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Parental Leave Policy in European Countries: A Comparative Approach Using Cluster Analysis

Anna Bagirova[1], *Natalia Blednova*[2], *Aleksandr Neshataev*[3]

Abstract:

Currently, parental leave policy is one of the key instruments of social policy in the family sphere in many European countries. Despite the common territorial context, parental leave design may vary greatly in different European countries. In this respect, the influence of differentiative parameters of the parental leave system on the social policy results in European countries is still overlooked. Our study aims to compare parental leave policies in European countries using cluster analysis and reveal the differentiation of the results of policies related to parental leave policy in the clusters of countries. We put forward the following research questions: (1) Are groups of European countries shaped according to the characteristics of parental leave policy similar to European geographical regions? Which cluster has the largest proportion of CEE countries? (2) How different are the results of policies associated with parental leave policy in these groups of countries? As an information source, we used the International Review of Leave Policies and Research 2020, which presents data on parental leave policy in 32 European countries. As indicators for cluster analysis, we used the number of maternity, paternity, and parental leave flexibility elements. The research identified three groups of European countries varying in the number of flexibility elements in the structure of each type of leave. We concluded that leave policies in these countries are not conditioned by their geographical location but may

1 Ural Federal University, School of Public Administration and Entrepreneurship, Ekaterinburg, Russia.
2 Ural Federal University, School of Public Administration and Entrepreneurship, Ekaterinburg, Russia.
3 Ural Federal University, School of Public Administration and Entrepreneurship, Ekaterinburg, Russia.

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result from their social policies. We also observed that a parental leave policy may contribute to reducing gender inequality in the country. The scientific significance of the research lies in revealing similarities and differences between parental leave policies in the context of a wide circle of European countries and in expanding existing knowledge of the public values theory in public administration.

Keywords:

cluster analysis, Europe, parental leave, parental leave policy

1. Introduction

The key aim of central government is to provide people with comfortable living conditions; in doing so, special significance is attributed to social policy. Social policy ensures social and economic security, which, in turn, fosters conditions for the institute of family.

As an instrument of social policy in the family sphere, many countries pursue parental leave policies. Parental leave originated at the beginning of the XX century in Europe and was granted exclusively to women (maternity leave) to secure women and children's health. Over the years, paternity leave and parental leave appeared, a gender-neutral type of leave that can be taken by either parent one at a time or simultaneously.

The intensive state regulation of parental leave and numerous laws stipulating rules for its usage resulted in a separate parental leave policy. For example, in Russia, parental leave is regulated by the Labour Code of the Russian Federation; in Australia, by The Fair Work Act 2009; in Germany, by the Bundeselternzeit- und Elterngeldgesetz (BEEG); in Ireland, by the Parent's Leave and Benefit Act 2019. As a rule, the subject of the policy is authorities in the social sphere; the object is traditionally employees with children. However, in some countries parental leave may be given to employees' parents (Russia, Bulgaria, Hungary, Norway, Portugal, and the like), students (Czech Republic, Hungary, Lithuania, and the like), or even to the unemployed (Austria, Belgium, Russia, Estonia, and the like).

It is critical to note that parental leave policies are not limited to ensuring the mother's and child's health, as has been the practice. Currently, it is a system of legal mechanisms that facilitates stable employment, gender equality, and higher birth rates. Therefore, being a part of family policy, parental leave policy is closely connected with a set of other policies, namely employment, gender equality, demographic, social benefits, and other types. Therefore, we advocate for at least 2 arguments that prove the connection.

Firstly, parental leave policy sets the same goals and aims to produce the same results as all the other social policy directions mentioned above. For example, like

employment policy, parental leave policy secures labor conditions and rights, guarantees and ensures legal employment, and reduces unemployment (Bergemann & Riphahn, 2022; Wood & Neels, 2019). Secondly, the effective state regulation of the family sphere requires a set of comprehensive and timely measures in all the policies mentioned. If, for example, a social benefits policy is implemented poorly, families on parental leave may experience financial difficulties (Zagel & Van Lancker, 2022).

We assume that models of the parental leave state regulation in different countries can be conditioned by social values prevalent in those countries. According to the theory of social values in public administration, social attitudes undoubtedly predetermine the directions of authorities (Bozeman, 2019). Social values are met through the system of rights and benefits, which ensures the normative consensus between the rights and obligations of citizens (Bozeman, 2007). In addition, the public administration course built around social values facilitates public interest and constructive participation in addressing social problems (Benington & Moore, 2011).

The historical division of European countries into four regions, namely Northern, Southern, Western, Eastern and Central Europe, predetermined specific directions of social policies for each group; however, researchers have not explored the differentiation of parental leave policies in European countries. Traditionally, Northern European countries are viewed as pioneers in the sphere of parental leave; for instance, the first paternal leave practices took place at the end of the XX century in Norway, Denmark, Iceland, and Sweden (Tamm, 2019). In addition, it is claimed that Sweden and Finland have the most significant budgets for parental leave policies (Otto et al., 2021). The positive parental leave policy experience of Scandinavian countries has received much attention. These practices are often compared to those of other European countries (De Souza et al., 2021) and evaluated in terms of their effectiveness (Ekberg et al., 2013).

