

Home-work-kindergarten spatial separation and mothers' commuting: A case study of the Bratislava suburban region (Slovakia)

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Abstract

Suburban mothers are a vulnerable group in transport since they experience especially great spatiotemporal constraints due to their gender roles and are facing transport barriers typical for suburban areas. Locations of home, work, and kindergarten are essential factors influencing the everyday travel experience of mothers of preschool children. This paper examines spatial patterns of the home-work-kindergarten spatial separation of mothers (the extent to which a mother's residence, workplace, and childcare facility are geographically distributed, manifesting in different spatial configurations) along with its causes and circumstances. Together, 136 middle-class mothers residing in the post-socialist Bratislava suburban region (Slovakia) participated in the research. Most mothers preferred and had their children's kindergartens near their home locations. There was no significant correlation between the gender beliefs of mothers (in areas of work and childcare) and the home-work-kindergarten separation. Mothers primarily responsible for bringing and picking up a child in/from a kindergarten had significantly smaller home-work-kindergarten separation than others. However, when distinguishing the time of the day, such results were only valid for the morning periods. There was no significant difference in the degree of the home-work-kindergarten separation between the mothers who receive help with child care from another adult in their household and others.

Keywords: Kindergarten, mobility, gender roles, mothers, suburbia, Slovakia

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1. Introduction

In the everyday life of adult individuals, locations of residence and work are among the most essential factors influencing daily travel patterns (Ellegård, 2018). However, work and home are often separated from each other to such an extent that it complicates the everyday lives of individuals. In this context, the concept of spatial mismatch has been examined in the scientific literature, which, however, most researchers perceive solely in relation to the poor class (e.g., racial minorities), spatially concentrated in neighbourhoods lacking job opportunities (Gobillon et al., 2007; Liu & Kwan, 2020).

However, other socioeconomic classes are also affected by home-work spatial separation. In monocentric metropolitan areas where suburban jobs are almost non-existent (e.g., in small post-socialist European suburbs), residents must overcome long distances when commuting to city centres while having limited public transport options (Hirt, 2008; Šveda & Barlik, 2018). Suburban women have created an especially vulnerable group in this regard since today, suburbia is characterised by the persisting traditional gender roles within households (Wheatley, 2013; Preston & McLafferty, 2016). Both working and non-working mothers are subjects of gendered travel behaviour since care for households and children creates barriers to their mobility. In both the suburban and urban areas, especially working mothers face the so-called double burden when trying

to juggle household responsibilities with work (Kaskla, 2003; Pojani et al., 2017), which leads to extra time pressure (Baxter et al., 2007; Strazdins et al., 2011). As a result, mothers often seek job opportunities near their homes (Wheatley, 2013; Parker & Rubin, 2022; McLafferty & Preston, 2019), which can result in their spatial entrapment. However, there has already been an idea that mothers' commuting behaviour and the extent of travel restrictions can be influenced by their traditional gender beliefs (Howell & Bronson, 1996). Yet, there is a research gap on this issue since research to date lacks examination of the transport disadvantage of suburban mothers in relation to their traditional gender beliefs.

Additionally, in this study, we are working with the assumption that in the case of parents of small children, examining the spatial separation of workplace and home is not sufficient since there is at least one other station that primarily affects their daily schedules and travel experience – a kindergarten/nursery. Therefore, this paper explores the spatial patterns of the suburban mothers' home-work-kindergarten separation, its causes and circumstances, and their connections with traditional gender beliefs in areas of work and childcare. The home-work-kindergarten spatial separation is here defined as the extent to which a mother's residence, workplace, and childcare facility are geographically distributed. Research questions were formulated as follows:

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- 1a – To what extent does home-work-kindergarten separation exist among the mothers, and what are its spatial forms (HWK separation types)?
- 1b – Is there a relationship between individual characteristics of mothers and a probability of certain HWK separation type?
- 2 – Is there a significant relationship between the gender beliefs of the mothers and the degree of their home-work-kindergarten spatial separation?
- 3a – Is there a difference in the degree of the home-work-kindergarten separation between the mothers who are the primary person bringing a child to the kindergarten and those who are not?
- 3b – Is there a difference in the degree of the home-work-kindergarten separation between the mothers who are the primary person picking up a child from the kindergarten and those who are not?
- 3c – Is there a difference in the degree of the home-work-kindergarten separation between the mothers who are most often responsible for both bringing in and picking up a child from the kindergarten and those who are not?
- 3d – Is there a difference in the degree of the home-work-kindergarten separation between the mothers who receive help with child care from another adult in their household and those who do not?

