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Leisure Quality among German Parents—Exploring Urbanity, Mobility, and Partner Interaction as Determinants

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Abstract: Individuals with family obligations concurrently perform unpaid tasks. In particular, parents often multitask childcare during leisure, leading to low-quality leisure. In this study, we explored leisure quality by measuring pure and contaminated (i.e., leisure combined with childcare) leisure for German parents (lone versus partnered) by considering five diverse factors: demographics, job characteristics, spatial and travel attributes, time use perception/preferences, and gendering of partner interactions. We used the cross-sectional German Time Use Survey 2012/13 data and employed regression analysis. Four important findings of the study are: (a) across groups, women have the highest levels of contaminated leisure, while men have the highest levels of pure leisure; (b) for both lone and partnered respondents, spatial attributes (less dense residential areas), travel attributes (paid work trips, unpaid work trips, number of cars, travel by public transport) negatively determine both pure and contaminated leisure; (c) for partnered respondents, driving is positively associated with contaminated leisure; (d) partner's time spent on childcare negatively affects women's pure leisure but positively relates to their contaminated leisure, while partner's time spent on leisure activities positively affects men's pure leisure and contaminated leisure.

Keywords: leisure quality; time use; activity patterns; travel; perception; partner interaction; gender

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1. Introduction

Individuals' daily lives are characterized by their engagement in a wide range of activities, including market and non-market work and travel. They devote a proportional share of daily activities to participation in leisure activities, such as social interaction, engagement in community work, joint family time, and sports. Alongside an emerging interest in understanding needs and motivations for leisure travel [1–4], there is growing concern about leisure quality and a desire to understand how a lack of leisure time or its contamination by non-leisure activities affects social interaction, family bonding, and wellbeing [5–8].

Individuals with family obligations often multitask unpaid activities, such as household tasks, maintenance, or care-related work, leading to the contamination of leisure [9,10]. Gainful employment, spatial limitations, daily travel demands, and gendered roles often put a strain on women. Working mothers allocate precious leisure time to the care and provision of children, which forcibly leads to multitasking during leisure time [11]. Studies suggest mothers are better multitaskers than fathers for various reasons: experience in childcare [12], cultural traditions and social norms followed in households [13], way of life [8], and feelings of guilt about childcare [14].

In Germany, the birth of the first child brings changes in gender roles among partners in parental dimensions, even among those who previously pursued relatively equal worksharing, leading to re-traditionalization among couples [15,16]. Young mothers restrict themselves to part-time or flexi-time working arrangements and combine commuting with other errands to accomplish household and family tasks [17,18]. Single mothers

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experience severe time pressure owing to the dual burden of single parenting and gainful employment [19] Mothers have relatively less pure leisure (i.e., leisure without unpaid multitasking) than fathers [20]. The gender gap is similarly pronounced in other countries (e.g., for France [21]; for Australia [10,22]; for the US [9,23].

While a large number of studies have addressed leisure quality in a gender context, understanding has remained limited for the following reasons. First, gender and travel studies on leisure widely focus on how mobility facilitates leisure activity participation [7,24] with limited findings on leisure quality. Second, in the context of understanding leisure contamination, leisure studies overemphasize the socioeconomic or job-related contexts (time pressure, working hours) [9,10,25] However, little is known about the association between mobility patterns or spatial context and leisure quality. Third, while the copresence of the partner has been seen as important for leisure quality in joint leisure activities [11,26], there is little information available about how the partner's division of work and leisure time are associated with the respondent's leisure. In addition, little is known about the effects of gendering of partner interactions on leisure quality, especially for German parents.

In this study, we analyzed leisure quality using two measures: pure leisure and contaminated leisure (with childcare multitasking during leisure) and measures constructed from the nationwide representative German Time Use Survey 2012/2013. Within the social dimension of sustainability, the study conducted gender specific analysis of leisure quality, which is an important component of well-being. First, we considered the realized temporal distribution of activities to compare the mean values of time use by individuals, subcategorized by gender (men vs. women) and household type (lone versus partnered parents). Second, the association between leisure quality and diverse factors (demographic, job, urbanity and mobility, preference and perception, gendered partner interactions) were explored. To our knowledge, this is the first contribution to the gender and mobility literature that studies pure and contaminated leisure focusing on social, spatial, and travel dimensions, time use preferences, and perceptions together with gendered partner interactions.