When studying parental leave, it is not only Scandinavian experience that comes into focus. For instance, Szelewa and Polakowski (2008) proved country-to-country differences in family policies between groups of CEE countries (Szelewa & Polakowski, 2008). Kamerman and Kahn (1993) pointed out a possible convergence of Western and Eastern European countries' social policies to parental leave systems (Kamerman & Kahn, 1993). Authors claimed that this group of countries shares a conservative type of family relationships and paternalistic policy, which, on the one hand, limit opportunities for a family policy reform, including that in the parental leave system (Dohotariu, 2015). On the other hand, it was noted that the existing parental leave policy in post-communist European countries, together with unemployment benefits and labor unions, is an institutional barrier that protects employees from impoverishment (Babos, 2017).

A comprehensive comparative study of parental leave policies, which involved respondents from 27 countries, offered answers to several research questions related to how institutional conditions influence public attitudes towards the parental leave

policy with country-to-country differences in attitudes towards taking care of the newborn and towards parental leave conditions (Valarino, 2019). The author reveals a high acceptance of the principle of paid leave across welfare states. However, at the same time, the researcher highlights significant country-to-country differences in the idea of the "good" leave duration; from a preferrable model of extended leave (2-3 years) for post-soviet countries to short leave (6 months) in liberal regimes.

Despite some attempts to explore parental leave policies in groups of European countries, the interrelationship between the territorial factor and the existing model of parental leave in the country remains overlooked. Additionally, academic literature at the moment does not present any analysis targeted at revealing and evaluating similarities and differences in parental leave policies in most European countries, excluding Scandinavian ones (Duvander et al., 2019).

The study aims to compare parental leave policies in European countries using cluster analysis and to identify the differentiation of the results of policies associated with parental leave policy in the clusters of countries.

The aim poses a number of research questions:

1. *Are groups of European countries shaped according to the characteristics of parental leave policy similar to European geographical regions? Which cluster has the largest proportion of CEE countries?*
2. *How different are the results of policies associated with parental leave policy (employment, gender, demographic policy) in these groups of countries?*

The scientific contribution of our research lies in identifying groups of European countries with similar parental leave design, establishing specific parameters affecting the differentiation of these groups, and presenting these similarities and differences of parental leave policies in the context of a wide circle of European countries. The study of differentiation between parental leave policies in European countries can expand the concept of the public values theory in the sphere of public administration. In addition, the paper reveals the relationship between flexibility elements in the structure of parental leave and other directions of state social policy.

As a distinguishing feature, this study uses a principally new approach to exploring parental leave design, namely the cluster analysis method. Previous parental leave studies used other statistical methods, namely correlation (Petts et al., 2022) and regression analysis (Frodermann et al., 2023; Canaan, 2022).

The paper has the following structure: it starts with Literature Review, which outlines how parental leave policies impact some particular socio-economic processes, such as fertility and employment, and ensure gender equality. Data and Methods details the study's methodology, including the variables used for the cluster analysis. Next, the Results section presents the major outcomes of the cluster analysis and attempts to find the relationship between a parental leave policy and other policies, such as employment, demographic, and gender equality policy. Finally, the paper's

final part tries to interpret the results and set directions for future research.

2. Literature review

The key function of parental leave is to protect employees while absent from the labor market for child-rearing. It is known that workers with children may face a number of problems, for example, discrimination based on marital status (Ferragina, 2019; Plantin et al., 2011), complicated career advancement (Nepomnyaschy & Waldfogel, 2007), reduced wages at the employer's initiative (Kramer & Kramer, 2016), job loss after childbirth (Akgunduz & Plantenga, 2013). Parental leave strives to prevent any infringement of workers' rights and to guarantee job and wage security to the worker, who has to take a break to make time for family and children. In this case, the state regulation of parental leave policy aims to mitigate obstacles in the labor sphere.

The gender issue is another item on the parental leave policy agenda. Gender equality policy presupposes equal opportunities for men and women to fulfill their potential. These equal conditions could be achieved by giving more rights and opportunities to women. It is women that most often become leave-takers, and thus, they are more often included in parental leave policies, both while pregnant and after childbirth. Accordingly, preconditions arise for gender inequality regarding women's professional development. To close the gap in this sphere, governments take measures to encourage fathers to take care of children. For example, some countries initiated so-called paternity leave or paternity quotas as part of parental leave. Therefore, it is not compulsory to use the paternity quota. However, in case of refusal, a family automatically loses the right to receive a part of the parental benefit. In contrast, the part of parental leave not used by the father cannot be transferred to the mother or another relative of the child.

Researchers argue that in some countries paternity leave was quite effective, resulting in fathers' higher involvement in child-rearing (Saarikallio-Torp & Miettinen, 2021). Moreover, paternity leave fosters gender equality both in the professional and in the household sectors, i.e., women are more economically proactive while men take on some household responsibilities (Duvander & Andersson, 2005; Tervola et al., 2017). Therefore, in this respect, parental leave policy correlates with targets of gender policy.