Here, we are adopting ideas from gender studies and time geography. Based on the spatiotemporal approach, bringing in and picking up children from kindergarten can be considered a fixed activity (it cannot be moved to another place and time), and thus, it represents a particular constraint in the everyday schedule of the parent who performs it (Kwan, 1999). Also, research to date has shown that additional help from another person (especially in multigenerational households) allows parents to have a higher degree of space-time flexibility (Kwan et al., 2014; Shen et al., 2015). To mitigate the impact of income inequality on the research results, this study is focused solely on middle-class suburban mothers residing in the Bratislava metropolitan region, Slovakia.

2. Theoretical background

As stated above, mothers often seek work near their homes to facilitate household and family care. However, some authors revealed that such a strategy has not been used by all groups of mothers equally. For example, racial minorities in the US often overcome long distances to low-wage jobs (Preston & McLafferty, 2016), which has been explained by, e.g., discrimination in the labour market and related limited options when choosing a job (McLafferty & Preston, 2019). Other examples of long commuting are single mothers who are primary earners and carers simultaneously (Preston et al., 1993) and transit-dependent individuals (Wyly, 1998). Moreover, compared to well-off mothers, people experiencing poverty and single ones cannot afford to work part-time or become stay-at-home parents because of financial reasons.

On the other hand, looking at white (and other privileged) mothers living in affluent societies, their working life is often characterised by either taking time out of the workforce or working part-time, while fathers (if present in a household) are considered breadwinners (Rosenfeld et al., 2004; Berghammer, 2014; Cukrowska-Torzewska & Matysiak, 2020). The caregiver-breadwinner model persists in families even several years after the child's birth if quality child care is not available and affordable (Sullivan, 2019). Current research points out that this 'agreement' between partners (which is strongly gender-based and therefore assumes that the mother is the primary caretaker) places mothers in a disadvantaged position.

Despite an increasing number of studies on the emerging gender revolution (equality in both private and public spheres) and its relation to family arrangements (e.g., Scarborough et al., 2019; Martínez-Pastor et al., 2022; Pinho & Gaunt, 2024), the changes in caregiver-breadwinner model have been relatively slow. According to Sullivan et al. (2018, p. 276), this can be explained by "the combination of post-childbirth biology, essentialist gender ideologies, masculinist workplace attitudes, and policy measures designed to enable women rather than men to combine employment with caring."

In this study, we defined gender beliefs as individuals' beliefs in norms and schemas on how men and women are expected to behave and act in their everyday lives. According to gender norms, for example, mothers are considered primary caregivers when raising their kids and are expected to prioritise their family over their work (Evertsson & Grunow, 2019; Haines & Stroessner, 2019). Research from the US has shown that this is especially true for married middle-class women, who are perceived as acting selflessly when quitting their paid employment to facilitate household responsibilities, while on the other hand, low-income single mothers are perceived as irresponsible when they decide to limit their working life (Hennessy, 2015).

Looking at the work and family arrangements, it is essential to know the mothers' gender beliefs. When mothers believe that, as women, they are destined to be primary caregivers, it may lead to a conflict between their maternal and work responsibilities. Research to date has well documented how this conflict and gender stereotypes internalisation can lead to the so-called 'work-family guilt' among mothers (Aarntzen et al., 2022; Borelli et al., 2017), and, as shown by Bozkur and Oğuzcan (2022), it can be predicted by their working hours. Work-family guilt, in turn, can lead to various restrictive decisions regarding the working life of mothers (Aarntzen et al., 2019). However, the response of mothers to work-family guilt is not homogenous. While some of them decide to reduce their working hours or quit their paid work (Martínez et al., 2011), others, on the other hand, continue to work (often full-time) despite the guilt being present (Haslam et al., 2015).

