years. This article endorses the relevance of domestic migration and aims at encouraging further research on attitudes of domestic migrants. Future researchers are encouraged to investigate whether individuals adapt to their new social environment or whether the migration process itself selects for certain characteristics. In the case of assimilation, it should be investigated if there are detrimental effects on inner migrants if they become more traditional in their attitudes towards female employment. If selection effects underlie the proximity of inner migrants' attitudes to the attitudes of West Germans, it might be one explanation why even decades after unification, East–West differences persist.

## Data availability

The data that support the findings of this study are openly available at the GESIS Data Archive (<https://doi.org/10.4232/1.13774>).

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## Author contributions

LK: conceptualization, formal analysis, methodology, software, validation, visualization, writing—original draft, writing—review and editing. HM: conceptualization, writing—original draft, writing—review and editing. MB: funding acquisition, project administration, supervision, writing—review and editing. EB: funding acquisition, project administration, supervision, writing—review and editing.

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## Competing interests

The authors declare no competing interests.

## Ethical approval

The surveys were conducted solely to gather responses on social and political attitudes and demographic characteristics of the respondents and did not involve manipulating variables or administering treatments. The participation was voluntary. Moreover, the data were anonymized prior to analysis, ensuring there is no risk of individual disclosure. As a result, GESIS, which owns the data, decided that the study did not meet the criteria for requiring Institutional Review Board approval according to the ethical guidelines for human subjects research. Given that no experimental interventions were involved, and all data were anonymized to protect participants' confidentiality, no potential for physical, psychological, or social harm existed. Therefore, no formal Institutional Review Board review was deemed necessary by GESIS at the time of the research.

## Informed consent

Compliance was ensured by providing respondents with an extensive data protection information sheet, clearly outlining how their data would be used and detailing their individual rights under GDPR (or BDSG prior to 2018). This transparency ensured that participants were fully informed about the data processing practices, safeguarding their privacy, and personal data rights.

## Additional information

**Supplementary information** The online version contains supplementary material available at <https://doi.org/10.1057/s41599-024-03853-1>.

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