Parental leave policy is also connected with demographic policy, which seeks to increase birth rates. To that end, childbirths may be stimulated financially, through providing additional benefits to families with children, promoting a positive image of family, or increasing taxes for childless citizens. In addition, the parental leave policy establishes conditions for increasing birth rates without limiting families' lifestyles while on leave.

A number of studies proved that the introduction of parental leave (Rossin, 2011) and its flexible system foster birth rates (Ekberg et al., 2013). It was also revealed that

men's participation in child-rearing positively impacts birth rates and facilitates a marriage decision when cohabitating (Kotila, 2014). What may also contribute to increasing birth rates is reducing women's workload and redistributing household responsibilities by, among other things, involving fathers in parental leave (Goldscheider et al., 2015). Finally, a number of researchers proved the correlation between gender equality and birth rates (e.g., Balbo, 2013; Neyer et al., 2013).

Particular attention should be paid to the role of benefit policy in parental leave policy. Benefit policy reduces financial inequality providing citizens with financial or in-kind benefits through social insurance or welfare programs or tax deductions. Thus, drawing on social justice principles, money is redistributed toward the most vulnerable population groups, including workers with newborns.

Many researchers study the consequences that follow from parental leave policy. For example, it was discovered that state support measures for families with children while on parental leave improve their well-being even though they bear additional costs for children (Haeck et al., 2019). Moreover, those countries which grant considerable benefits are reported to have decreasing numbers of abortions (Cohen et al., 2013). Lower parental leave benefits, though, force parents to return to work (Boll et al., 2014).

Despite several evident advantages, researchers point out some disadvantages in pursuing parental leave policy. Firstly, when on parental leave, a family's financial situation may deteriorate because compensation leave payments are inconsiderable compared to salaries (Li et al., 2022); this, in turn, negatively impacts reproduction goals and subsequent birth rates (Bergsvik et al., 2021). Secondly, paternity leave and quotas are available only in some countries. Therefore, a gender gap in the household sphere arises as women are still more occupied with child-rearing compared to men. Moreover, men very infrequently take leave longer than that stipulated by the quota (Rostgaard & Ejrnæs, 2021). Finally, longer parental leave adversely influences the productivity of employees with children on the labor market (Canaan et al., 2022). Clearly, the effectiveness of parental leave policy may be linked to its specificities.

Thus, previous results show different effects of parental leave policy, manifesting in particular countries at certain periods. These effects may result from a comprehensive leave system and its specific flexibility elements. These elements strive to ensure favorable conditions for employees with children to balance professional and household responsibilities. In particular, such elements are opportunities to take leave by both parents simultaneously, to work part-time while on leave, to extend or shorten the period of leave, and the like. The regulation of flexibility elements is one of the key instruments of parental leave policy (Brandth & Kvande, 2019). By differentiating European countries according to the parental leave policy flexibility, our study raises a question of the relationship between this flexibility and its effects, which manifest themselves in interrelated spheres, namely demographic, gender, and labor subsystems.

3. Data and methods

Figure 1 presents a conceptual model of our research. It demonstrates the types of parental leave, elements of their flexibility, and possible interconnections with policies.

We analysed data for three types of leave: maternity post-natal leave, paternity leave, and parental leave granted after the childbirth. For each type of leave and for each country, we calculated the number of policy elements increasing the flexibility (or variability) of leave usage.

For each type of leave, our analysis included the following indicators:

1. opportunity to take additional leave under certain conditions;
2. opportunity to choose when to use leave days;
3. opportunity to take leave by two leave-takers simultaneously;
4. opportunity to adjust the relationship between the amount of the benefit and the duration of leave;
5. opportunity to take leave and keep working simultaneously;
6. opportunity to transfer a part of leave to the father or other person;
7. the number of leave flexibility elements.

Some elements are present in all types of leave, from extended leave in the case of multiple birth; choosing when to take leave days and optimizing the relationship between the leave duration and the amount of the benefit granted. Others are only typical for some specific types of leave.