In this study, we assume that more traditional gender beliefs of mothers may limit their everyday footprints and, therefore, their home-work-kindergarten separation may be minor than that of mothers with more contemporary beliefs. However, since mothers' responses to gender norms vary across different groups of mothers depending on individual characteristics, including, e.g., economic and educational resources, class, and race (Schmidt et al., 2023), in our study, only data from suburban sites resided by middle-class families were used.

The limited mobility of mothers, however, does not apply only to their work commutes but also to a wide range of transport experiences. Gendered travel behaviour is mainly seen in spatiotemporal travel patterns, time management, and travel mode choice. For example, mothers are especially vulnerable to time scarcity and tremendous time pressure (Baxter et al., 2007; Strazdins et al., 2011). In suburban regions, public transport is often underrepresented, and when present, its use can be time-consuming. Additionally, the spatiotemporal patterns of mothers are especially fragmented due to their complex daily routines, which leads to mothers using private cars, which enables the greatest spatiotemporal flexibility (Blumenberg, 2016; Dowling, 2000; Maciejewska & Miralles-Guasch, 2019). However, research has shown that in households with only one car, the car share is limited, with the primary user being a man (Silm et al., 2013).

Looking at other modes, when travelling alone, individuals can choose biking for transport, which is common in many European countries. However, this mode is not only slow and ineffective

when juggling family responsibilities (Burke & Bonham, 2010), but also, as shown by Mitra and Schofield (2019), women avoid cycling for transport mainly for safety reasons.

Transporting children is one of the most fixed daily activities of parents (Schwannen et al., 2008). The spatiotemporal fixity can be defined as the impossibility of moving an activity to another place and time. Limited opening hours for dropping off and picking up children from the kindergarten is an important obstacle in mothers' career advancement (Ellegård, 2018). Therefore, kindergarten location may affect the work location of parents who transport children to and from the kindergarten.

A prevailing body of research has shown that, regardless of whether working full-time or part-time, women face more spatiotemporal constraints than men (Kwan, 1999; Kwan, 2000), which has been explained by women engaging more frequently in childcare and housework activities (Schwannen et al., 2008). Contradictory results, however, were obtained by Shen et al. (2015), who found that Chinese men perceived higher levels of space-time fixity of daily activities than women – as a possible explanation, cultural differences in China compared to the West were mentioned (e.g., available day care, possibility to hire a cheaper housekeeper and babysitter, and living with grandparents who provide help in household chores).

In sum, gendered travel behaviour and restrictions lead to less mobility for opportunities, less time for career advancement if desired, lower-status jobs and overall job restrictions, which, in extreme cases, can result in poverty and dependency. Last but not least, spatial isolation and limited mobility, a characteristic of suburban regions, can also lead to a sacrifice of a woman's social life (Hirt, 2008).

3. Methods

3.1 Study area

The data collection took place in the vicinity of kindergartens and playgrounds located in suburban municipalities of Bratislava. The Bratislava region is typical for its rapid suburbanisation process and related car-dependency of its inhabitants, with the most important centre of employment being Bratislava city, followed by several medium-sized towns, e.g., Malacky, Pezinok, Dunajská Streda, etc. (Šveda & Barlík, 2018). In addition, the post-socialist environment has its unique position in kindergarten provision and the work lives of mothers. During socialism, mothers were obliged to work, and at the same time, they were expected to be the primary person responsible for household chores, which created the so-called 'double burden' (Kaskla, 2003; Pojani et al., 2017). In Slovakia, to sustain this model, the government provided state-sponsored childcare (Šprocha et al., 2018). Today, less expensive state nurseries still represent the majority of Slovakia. In the school year 2023/2024, up to 90.33% of children in kindergartens attended a state one (CVTI SR, 2024). This supports mothers' involvement in working life after the child reaches the age of 3 since children from this age are primarily accepted in state kindergartens.