The rest of this article is organized as follows. In Section 2, we present an extensive review on leisure quality and concepts related to pure and contaminated leisure. Here the variables used for the regression analysis are presented with the conceptual model and research hypothesis. In Section 3, we explain the method and data analysis. This is followed by the results and discussion in Section 4. Finally, in Section 5, the paper ends with the conclusion and suggestions for future research directions.

2. Previous Research on Leisure Quality

Since the late 1970s, studies on leisure activity patterns have been complemented by research on time poverty [27,28], with Linder's [29] original work on time budget analysis shedding light on the time-poor state of working groups who have rather little leisure time despite being financially well-off. Later, the focus of time use research gradually shifted to probe leisure quality in an attempt to understand gender and family dynamics, augmenting the earlier focus on time shortage.

In their seminal work, Bittman and Wajcman [30] suggest that leisure becomes qualitatively less pure owing to contamination by or multitasking with non-leisure activities (e.g., unpaid work). Consistent with this consideration, a series of literature has examined gender differences in leisure quality by measuring contamination caused either by unpaid work or by the presence of children (e.g., leisure with unpaid work by Dunatchik and Speight [11]; Craig and Brown [10]; Mattingly and Bianchi [23]; leisure with presence of children by Flood et al. [9]; Craig and Mullan [31]; Sevilla et al. [32]). These studies together suggest that mothers have more strained and contaminated leisure than fathers due to interpersonal, social, and structural barriers that arise from socioeconomic status and household patterns.

In addition to work and family, leisure involves other dimensions (e.g., spatial context, travel behavior). In gender and mobility studies, research interest has been emerging

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in leisure activity participation in recent years [3,7,24,33–36]. The focus is primarily on studying how leisure mobility varies across gender. However, the extant literature lacks empirical evidence on how mobility patterns (e.g., trips of various purposes, travel mode choice) and the spatial environment (e.g., level of urbanity) affect leisure quality.

At the intersection of the dimensions of social and mobility context, the key focus of this study is to explore how socioeconomic, spatial context, travel attributes, time use perception, and partner interaction affect leisure quality and how this differs across groups. Leisure quality depends on various variables (Figure 1), which we explain in the following five groups presented with corresponding hypotheses.

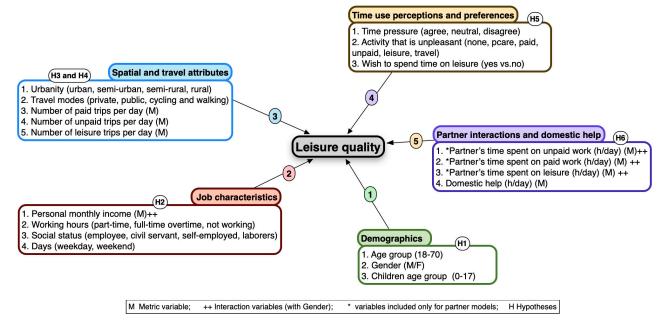


Figure 1. Variables used in the analysis. Source: Authors' compilation.

2.1. Demographics

An individual's household and sociodemographic characteristics provide both constraints and opportunities for leisure activity participation. Despite being physically active, young/middle aged people spend less time on leisure activities because of family obligations, resulting in contaminated leisure. For instance, Craig and Brown [10] identify that leisure contamination decreases with age, specifically for women. In addition, a considerable number of studies have documented that women who regularly assume family responsibilities have more contaminated leisure than men [9,31,37]. Additionally, having young children intensifies contaminated leisure [8,10].

Based on the past evidence, we investigated whether the factors middle-aged groups, female gender, and presence of young children affected pure and contaminated leisure (H1).

2.2. Job

The paradoxical situation of the income-rich and time-poor has been noted in leisure studies [38–40]. For instance, a high income provides opportunities for individuals to take part in various recreational activities, but it constrains the time available for leisure and increases leisure contamination [10]. In addition, studies suggest that working non-standard hours affects leisure time [10,41,42].