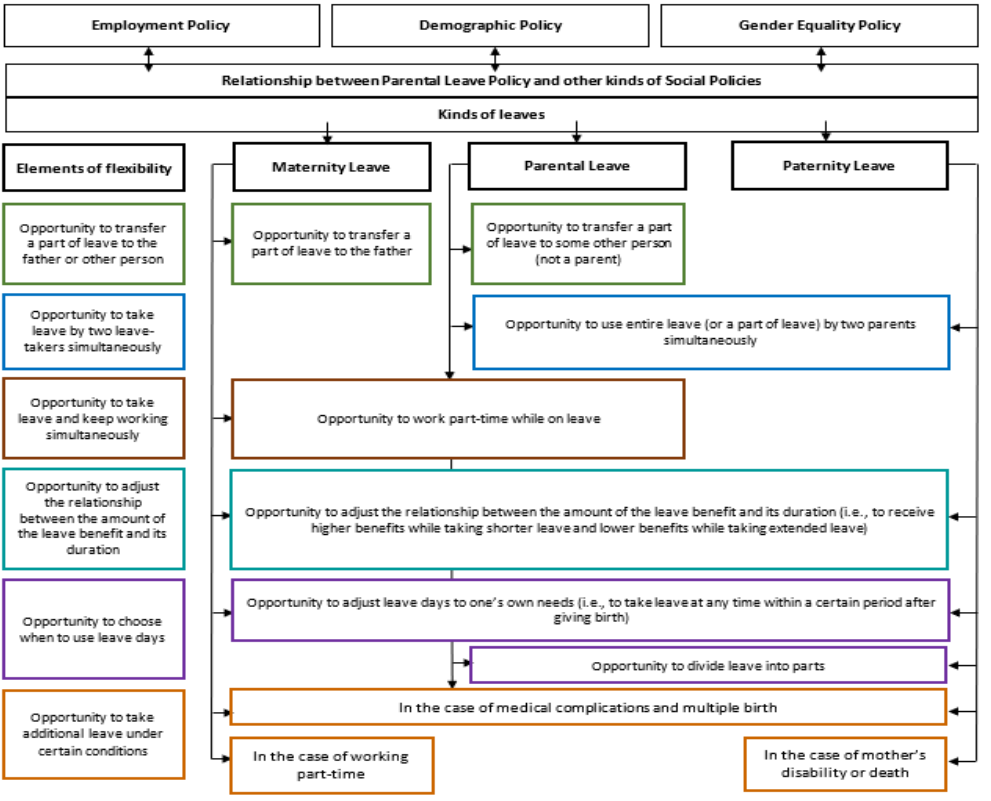
As a source of information, we used the International Review of Leave Policies and Research 2020, which presents data on legally stipulated parameters of parental leave policy in 32 European countries (Koslowski et al., 2020).

To reveal the groups of countries similar in parental leave policies, we used cluster analysis. Ferragina and Deeming (2022) have been discussing "comparative mainstreaming" in social policy research since the 1970s. In contrast, cluster analysis, as they argue, is one of the most rapidly spreading formal techniques of comparative analysis (Ferragina & Deeming, 2022), which "promises to help us make sense of the observed variations and capture the principles of both similarities and differences" (Azarian, 2011). Indeed, cluster analysis is used for grouping different objects and their subsequent comparison (Haynes, 2014). Often, objects for the comparative analysis involve groups of countries established after the cluster analysis. For example, Brázová (2021) used cluster analysis and answered whether CEE countries are similar to the rest of Europe regarding official involvement of different stakeholders in the national civil security governance systems (Brázová, 2021). Mejlgaard et al. (2019) developed a map of the European Responsible Research and Innovation landscape with the help of cluster analysis (Mejlgaard et al., 2019). Zimmermannová and Skaličková (2019) found groups of countries with the same fiscal impact of economic instruments on public budget revenues among the EU-28 (Zimmermannová & Skaličková, 2019). Pirvu et al.

(2021) observed how different organisational and functional models of tax administration in the European Union can determine performances (Pirvu et al., 2021). Cluster analysis also helped Androniceanu et al. (2022) study the impact of digitalization on public administration, economic development, and well-being in Europe (Androniceanu et al., 2022). Ademmer (2018) revealed two clusters of CEE countries, which are associated with different Varieties of Capitalism and privilege certain explanatory factors for (non-) compliance over others (Ademmer, 2018).

Figure 1:

Conceptual research model including the system of parental leave flexibility elements and its interrelation with other social policies



Source: authors' own, 2023

As is seen, cluster analysis is extensively used for differentiating European countries; however, there have yet to be any attempts to cluster these countries by parental leave policy parameters. Therefore, we intend to close this gap.

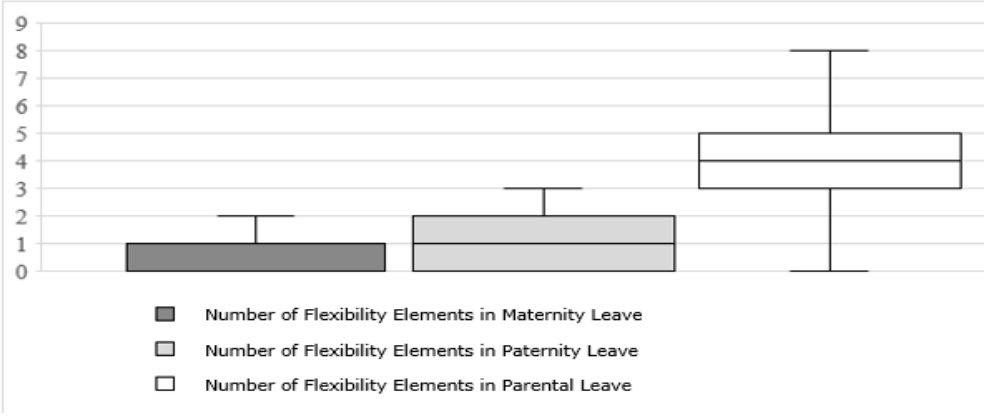
To avoid including mutually correlated variables in the cluster analysis, we evaluated whether they were collinear before the analysis using the correlation analysis based on Spearman's rank correlation coefficient. After that, we standardized the variables selected for the cluster analysis using the z-score. For the cluster analysis, we used a hierarchical method (the Squared Euclidean distance and Ward's method) and k-means while ensuring that the clusters found are stable. To decide on the number of clusters, we analyzed a dendrogram and the agglomeration schedule and took into consideration the cluster size. The significance of differences in cluster centroids and other variables not included in the cluster analysis was checked with the non-parametric criterion, the Kruskal-Wallis Test. The analysis was carried out in IBM SPSS Statistics 23.0.