3.2 Participants and procedure

Middle-class suburban mothers residing in the Bratislava metropolitan region were involved in the research. Mothers participating in the research resided in municipalities of Báboň, Bernolákovo, Borinka, Dunajská Lužná, Hamuliakovo, Hrubá Borša, Hviezdoslavov, Chorvátsky Grob, Ivanka pri Dunaji, Kalinkovo, Kostolná pri Dunaji, Kráľová pri Senci, Kvetoslavov, Limbach, Lozorno, Malacky, Malé Leváre, Malinovo, Marianka, Miloslavov, Most pri Bratislave, Pezinok, Plavecký Štvrtok, Rovinka, Senec, Slovenský Grob, Stupava, Senkvice, Veľký Biel, Viničné, and Zohor (Fig. 1).

The data collection took place near the kindergartens as well as on the playgrounds located in these municipalities from May to November 2023. The mothers were questioned during face-to-face interviews. A researcher filled out a pre-prepared questionnaire on the locations of home, work and kindergarten (with precision for the municipality), the circumstances related to bringing and picking up the child to/from the kindergarten (e.g., who is responsible for the task, travel mode), the existence of child care assistance in a household from another adult, individual characteristics, gender beliefs, etc.

The sample was created randomly. The raw sample consisted of 192 participants (both men and women). However, in our study, only mothers whose all three home, work and kindergarten locations were identified were included in the research. Together, the data of 136 mothers were used. The essential characteristics of the sample are shown in Table 1. As shown in the table, a typical suburban mother in this data sample is a middle-class married woman in her 30s, living with a father of her child/children and is either full-time employed or on maternity/parental leave. Stay-at-home mothers (e.g., those on maternity/parental leave, who at the same time did not indicate any work location) were assigned work locations identical to their residence since, according to gender studies, taking care of the household and children is also considered work, despite being unpaid (Düval, 2023; Reich-Stiebert et al., 2023).

3.3 Data

The degree of the home-work-kindergarten separation was quantified as a number of municipalities in which these locations are placed, with the values ranging from 1 to 3. To detect the gender beliefs of mothers, they were asked to react to these statements: "Women should care more about their families than their careers" and "A child younger than three years old suffers if his/her mother works". Mothers were asked to react on a 5-point scale (1 = strongly agree; 5 = strongly disagree). We were inspired by Kley and Feldhaus (2018) to use these statements. However, in this study, we wanted the most conservative (and the strongest) gender beliefs to get a score of 5, while the most contemporary ones (and the weakest) got a score of 1. Therefore, if a mother's reaction to a statement was 1, the corresponding gender belief score was 5 and vice versa.

Similarly, if a mother's reaction to a statement was 4, the corresponding gender belief score was 2 and vice versa. This way, every mother got a gender belief score for both statements separately. The total gender belief value was calculated as the

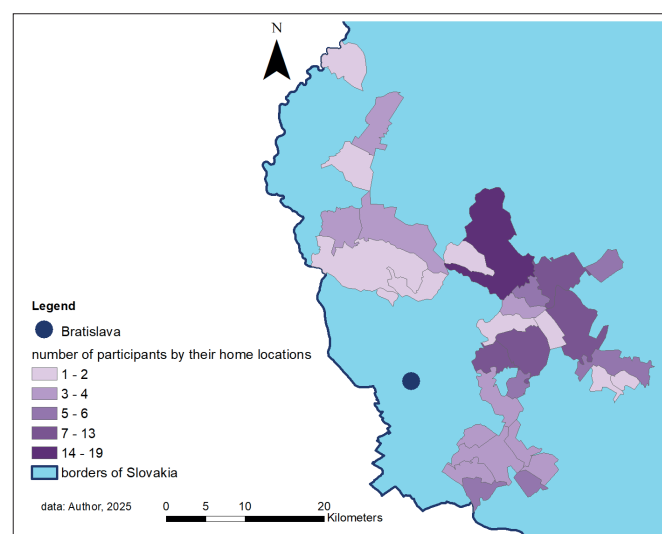


Fig. 1: Location of the suburban municipalities in which participants resided. Source: Author's elaboration