Regarding work status, self-employed individuals have more flexible working hours than those who are employed, which allows more market-oriented work to be performed during leisure periods and, thus, decreases overall time for leisure [43]. Furthermore, studies suggest childcare responsibilities decrease with an increase in income or working hours [44,45].

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Weekends are characterized by an availability of free time [46–48] but increase the amount of contaminated leisure, especially for working mothers [10].

By considering the above points, we expect that an increase in personal income, working full time or overtime, and being self-employed negatively affect pure leisure, while income and the weekend positively affect contaminated leisure (H2).

2.3. Spatial and Travel Attributes

High-density urban regions enable individuals to take part in more leisure-based physical activities due to the availability and accessibility of multifaceted facilities (e.g., green/public space, sports and recreational facilities) [49,50]. Neighborhood barriers and limited transport connectivity in rural or less dense areas constrain individuals' participation in leisure [51,52]. In addition, studies suggest that urban dwelling involves complex lifestyle and egalitarian attitudes, while living in rural or less dense areas, especially in West (as opposed to East) Germany, is characterized by male-oriented labor markets and traditional gender roles [53–56]. In line with this thought, we assume that living in less dense rural areas (versus urban) is negatively associated with contaminated leisure, but living in East (versus West) Germany is positively associated with contaminated leisure (H3).

Individuals with a daily commitment to travel for paid work or unpaid work have less free time at home [57]. In addition, travel attributes, such as number of cars and travel mode decisions, highly determine leisure activity participation. For instance, in case of one car households, individuals drive and combine trips to meet work or family demands, have less free time, and consequently, multitask childcare activities. Here, reverse causality may also apply. On that note, many studies suggest that travel is rather the outcome of activity participation [52,58]. Partners with young children make short trips to spend more time on leisure, and in addition, childcare responsibilities constrain travel [59], lead to less participation in travel [60], and reduce car use in the case of two car households [61].

Based on this line of thought, we expect that an increase in paid or unpaid trips is negatively associated with pure leisure, while driving is positively related to contaminated leisure (H4).

2.4. Time Use Perceptions and Preferences

Time use studies on leisure suggest that time pressure that stems out from role conflicts between work and family or travel demands is positively associated with having less time for leisure, leading to qualitatively less pure leisure [10,25,30,62–64]. In addition, negative perceptions (bored or stressed) of paid work, unpaid work, and travel may affect nonwork time.

Leisure activity participation has been recognized as a coping strategy to deal with work-related stress [65–67]. In particular, parents prefer leisure time to focus on desirable activities for children [9,30].

In line with the considerations of the above studies, we expect the factors: time pressure, feeling bored in paid work or unpaid work, and a desire to spend time on leisure activities may be negatively associated with pure leisure but positively associated with contaminated leisure (H5).

2.5. Partner Interaction

Intra-household interactions have been largely dealt with in terms of joint leisure activities and joint trips. For instance, studies frequently address the partner's copresence in joint leisure activities [11,26,68–71] and on joint leisure trips [72–77]. The findings of these studies suggest that a partner's copresence increases couples' bonding, wellbeing, family cohesion, and social support. In particular, women are found to be happier and more satisfied in performing traditional tasks in the presence of partners.

Beyond a partner's presence, we consider three aspects on how a partner's work sharing affects an individual's leisure quality. First, a partner's share of paid work decreases women's leisure time and overburdens them with unpaid multitasking [10]. Second,

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a partner sharing household responsibilities and care tasks may bring the additional advantage of having quality leisure time together [43]. Third, a partner's time spent on leisure activities (sports, hobbies, or media) may affect an individual's leisure time, as the individual is forced to undertake additional household responsibilities [21,78].

By considering these three aspects, we propose that a partner's time spent on paid work or leisure activities positively (or negatively) affects women's (or men's) contaminated leisure, while a partner's time spent on errands and childcare negatively affects contaminated leisure for both men and women (H6).