4. Results

Answering the first research question, we primarily evaluated the differentiation of leave policy flexibility in Europe for all types of leave (Figure 2). The most pronounced differences are revealed in the case of parental leave parameters; maternity leave is less differentiated. Paternity leave, with its limited representation in the parental leave system, also shows lower variability among all types of leave. Finally, a lack of outliers in indicator values proves the possibility of using cluster analysis and identifying groups of countries that differ significantly by the number of flexibility elements in parental leave policy.

Figure 2:

Boxplot on the number of flexibility elements in three types of leave



Source: authors' own, 2023

Table 1 presents the results of the correlation analysis, which was performed to ensure that variables of the leave policy flexible elements' number are not collinear. Furthermore, it proves that these variables are not mutually correlated and can be included in the cluster analysis.

Table 1:

Correlations

		Number of flexibility elements in maternity leave	Number of flexibility elements in paternity leave	Number of flexibility elements in parental leave
Number of flexibility elements in maternity leave	Correlation Coefficient	1	-0.284	0.019
	Sig. (2-tailed)		0.115	0.917
Number of flexibility elements in paternity leave	Correlation Coefficient	-0.284	1.000	.127
	Sig. (2-tailed)	0.115		0.488
Number of flexibility elements in parental leave	Correlation Coefficient	0.019	0.127	1.000
	Sig. (2-tailed)	0.917	0.488	.

Source: authors' own, 2023

We established three groups (clusters) of European countries shaped by parental leave policy characteristics; they are presented in Table 2. Countries from Cluster 1 have the most flexible maternity leave policy (the maximum median and mode compared to other clusters) and the least developed paternity leave system (the minimum median and mode compared to other clusters). Countries from Cluster 2, on the contrary, do not implement any flexibility elements in the maternity leave policy (null values of the median, maximum, and minimum); at the same time, these countries pursue a flexible paternity leave policy (the median value compared to other clusters). Therefore, a flexible policy for one type of leave is negated by a non-flexible (or less flexible) policy for another type of leave.

Table 2:

Descriptive statistics by clusters

Statistical Indicator	Cluster 1	Cluster 2	Cluster 3
Number of countries	16	10	6
Countries included in the cluster	Bulgaria Serbia United Kingdom Greece Lithuania Luxembourg Austria Croatia Cyprus Czech Republic France Latvia Slovak Republic Germany Netherlands Poland	Ireland Switzerland Iceland Portugal Malta Denmark Estonia Finland Hungary Romania	Belgium Italy Norway Slovenia Spain Sweden
Number of flexibility elements in maternity leave			
- mean	1.250	0.000	0.667
- standard deviation	0.447	0.000	0.817
- median	**1.000**	**0.000**	**0.500**
- mode	1.000	0.000	0.000
- minimum	1.000	0.000	0.000
- maximum	2.000	0.000	2.000
Number of flexibility elements in paternity leave			
- mean	0.563	1.500	2.333
- standard deviation	0.629	0.850	0.516
- median	**0.500**	**1.500**	**2.000**
- mode	0.000	-	2.000
- minimum	0.000	.000	2.000
- maximum	2.000	3.000	3.000
Number of flexibility elements in parental leave			
- mean	3.500	3.100	5.500
- standard deviation	1.826	1.450	1.300
- median	**4.000**	**3.500**	**5.500**
- mode	-	4.000	-
- minimum	0.000	0.000	3.000
- maximum	7.000	5.000	8.000