	Frequency	%		Frequency	%
Age			Household income (monthly)		
21 to 25	3	2.21	501–1000 €	5	3.68
26 to 30	17	12.50	1001–1500 €	17	12.50
31 to 35	55	40.44	1501–2000 €	32	23.53
36 to 40	40	29.41	more than 2000 €	81	59.56
41 and above	18	13.24	N/A	1	0.74
N/A	3	2.21			
Education			Family status		
secondary education	42	30.88	married	114	83.82
higher education	92	67.65	divorced	4	2.94
N/A	2	1.47	single	18	13.24
Household structure			Work status		
couple (both are parents of the child)	122	89.71	full-time work	89	65.44
couple (only one is a parent of the child)	7	5.15	part-time work	6	4.41
lone parent household	4	2.94	unemployed	4	2.94
co-parenting (two households)	2	1.47	maternity/parental leave	37	27.21
N/A	1	0.74			

Tab. 1: Basic characteristics of the dataset

Source: Author's survey

average of the gender belief scores for both questions. To identify mothers who are primarily responsible for bringing children to/picking them up from a kindergarten, they were asked to answer these questions: “Who most often takes your child to the kindergarten in the morning?” and “Who most often picks up your child from the kindergarten in the afternoon?”. If the answer was ‘mother’, then the value for calculations was ‘yes’, while any other answer (e.g., ‘father’, ‘50:50’, ‘other relatives’) got the value ‘no’. To detect the help of another adult in the household, mothers were asked to answer this question: “Are there other adults in the child's household who help take care of the child?”.

3.4 Calculations

First, the typology of the separation spatial forms was conducted (research question 1). The spatial forms were identified and visualised. There were five possible spatial forms of the work-home-kindergarten separation, namely: all locations in one municipality (type A); home located in a first municipality, while work and kindergarten sharing the second one (type B); home and kindergarten in the same municipality and work in another one (type C); home and work located in the same municipality, while kindergarten being located elsewhere (type D); each location in a different municipality (type E). Each of the HWK spatial separation types was described in terms of commuting time from home to kindergarten (minutes) and travel mode. Some mothers reported a time range (e.g., 5 to 10 minutes) instead of an exact value for commuting times. In those cases, the average time range was used (e.g., for the range ‘5 to 10 minutes’, the value 7.5 was used in the calculations). To assess which characteristics of mothers influence their belonging to

each HWK spatial separation type, binominal logistic regression was used. Due to the low representation of the ‘unemployed’ and ‘working part time’ categories, for the regression, the mothers were divided into working (full time and part time) and not working (unemployed and on maternity/parental leave), as we assume that working mothers have a higher probability of needing to commute to work.

To answer research question 2, the Spearman's rank correlation coefficient was calculated, using variables ‘gender beliefs of mothers’ and ‘the degree of the HWK separation’. Then, calculations regarding research questions 3a, 3b, 3c, and 4 were conducted. Based on the Shapiro-Wilk test of normality, it was found that the data on the spatial separation degree were not normally distributed ($p\text{-value} = 3.804\text{e-}16$). Therefore, Mann Whitney U test was used for the analyses.

4. Results

The spatial forms are depicted below (Fig. 2). The most frequent spatial form was type C (50.00% of all the mothers in the research), followed by type A (32.35%) and type B (13.24%). The least numerous were types D and E, equally represented by 2.21% of mothers. The types of the home-work-kindergarten separation spatial forms differ according to commuting times from home to a kindergarten and travel mode when bringing in and picking up a child to/from a kindergarten (Tab. 2), with types B, D and E being completely car-dependent. Car-free travel was reported only for those types where the home and kindergarten are located in the same municipality (types A and C). And yet, even in these cases, car-based travel created more than half of all the trips both to and from a kindergarten.

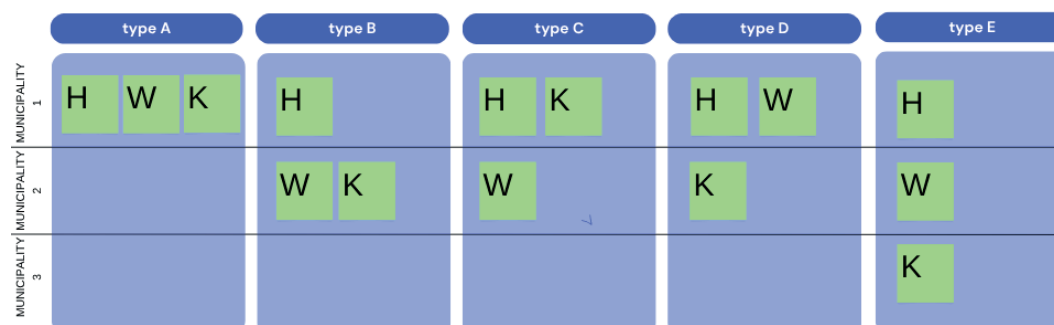


Fig. 2: Spatial forms of home-work-kindergarten separation (H = home, W = work, K = kindergarten)