2.6. Summary

Overall, it can be seen that recent years have witnessed an emerging interest in leisure quality in various contexts. Whilst extensive efforts have been made to understand the social dimensions (socioeconomic, time pressure, partner's copresence) of leisure quality, less is known about spatial/mobility patterns and the gendering of partners' work-sharing, and far less about its impact on contaminated leisure (childcare multitasking) in a German context. By building upon the literature, we would like to explore how these factors affect individuals' pure and contaminated leisure and how the association varies across single and partnered households with children.

3. Method

3.1. Data

The study used a sub-sample of data from the German Time Use Survey (GTUS), conducted by the Federal Statistical Office in 2012/2013 [79]. As our study focused on the leisure quality of German parents, our subsample consisted of respondents who had children below 18 years of age. The GTUS is a cross-sectional survey, repeated every ten years after 1991/1992 and 2001/2002. The data are representative of the German population. It comprises sociodemographic variables of private households and three-day activity, travel, and mode-use patterns of all household members (aged 10 years and older). Similar to other time use surveys (e.g., UK Time Use Survey, General Social Survey for Canada, American Time User Survey for US), the respondents self-report the daily activity and travel mode (if applicable) in the activity diary for a continuous 24 h (i.e., from 4:00 a.m. to 4:00 a.m. next day) over three random days (two weekdays and one weekend day) with ten-minute intervals.

The GTUS covers a broad range of activities and various aspects such as labor market participation, household maintenance, care and services, and active and passive leisure. However, the fixed ten-minute time intervals in the activity diary lead to underreporting of shorter activities or trips (under 10 min), which is a limitation of the data.

3.2. Sample Setting

The time use diary comprises a sequence of episodes of varying lengths with a total duration of 1440 min or 24 h (or 144 time slots per day). Each time slot has information about the respondent's primary activity in seven domains (e.g., sleep, personal care, paid work, education, unpaid work, leisure, and travel), secondary activities (travel excluded), primary travel mode used, and the presence of others (with whom?). The temporal identifier in the data indicates the time start and end of each episode.

For our analysis, we included leisure as a primary activity classified into four major activities (both in-home and out-of-home): 1. volunteering (community or club engagement), 2. social visits (hosting or visiting friends or others; cultural activities such as cinema, museum, concert), 3. sports and hobbies (indoor games/sport, swimming, fitness, etc.), and 4. media usage (reading, watching TV, internet use). In addition, the secondary childcare tasks included are time spent on child hygiene, guiding or supervision, games/sports, and conversation.

Our regression analysis included respondents with children (below 18 years) with full information. This comprised 10,836 days (M:4815; W:6021) reported by 3612 respondents.

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We hypothesized that variation in family type affects leisure quality. Lone parents (widowed or separated or young, single parents) are solely responsible for income generation, labor force participation, and raising the children. Due to multiple demands, their activity patterns are less flexible and leisure engagement is minimal. Married or partnered parents have the advantage (or disadvantage) of negotiating, interacting, and sharing demands related to work-family integration. Hence, we believe that both single and partnered parents may have different leisure-activity patterns, reflecting the contamination of leisure by childcare at various levels. Hence our sample is divided for the analysis into lone or single parents (M:523; F:1729) and partnered parents (M:4292; F:4292).

3.3. Variable Sets

The outcome variables for our regression analysis are pure leisure and contaminated leisure (see Table 1 for details). We define pure leisure as time spent on leisure without multitasking. For this, we constructed three sub-variables: 1. leisure alone as primary only, 2. leisure alone as primary and secondary, 3. leisure performed with other adults.

To get deeper insights into leisure contamination, we define contaminated leisure as time spent on leisure (as primary) with childcare activity (as secondary), sub-categorized by childcare hygiene, child guidance, child in-home games, and child conversation.

The explanatory variables comprise a large range of variables that are reduced to 25 (including gender interaction) for the final analysis using the stepwise regression models and categorized in five groups, as mentioned in Section 2.