Source: authors' own, 2023

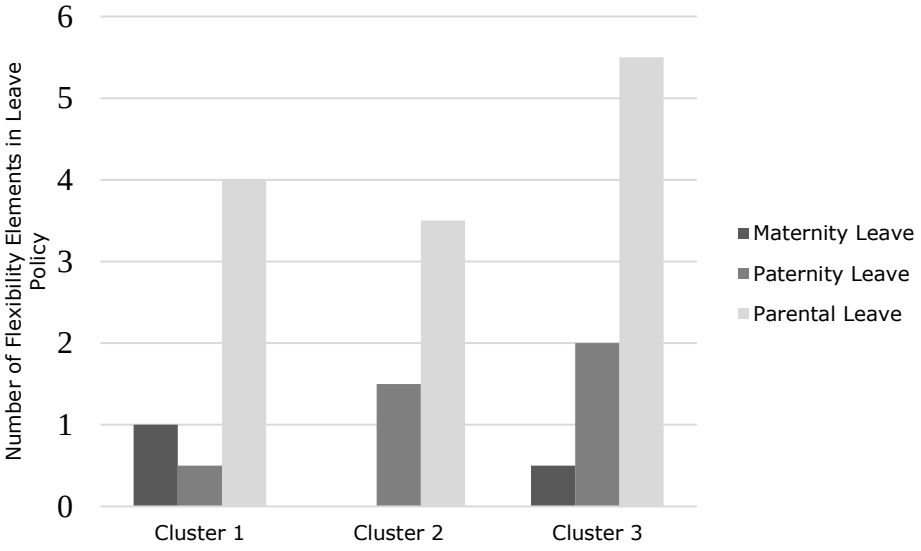
The most significant number of flexibility elements was identified in Cluster 3, which is the smallest one. In this cluster, the most flexible policies turned out to be in two types of leave, parental (the maximum median, minimum, and maximum values among all clusters) and paternity (the maximum median, mode, and minimum values among all clusters). The evaluation of the statistical significance of differences between clusters made through the Kruskal-Wallis Test shows that all indicators included in

the cluster analysis effectively differentiate European countries by parental leave system flexibility parameters.

Figure 3 visualizes the characteristics of parental leave policies found in the clusters of European countries; additionally, the Figure shows that the most variable type of leave by clusters of countries is parental leave, followed by paternity leave, with the least variable being maternity leave.

Figure 3:

Clusters' differences in parental leave policy flexibility



Source: authors' own, 2023

To characterize parental leave policies in the clusters of European countries identified in more detail, we calculated statistical criteria for one more policy parameter, namely different indicators of the leave duration. However, they proved significant (Table 3); thus, the differentiation of European countries is carried out only by the parental leave flexibility parameter and cannot be observed by its duration. There may be some objective reasons for that, as international and European legislation establishes the minimum leave duration. For example, according to the ILO Maternity Protection Convention (No. 183), the minimum maternity leave period is 14 weeks. Similar requirements were proposed by the European Council in 2010.

Table 3:

Evaluation of the significance of statistical differences between clusters by variables characterizing leave duration: Kruskal-Wallis Test

Variables	Maternity Leave			Paternity Leave			Parental Leave		
	Chi-Square	df	Asymp. Sig.	Chi-Square	df	Asymp. Sig.	Chi-Square	df	Asymp. Sig.
Total duration of leave	1.841	2	0.398	2.372	2	0.305	0.432	2	0.806
Duration of paid leave	1.902	2	0.386	2.334	2	0.311	0.314	2	0.855
Share of paid leave in the total duration of leave	3.721	2	0.156	1.689	2	0.430	0.764	2	0.682
Duration of Well-paid Leave	1.360	2	0.506	2.051	2	0.359	1.961	2	0.375
Share of well-paid leave in the total duration of paid leave	4.865	2	0.088	1.368	2	0.505	3.330	2	0.189
Share of well-paid leave in the total duration of leave	4.865	2	0.088	1.368	2	0.505	3.036	2	0.219

Source: authors' own, 2023

Answering the first research question, we argue that the composition of clusters of countries established by the parental leave policy flexibility shows a lack of regional homogeneity inside them; each cluster has countries from every European region (Table 4); however, these regions are represented in clusters in different proportions. For example, CEE countries appear more frequently in Cluster 1, much less so in Cluster 2, with only one country in Cluster 3. The representation of CEE countries in all three clusters testifies to quite a broad range of parental leave policies in contrast, the modality of Cluster 1 for CEE countries proves that the policy is disposed to one of its types.

Table 4:

Composition of clusters by European regions

	Cluster 1	Cluster 2	Cluster 3	Total
CEE countries	66.7	22.2	11.1	100
Northern European countries	25.0	50.0	25.0	100
Western European countries	66.7	22.2	11.1	100
Southern European countries	33.3	33.3	33.3	100

Source: authors' own, 2023

To answer the second research question, we attempted to determine relationships between the clusters studied and the possible effects from parental leave policies, namely demographic, employment-related, and gender. We found that among the clusters of European countries there are no statistically significant differences by unemployment variables (including women's unemployment) and birth rates; however, the analysis revealed significant differences in the Gender Inequality Index (Table 5).

Table 5:

Evaluation of the significance of statistical differences between clusters by variables characterizing women's employment and unemployment: Kruskal-Wallis Test

Variables	Evaluation of differences between clusters based on Kruskal-Wallis Test		
	Chi-Square	df	Asymp. Sig.
Unemployment Rate**	1.496	2	0.473
Women's Unemployment Rate*	1.734	2	0.420
Total Fertility Rate**	.491	2	0.782
Gender Inequality Index*	8.100	2	0.017