Source: Author's conceptualisation

Spatial form		Type A	Type B	Type C	Type D	Type E
Number of mothers		44	18	68	3	3
Share (%) of all mothers in the research		32.35	13.24	50.00	2.21	2.21
Commuting time (minutes) from home to a kindergarten (average)		7.51	20.61	7.35	18.33	10.00
Commuting time (minutes) from home to a kindergarten (median)		6.75	20.00	5.00	15.00	10.00
Travel mode when bringing a child to a kindergarten	car	56.82	100.00	80.88	100.00	100.00
(% of mothers within a type)	walking	34.09	0.00	17.65	0.00	0.00
	public transport	2.27	0.00	1.47	0.00	0.00
	bike	2.27	0.00	0.00	0.00	0.00
	combination	4.55	0.00	0.00	0.00	0.00
Travel mode when picking up a child from a kindergarten	car	61.36	100.00	76.47	100.00	100.00
(% of mothers within a type)	walking	36.36	0.00	22.06	0.00	0.00
	public transport	0.00	0.00	1.47	0.00	0.00
	bike	2.27	0.00	0.00	0.00	0.00
	combination	0.00	0.00	0.00	0.00	0.00

Tab. 2: Basic characteristics of the spatial forms of the home-work-kindergarten separation

Source: Author's survey

Results of the binominal logistic regression model are shown in Table 3. Regression analysis was not calculated for the HWK separation types D and E, due to their rare occurrence in the sample. There was no significant relationship between mothers' age, education level, gender belief scores, and household income and a probability of any of the HWK separation types. On the other hand, additional help in a household is a significant predictor for HWK separation type C ($p = 0.0287$). A potential positive effect, but not significant on the 0.05 level, was observed between being a working mother and type B ($p = 0.0764$), as well as in the case of a number of cars in a household and type C ($p = 0.060$).

Most of the decisions regarding kindergarten selection were made as a joint decision of both parents (76.47%) followed by mothers (22.79%), while only one father (0.74%) decided on his own. Together, 84.56% of mothers preferred a kindergarten in the same municipality as their homes, while 15.44% preferred it to be in their work location. In 14.71% of cases, there was a discrepancy in a mother's preference and the actual kindergarten location.

The main reasons for preferring a kindergarten to be located near a home stated by mothers were: proximity of family/possibility of picking up children by grandparents or other family members and acquaintances (21.21%); reasons related to work arrangements such as the proximity of the kindergarten in the case of a home office, part-time jobs and being on maternity/parental leave (17.17%); reasons related to taking into account the overall well-being of the child (25.25%) such as: building friendships and community in child's home location; familiar environment; and a possibility for a child to be home quickly and to avoid travelling in traffic jams with children. On the other hand, looking at mothers preferring a kindergarten to be located near their workplaces, they most often mentioned reasons pertaining to time management, logistics and the length of working hours, as well as the ability to be nearby if something were to happen (e.g., "If the child gets ill, I can pick him up quickly").

There was no statistically significant correlation between variables 'gender beliefs of mothers' and the 'home-work-kindergarten separation' (spearman's correlation coefficient = -0.07 ; p -value = 0.40).

Based on the Shapiro-Wilk test of normality, it was found that the data on the spatial separation degree were not normally distributed (p -value = $3.804e-16$). Therefore, Mann Whitney U test was used for the analyses. The results are shown in Table 4.