	Singles		Gender	Partners		Gender
	Male	Female	Gap (M–F)	Male	Female	Gap (M–F)
	(1)	(2)	(3)	(4)	(5)	(6)
Demographics						
^a Age group 18–30 (%)	64.42	21.03	***	1.96	3.91	***
Age group 30–45 (%)	16.54	40.90		47.93	59.81	
Age group 45–55 (%)	13.27	34.24		40.33	33.90	
Age group 55–65 (%)	2.31	2.26		8.18	2.24	
Age group 65 and above (%)	3.46	1.56		1.61	0.14	
^a Gender: $M = 0$ (%)	37.03	_		50.00	_	
F = 1 (%)	_	62.97		_	50.00	
^a Age group of youngest child: 0–3 (%)	1.73	4.87	***	16.08	16.08	
Age group of youngest child: 4–6(%)	6.35	7.53		14.86	14.86	
Age group of youngest child: 7–10 (%)	13.08	18.77		21.11	21.11	
Age group of youngest child: 11–14 (%)	39.23	39.80		31.73	31.73	
Age group of youngest child: 15–17 (%)	39.62	29.03		16.22	16.22	
Job/education						
^b Personal monthly income (€/month): m (s.d)	1404.62	1325.14		2613.39	1168.29	+ ***
reisonal monthly income (e) monthly. In (s.d.)	(1008.01)	(877.04)	+	(1189.20)	(793.01)	т
^a Working time: part-time (<34 h/week) (%)	13.85	46.12	***	7.76	62.60	***
Working time: full-time (34–48 h/week) (%)	55.58	26.94		66.73	15.52	
Working time: overtime (>48 h/week) (%)	4.62	1.04		16.57	1.47	
Working time: not working (%)	25.96	25.90		8.95	20.41	
^a Working status: employee (%)	57.40	72.32	***	43.68	68.47	***
Working status: laborer (%)	26.49	11.26		23.85	10.80	
Working status: civil servant (%)	7.01	7.04		13.59	11.15	
Working status: self-employed (%)	9.09	9.38		18.88	9.57	
^a Days of the week: weekday (Mon–Fri) (%)	65.58	64.66		64.28	64.31	
Days of the week: weekend (Sat–Sun) (%)	34.42	35.34		35.72	35.69	

Table 1. Descriptive summary of the variables.

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Table 1. Cont.

	Sing	les	Gender	Partners		Gender
	Male	Female	Gap (M–F)	Male	Female	Gap (M–F)
	(1)	(2)	(3)	(4)	(5)	(6)
Urbanity and mobility						
^a Urbanity: urban (%)	24.04	29.55	*	25.44	25.44	
Urbanity: semi-urban (%)	37.88	37.40		41.71	41.71	
Urbanity: semi-rural (%)	18.46	17.38		18.38	18.38	
Urbanity: rural (%)	19.62	15.47		14.47	14.47	
^a Region: west (%)	78.27	79.84		80.22	80.22	
Region: east (%)	21.73	20.16		19.78	19.78	
b Number of unpaid work trips per day: m (s.d)	0.51 (1.09)	1.21	***	0.80	1.42	***
Number of unpaid work trips per day. In (s.d)	0.31 (1.09)	(1.59)	_	(1.28)	(1.73)	_
b Number of paid work trips per day: m (s.d)	0.98 (1.12)	0.73	+ ***	0.96	0.61	+ ***
Number of paid work trips per day: In (s.d)	0.96 (1.12)	(1.06)	+	(1.11)	(0.98)	+
^b Number of leisure trips per day: m (s.d)	0.97 (1.34)	0.80	+ **	0.66	0.76	***
Number of leisure trips per day. In (s.d)	0.97 (1.34)	(1.21)	т	(1.13)	(1.19)	_
^b Number of cars per household: m (s.d)	1.47 (0.58)	1.05	+ ***	1.54	1.54	
Number of cars per flousefloid: in (s.d)	1.47 (0.56)	(0.65)	+	(0.57)	(0.57)	
^a Travel by car = yes (%)	63.85	59.62		68.50	68.08	
^a Travel by public transport = yes (%)	20.00	15.35	*	9.30	8.22	
^a Cycling = yes (%)	8.85	11.53		8.74	8.99	
^a Walking = yes (%)	15.19	22.13	***	14.68	20.04	***
Time use preferences and perceptions						
^a Time pressure: agree (%)	39.81	54.85	***	55.96	60.49	***
Time pressure: neutral (%)	29.42	27.05		27.60	27.17	
Time pressure: disagree (%)	30.77	18.11		16.44	12.34	
^a Activity that is unpleasant: none (%)	59.62	49.71	***	56.85	47.88	***
Activity that is unpleasant: personal care (%)	7.88	5.27		3.22	2.24	
Activity that is unpleasant: paid work (%)	9.62	4.69		11.35	4.38	
Activity that is unpleasant: unpaid work (%)	14.62	33.20		19.29	38.77	
Activity that is unpleasant: leisure (%)	2.50	2.90		3.75	2.84	
Activity that is unpleasant: travel %)	5.77	4.23		5.55	3.89	
^a Wish to spend more leisure: yes (%)	35.38	52.67	***	48.51	55.22	***
Partner interaction						
^b Domestic help (h/day): m (s.d)	0.17 (0.71)	0.15	+	0.21	0.21	
Domestic help (ii/ day). iii (s.d)	0.17 (0.71)	(1.00)	'	(0.97)	(0.97)	
^b Partner's income (€/month): m (s.d)				919.22	2374.09	***
				(850.74)	(1361.22)	
^b Partner's time spent on paid work (h/day):				2.11	4.37	***
m (s.d)				(3.13)	(4.36)	<u> </u>
b Partner's time spent on errands and shopping				3.39	1.83	+ ***
(h/day): m (s.d)				(2.20)	(1.98)	+
^b Partner's time spent on childcare (h/day): m				1.23	0.60	+ ***
(s.d)				(1.59)	(1.03)	+ """
b Partner's time spent on leisure (h/day): m				4.55	4.92	***
(s.d)				(2.40)	(2.83)	_ ***
Number of Observations(N)	523	1729		4292	4292	
Trainiber of Observations(IV)	343	1/43		7434	7434	