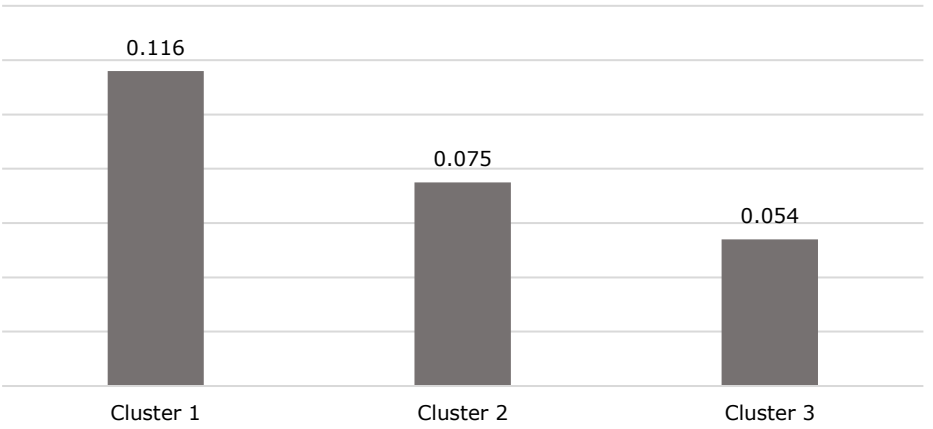
* 2020 data
** 2021 data

Source: authors' own, 2023

While comparing the mean and median values of the Gender Inequality Index in the clusters determined, we found that countries from Cluster 3, which pursue the most flexible parental leave policies, show the lowest level of gender inequality (Figure 4).

Figure 4:

Gender Inequality Index by clusters of European countries



Source: authors' own, 2023

5. Discussions

The clusterization of countries by leave policy allowed us to shed light on a number of critical issues.

Firstly, there is a disbalance between the flexibility of one type of leave and the non-flexibility of the other, which is relevant for countries from Cluster 1 and 2. However, importantly, these are two almost diametrically opposite cases. This discrepancy may be due to the more traditional nature of the state policy and social attitudes, which attribute a crucial role in the child-rearing process to the mother, not the father. For example, women in Greece often work part-time as they have to take care of children and run a household (Anastasiou et al., 2015). In the Czech Republic, a parental leave policy reform concentrated on the mother as the major caregiver during the first four years of the child's life, which incentivized many women to choose parental leave over work (Bičáková & Kalíšková, 2019).

Countries from Cluster 2, on the contrary, do not introduce any flexibility in maternity leave, but at the same time, their paternity leave policies are relatively flexible. This phenomenon may stem from the state policy, which focuses on involving men in parental leave. Tamm (2019) argues that this approach encourages women to return to work faster by reducing the leave period because of the more active father's involvement; this, in turn, has a positive influence on the labor market and economic

development (Tamm, 2019).

Secondly, the more considerable number of flexibility elements in parental leave policies of countries from Cluster 3 may result from the most family-oriented social policy of these countries. These countries direct a considerable amount of money into the social welfare of families with children, which contributes to reducing the poverty level and preserving the sustainability of the institute of family and marriage (Reynolds & Avendano, 2018). In addition, a well-developed family-friendly policy opens new opportunities for balancing professional and family activities, for example, shorter working hours (Cieplinski et al., 2021). Such a policy not only helps to settle the family-work conflict, but also encourages workers to fulfill their family responsibilities. For example, in Sweden, women prefer jobs which allow them to spend more time with their families and children (Albrecht et al., 2003). Finally, parental leave payments compensate for motherhood penalties arising from the child-rearing. Therefore, both parents find themselves in more equal conditions, as fathers usually do not bear any costs often associated with mothers (Mariskind, 2017).

Thirdly, our answer to the first research question shows that the geographical principle is not the strongest in the differentiation of parental leave policies by elements of their flexibility. To prove it, we revealed that, for example, groups of CEE and Western European countries have relatively similar statistical indicators calculated by the number of flexibility elements in different types of leave. The development of policy in general and each type of leave, in particular, is probably influenced by a wide variety of factors, for instance, which aims policies related to parental leave pursue; the level of indicators that rate their effectiveness; reproductive and gender intentions in society; political factors, and others.

The distribution of Central and Eastern Europe countries in clusters is of particular interest. Mostly, these countries appear in Cluster 1; it may be due to a unique historical course of post-soviet countries, which contributed to more conservative gender and family perspective in these territories. Some studies demonstrate that in such countries, the central role in child-rearing is still attributed to women, not men (Dohotariu, 2015; Rat & Szikra, 2018; Szikra & Szelewa, 2010). The consistency and succession of these views in the countries from Cluster 1 may predetermine the focus on improving maternity leave policies while overlooking (compared to other groups of European countries) paternity leave ones.

Commenting on the results obtained for the second research question, we argue that a lack of statistically significant differences in the unemployment rate among women in the countries of all three clusters may be due to several reasons. Firstly, as clustering variables, we chose several flexibility elements in the structure of every type of leave; however, flexibility elements per se are not intended to ensure the rights of employees with children. This goal is attributed to parental leave as a whole. In other words, what secures the employee's job while they are absent for child-rearing is the fact of having legally stipulated parental leave in the country rather than the number

of flexibility elements in it (Currie, 2016). Secondly, we examined the level of women's employment in European countries in general, while different age groups may demonstrate different values (Fukai et al., 2023). With that in mind, we see room for a more in-depth analysis of the relationship between parental leave policy and the level of women's employment in our future research. Thirdly, a lack of statistically significant differences in the women's unemployment rate between clusters may stem from the low variation coefficient of this indicator (9.7 %) (Albrecher et al., 2010). Possibly, to study the relationship between these indicators, more countries need to be observed.