Results have shown that there was a statistically significant difference in the degree of the home-work-kindergarten separation between the mothers who are the primary person bringing a child to a kindergarten in the morning and those

	Estimate	Std. error	z value	Pr(> z)
Type A				
age	0.018	0.035	0.502	0.616
household income	0.07105	0.247	0.288	0.774
education level	-0.136	0.453	-0.300	0.764
working mother	-0.272	0.393	-0.692	0.489
additional help	-0.464	0.449	-1.032	0.302
number of cars	-0.613	0.385	-1.592	0.111
gender belief score	0.159	0.148	1.077	0.282
Type B				
age	-0.028	0.053	-0.536	0.592
household income	-0.270	0.290	-0.934	0.351
education level	0.283	0.583	0.486	0.627
working mother	1.374	0.775	1.772	0.076
additional help	-0.764	0.617	-1.238	0.216
number of cars	-0.093	0.438	-0.212	0.832
gender belief score	-0.195	0.224	-0.869	0.385
Type C				
age	-0.010	0.037	-0.275	0.783
household income	0.141	0.277	0.508	0.612
education level	-0.049	0.490	-0.099	0.921
working mother	-0.070	0.374	-0.187	0.852
additional help	1.048	0.479	2.187	0.029
number of cars	0.848	0.450	1.883	0.060
gender belief score	0.005	0.140	0.035	0.972

Tab. 3: Relationship between mothers' individual characteristics and probability of home-work-kindergarten spatial separation types A, B, and C. Source: Author's survey

who are not (Mann Whitney $U = 2267.5$; p -value = 0.018). Mothers, who are most often responsible for bringing a child to a kindergarten, had a significantly smaller degree of home-work-kindergarten separation. On the other hand, there was no significant difference in the degree of the home-work-kindergarten separation between the mothers who are the primary person picking up a child from a kindergarten in the afternoon and those who are not (Mann Whitney $U = 2282.5$; p -value = 0.110). However, when distinguishing only those mothers who are the primary person who both bring in and pick up a child from a kindergarten, there were statistically significant differences in the degree of the home-work-kindergarten separation between them and other mothers (Mann Whitney $U = 2685.5$; p -value = 0.042). Mothers who most often perform both these tasks had significantly smaller degrees of home-work-kindergarten separation compared to other mothers.

In addition, there was no significant difference in the degree of the home-work-kindergarten separation between the mothers who receive help with taking care of a child from another adult in their household and other mothers (Mann Whitney $U = 1809.5$; p -value = 0.649).

Task	Home-work-kindergarten separation degree		Predominantly	Mann Whitney U	p-value	Significant
	mothers primarily responsible for the task (average)	mothers who are NOT primarily responsible for the task				
bringing a child to a kindergarten	1.63	1.87	mothers who are NOT primarily responsible for the task	2267.5	0.018	yes
picking a child from a kindergarten	1.66	1.79	mothers who are NOT primarily responsible for the task	2282.5	0.110	no
both bringing in and picking up a child to/from a kindergarten	1.62	1.79	mothers who are NOT primarily responsible for the task	2685.5	0.042	yes
	mothers receiving help with child care (average)	mothers who do NOT receive help with childcare				
	1.68	1.71	mothers who do NOT receive help with childcare	1809.5	0.649	no

Tab. 4: Differences in the degree of the home-work-kindergarten separation according to mothers' responsibilities and help with child care from another adult in a household. Source: Author's survey

5. Discussion and conclusions

In this study, the home-work-kindergarten spatial separation of middle-class suburban mothers and its relation to their gender roles and beliefs were examined. Several important findings emerged.

Most mothers both preferred and had their children's nurseries in the same municipality as their home locations. The most frequently mentioned reasons for preferring the kindergarten near a home location were connected to the overall well-being of a child, while reasons related to the organisation of mothers' work and additional help from others when picking up a child from a kindergarten were numerous as well, they were, however, stated less frequently.