Note: Values in bold are significant: Standard deviation (SD) in parentheses. ^a Chi-square independence test (χ^2), ^b gender gap (2-tailed *t*-test): + Male > Female; – Female > Male. Significance: *** p < 0.001, ** p < 0.01, ** p < 0.05; na—not applicable.

3.3.1. Demographics

Individual and household demographics include three variables: age group, gender, and the age of children. We categorized the direct information on age in five age groups. Gender was included as a dummy variable. The age group of youngest child was roughly classified into daycare, preschool, elementary school, middle school, and high school children.

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3.3.2. Job

Direct information on personal monthly income was used for the analysis. The number of working hours (from the personal questionnaire) was converted into the categorical variable working time, divided into four sub-groups: part-time, full-time, over-time, and not working (Not-working groups include students, the unemployed, retired persons, those permanently unable to work, stay-at-home husbands/wives, and those with other reasons for not working). Work status was classified into four categories: employee, civil servant, laborer, and self-employed. We grouped the days of the week into weekdays and weekend. Other job characteristics, such as education, economic sector, working schedule, working in shifts, and secondary jobs, were excluded due to the lack of significant effects.

3.3.3. Spatial and Travel Attributes

The spatial context includes the level of urbanity and region. The level of urbanity, according to the Federal Agency for Building, Urban, and Spatial Research (*Bundesamt für Bau-, Stadt- und Raumforschung, BBSR*) [80], was classified into four categories in the data: urban or large cities, semi-urban, semi-rural, and rural. Regions were classified into East and West Germany.

For travel characteristics, we included details on travel modes used and the number of trips by purpose. We converted the travel modes used in a day into four separate dummy variables: 1. car, motorbike; 2. public transport; 3. cycling; and 4. walking. It is to be noted that an individual may have used several modes in one day, i.e., the modes were not mutually exclusive. Additionally, we included the total number of paid work trips, unpaid work trips (errands/shopping/childcare), and leisure trips per day. We counted trip stages rather than trips due to a lack of differentiation between trips and trip stages in time use data (In time use surveys, respondents self-report the travel modes they used for each ten-minute interval. They are not instructed on how to report trips and trip stages). Note that the average number of trip stages was low compared to travel surveys. This may have resulted from missing mode information and/or underrepresentation of short trips due to the 10-min slots in the survey instrument. Other travel variables, such as commute distance (due to non-significance) and commute time (due to multicollinearity), were excluded from the analysis.