Even though the calculation of the GII does not consider parental leave policy, Cluster 3, with the most flexible paternity and parental leave policies, proved to have the highest level of gender inequality. Therefore, there may be a specific relationship between the level of parental leave development and gender inequality. State policies of countries from Cluster 3 aim to address gender inequality by increasing access to education, enabling participation in the government and through vigorous parental leave policy (Kotsadam & Finseraas, 2011). A comprehensive approach to addressing gender inequality taken by Cluster 3 countries also involves flexibility in parental leave policy. For example, Sweden claims that the development of the parental leave policy is one of the mechanisms to ensure gender equality (Ekberg et al., 2013).

Given that parental leave policy is an inseparable part of social policy, the characteristics of the clusters identified may be somewhat similar to types of welfare states suggested by Esping-Andersen (Esping-Andersen, 1990). Characteristics of the countries from Cluster 1 are similar to those of conservative countries with traditional family values and active family support measures. Cluster 2 countries may be classified as liberal because their policies aim to encourage citizens to resume working while providing few flexibility elements. Cluster 3 countries, which advocate for gender equality and job security, are identical to countries of the socio-democratic type (Esping-Andersen, 1990). However, this classification is rather conventional as we only rely on the analysis of parental leave policy flexibility.

Differences between clusters identified may be, to some extent, explained through the public values theory. State policies in countries from Cluster 1 are oriented at supporting more traditional values. Most likely, the idea of a woman as a key actor in the childcare is shared most strongly in those countries. However, countries' policies from Cluster 3 embrace more progressive values; they are dominated by the idea of gender equality and the prioritization of professional and creative self-actualization not only among men but also among women.

Generally, the correlation between flexibility elements in the leave structure and gender equality indicators shows the practical relevance of the study. By reforming parental leave design (i.e., by introducing new flexibility elements), countries may change their position moving from one cluster to another, which, in turn, will help forecast the level of gender equality or other socio-economic indicators in the sphere

of family state policy. At the same time, it is essential to consider that higher flexibility of parental leave policy most certainly improves only gender equality. In contrast, a hypothetical influence of flexibility elements on other social policy directions is still open to discussion and requires more in-depth studies.

6. Conclusion

Our results give insight into the differentiation of parental leave policies in Europe. The smallest, Cluster 3, implements the most flexible parental and paternity leave policies. The largest, Cluster 1, pursues the most flexible maternity leave policy. CEE countries are more often included in Cluster 1, much less often in Cluster 2, while only country appears in Cluster 3. Moreover, the representation of CEE countries in all three clusters testifies to quite a wide range parental leave policies. In contrast, the modality of Cluster 1 for CEE countries proves that the policy is apparently disposed to one of its types.

Although parental leave policy and other social policies (demographic, employment, and gender equality policy) generally have the same goals, we found statistically significant differences between the clusters identified only by the indicator of gender equality policy. On the other hand, we did not find any differences in the indicators of employment and demographic policies. On the one hand, this could mean that parental leave and gender equality policies mutually complement and enhance each other, whereas their results overlap. Therefore, the regulation of the parental leave system may be viewed by European countries' governments as a valid instrument for overcoming gender inequality and for the more proactive engagement of men into household labor (including child-rearing). On the other hand, our results demonstrate a lack of the direct relationship between the number of flexibility elements in the parental leave system and two essential socio-economic indicators, namely the birth rate and the level of women's employment.

The scientific relevance of the study lies in the comparative analysis of parental leave policies in Europe based on cluster analysis, and secondly, in revealing the interrelationship between flexibility elements in the structure of parental leave and other directions of state social policy. Thirdly, it expands the public values theory by demonstrating differences in parental leave policies, which can be based on social values shared in different European countries. Finally, we established three clusters of European countries by the level of parental leave flexibility; these clusters do not comply with geographical European regions, and we concluded that these clusters did not differ by gender policy results.

Our results may have a particular influence on public administration. For example, we presented different models of parental leave policies by their flexibility. At the same time, balancing the number of flexibility elements in the leave structure is

a crucial instrument of parental leave policy. Governments' initiatives intended to regulate the level of leave flexibility (increasing or decreasing the number of flexibility elements or other transformations) may lead to changes in the position of a certain leave system (e.g., from one cluster to another). Based on the cluster analysis, the modeling permits predicting the position of the parental leave system of a certain country in the event of reform.

Indeed, we argue that the fact that we did not determine a similar direct relationship between parental leave policy parameters and other policies' results does not deny a connection between them; it only indicates that there is a need to search for other indirect, latent relationships, which is one of our future research directions. Alternatively, further research may aim to compare parental leave policies implemented in the private and public economic sectors.

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