Surprisingly, there was no statistically significant correlation between variables 'gender beliefs of mothers' and the 'home-work-kindergarten separation', which is in contradiction to Howell and Bronson (1996), who predicted that women with traditional gender beliefs would limit their commute times more than others. Since, as stated by Evans and Diekmann (2009), individuals adopt gender roles as standards for self-regulation, in this study, we would suggest that mothers who believe that taking care of their families is more important than their careers would limit their activity spaces more than women with more contemporary beliefs. Lo and Houston (2018), for example, found that the activity spaces of women are smaller and more concentrated in their home locations than men's. However, gender beliefs of parents do not operate in isolation from external circumstances, since household dynamics are the result of several interacting factors. The actions of mothers and fathers may be shaped by contextual factors, either external conditions (e.g., workplace flexibility, expectations of an employer, transportation infrastructure), household-level dynamics (e.g., household-level negotiations) or individual aspects. The existing literature documents that there is a discrepancy between ideals and practices of more fathers' involvement in child care (Offer & Kaplan, 2021; Johansson, 2011). Even in more egalitarian-thinking households, there are influences supporting continuing gender roles. These include, for example, persisting breadwinning of fathers (Offer & Kaplan, 2021), societal pressure on intensive mothering (Verniers et al., 2022), and others. Household-level negotiations are often influenced by the income levels of parents, which is often seen as a tool for negotiating identity and power (Tichenor, 2005; Yeung, 2016). For these reasons, even egalitarian thinking mothers may find themselves in situations where they do not know how to or cannot put their attitudes into practice.

Second, mothers who were primarily responsible for both bringing and picking up a child in/from a kindergarten had significantly smaller home-work-kindergarten spatial separation than other mothers, which supported our theory that these tasks should be considered an important fixity constraint. This is in line with the findings of studies conducted across the globe, showing that women with more childcare-related activities tend to seek work near their homes (Chatterjee & Sircar, 2021; Parker & Rubin, 2022; McLafferty & Preston, 2019). However, our results contrast with a study by Kwan (2000), who showed that full-time working women, despite facing high spatiotemporal fixity, travelled to work further than men. However, when distinguishing the time of the day, the significant difference was found only in the morning, when those primarily responsible for bringing a child to the kindergarten had a significantly smaller degree of home-work-kindergarten spatial separation. No such differences were found in the afternoon, which could be explained by less time pressure in the afternoon compared to morning periods (e.g., no hurry to work). Nevertheless, some studies point to time pressure even in the afternoon, when it is difficult for parents to pick up the child from the kindergarten due to its short operating hours (Kamiya, 1999; Nishitaten & Shikata, 2017).

Finally, there was no significant difference in the degree of the home-work-kindergarten separation between the mothers who receive help with taking care of a child from another adult in their household and other mothers. This is in contradiction with other studies showing that additional help with household chores (e.g., in multigenerational families) leads to increased levels of spatiotemporal flexibility in mothers (Feng et al., 2013; Shen et al., 2021; Kwan et al., 2014; Ta et al., 2019). On the other hand, in our study, household help was shown to be a significant predictor for HWK spatial separation type C (home and kindergarten in the same municipality and work in another one). This finding pointed to the important effect of additional help to spatiotemporal flexibility of mothers and their ability to work outside of their home municipalities.

The results are subject to a limitation concerning the data availability. For example, data on the total number of children in each household and the reasons and circumstances for choosing the place of residence are lacking. Additionally, it would be beneficial to know how paid and unpaid work is divided among household members, as well as what the whole day routine of the family looks like. Also, no information about the other parent (if present in the family) is known. In the future, it would be appropriate to conduct research in which both parents would be involved (if they

are present in the family) and investigate their motivations and decision-making processes more deeply, e.g., by adding qualitative methods. Also, the study did not take into account other external gendered structures that could be imposed on women after childbirth and that could minimise their gender beliefs. Also, we are aware that home-work-kindergarten spatial separation can also exist within a municipality (e.g., when commuting between different town/city wards). Therefore, the results of the study have to be interpreted with caution.

Nevertheless, in this study, we filled the gap by researching the home-work-kindergarten separation of suburban mothers in Slovakia, one of the most overlooked countries in gender-related research. With a close look at individual connections with work-home-kindergarten locations, we have, in some cases, supported and, in others, questioned well-known paradigms regarding the commuting behaviour of suburban mothers. For the first time in this study, the relationship of the individual gender beliefs of mothers with the home-work-kindergarten separation was tested. However, in the future, more research should be done to support the quality of life of mothers, as one of the most vulnerable groups, which faces severe restrictions not only in transport but also in working life.

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