3.3.4. Time Use Perceptions and Preferences

For time use perception, we included two variables: one on time availability, the other on unpleasant activities. For time availability, the open question in the time use survey: "How frequently do you feel time pressure?" captured the subjective feeling of the respondents being rushed or stressed due to time constraints. For unpleasant activities, the question: "Of all entries you made in the diary today: what was unpleasant?" captured the subjective unpleasant feelings of the respondents about an activity. The unpleasant activities were then grouped as personal care, job/education, unpaid work, leisure, and travel. If no such activity was mentioned, then it was grouped under none.

For the preferences, we generated a variable preference for leisure activities from the open question: "Which activity do you wish you had more time for?" This variable provided direct information about respondents' preferences about leisure versus none (if other activities were preferred).

3.3.5. Domestic Help and Partner Interaction

For domestic help (Domestic help refers to other members in the household who help respondents with errands, household tasks, cooking, and childcare. They may be either paid (e.g., housekeeper, nanny, maid) or unpaid (e.g., friend, neighbor, relative)), we combined direct information on the time spent by the unpaid help and the time spent by the paid help on the respondent's unpaid tasks (e.g., childcare, shopping, errands, family care).

The partner effect was explored by including the variables that represent the partner's responsibilities, such as partner's time spent on paid work (primary job) and partner's

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time spent on unpaid work (shopping and errands, childcare, and leisure). To test the gendering of partnered interactions, we created gender interaction variables for all the partner variables. The partner's income in various forms (categories, continuous scale) was tested and excluded due to its strong correlation with individual monthly income.

3.4. Descriptive Analysis and Modelling Approach

The descriptive analysis was performed to explore gender differences among single and partnered parents. We tested the gender differences using independent sample *t*-tests, paired sample *t*-tests, and chi-square independence tests. Then, we employed a series of regression models to examine the association between pure (also contaminated) leisure and the explanatory variables listed in Table 1. We added six models: all, single and partnered parents for the same sample, to further understanding of the interindividual difference and group differences (single vs. partners) in the association between the various factors and leisure quality. For partner models, we included the partner variables with gender interaction to examine if the gendering of partner variables influenced respondents' pure and contaminated leisure.

Due to the repeated observations (days) for each respondent, the regression analysis addressed the problem of clustering of observations and correlation of error by observation unit. We treated the personal identification number as the clustering variable. We checked for multicollinearity among independent variables using the variance inflation factor (VIF). All independent variables included in the model fulfilled the measurement criteria as the mean VIF values of all variables was 2.46 and maximum VIF was 6, which was less than the maximum threshold value of 10 [81]. We calculated the following statistics to assess the better fit model: statistics for all models (Akaike information criterion and Bayesian information criterion). We checked the cross validity of the models using the values of adjusted R2.

4. Results

4.1. Descriptive Summary of the Variables

Table 1 summarizes the basic descriptive information for all variables included in the analysis. The mean and proportions of variables are reported separately for four subgroups: single men (1), single women (2), partnered men (4), and partnered women (5).

Concerning socioeconomic attributes, partnered respondents have a larger gender gap in monthly income (£1455 difference) than singles (£80 difference). Based on working time, men are more often full-time workers than women, while women are more often part-time workers than men. It is noteworthy that single women have higher incomes and more often have full-time jobs than partnered women (27% vs. 16%), while for men, it is the other way round (67% vs. 56%). Regarding working status, women (across groups) predominantly work as employees (nearly 70%).

Women, on average, made more unpaid work trips per day than men, with partnered women undertaking the most unpaid trips (1.42 trips per day), while men (single men) undertook more paid work trips (0.98 trips per day) than women. This is in line with many studies [82–84]. Notably, the gender gap in leisure trips mostly favored partnered women (0.76 trips per day), whereas for singles, it favored single men (0.97 trips per day).

Compared to singles, partnered respondents drove more and traveled less by other modes, such as public transport, cycling, and walking. When traveling by public transport and walking, singles had a significant gender gap, where men used public transport more than women (20% vs. 15%) and women walked more than men (22% vs. 15%). Partnered women did more walking (20% vs. 15%) than partnered men.

Women across households perceived more time pressure than men (singles: 55% vs. 40%; partners: 60% vs. 56%). Likewise, they preferred to spend more time on leisure activities. The unpleasant activity category shows that nearly half of the respondents did not report any activity across the groups. Within reported activities, we observed that both men and women reported unpaid work as the most unpleasant activity, and women

dominated men in both groups. Also, men across groups reported more unpleasantness related to paid and travel activity than women.

As expected, the partners of male respondents had less income, fewer working and leisure hours, and they spent more time on unpaid work (errands, shopping, childcare, and family care) and leisure activities than the partners of female respondents.

4.2. Activity Patterns and Leisure

Table 2 reports the mean time spent on activities throughout the day for four subgroups: single men (1), single women (2), partnered men (4), and partnered women (5). Here, we grouped activities in seven categories: sleep, personal care, job or paid work, education, unpaid work (errands, shopping, child and family care), leisure (voluntary, social, hobby, media), and travel. Across groups, women, on average, spent more time on personal care and unpaid work activities than men, while men spent more time on productive, travel, and leisure-based activities than women, which is in line with many research findings [23,85,86].

Table 2. Mean time spent on activities (h/day).

	Single		Gender	Partners		Gender
Variables	Male	Female	Gap (M–F)	Male	Female	Gap (M–F
	(1)	(2)	(3)	(4)	(5)	(6)
Number of observations	523	1729		4292	4292	
Sleep (h/day)	8.48 (2.36)	8.49 (1.93)	_	8.07 (1.82)	8.25 (1.65)	_ ***
2. Personal care (h/day)	2.26 (1.26)	2.51 (1.14)	***	2.43 (1.11)	2.60 (1.13)	_ ***
3. Paid work (h/day)	3.47 (4.15)	2.33 (3.33)	+ ***	4.37 (4.37)	2.11 (3.13)	+ ***
4. Education (h/day)	0.74 (2.01)	0.38 (1.39)	+ ***	0.07 (0.68)	0.08 (0.63)	+
5. <i>Unpaid work total</i> (h/day)	1.68 (2.04)	3.90 (2.62)	_ ***	2.73 (2.36)	5.03 (2.68)	***
Errands (h/day)	0.93 (1.50)	2.17 (1.86)	***	1.38 (1.71)	2.71 (1.98)	_ ***
Shopping (h/day)	0.36 (0.77)	0.63 (0.94)	_ ***	0.45 (0.87)	0.68 (0.96)	_ ***
_ Childcare (h/day)	0.18 (0.65)	0.75 (1.28)	_ ***	0.60 (1.03)	1.23 (1.59)	_ ***
Family care (h/day)	0.21 (0.50)	0.34 (0.65)	_ ***	0.30 (0.67)	0.42 (0.77)	_ ***
6. Leisure total (h/day)	5.88 (3.26)	4.95 (2.68)	+ ***	4.92 (2.83)	4.55 (2.40)	+ ***
Voluntary (h/day)	0.22 (0.83)	0.19(0.69)	+	0.24(0.91)	0.21(0.76)	+
Social (h/day)	1.92 (2.65)	1.66 (2.00)	+ *	1.37 (1.91)	1.50 (1.82)	_ **
Hobby (h/day)	1.19 (1.88)	0.61 (1.17)	+ ***	0.68 (1.27)	0.60 (1.07)	+ ***
Media use (h/day)	2.55 (2.26)	2.49 (1.97)	+	2.62 (2.06)	2.25 (1.68)	+ ***
5.1 Pure leisure total (alone or with other adults) (h/day)	3.26 (2.84)	2.80 (2.35)	+ ***	3.37 (2.56)	2.93 (2.21)	+ ***
Leisure (alone) as primary with no secondary task (h/day)	1.76 (2.07)	1.56 (1.70)	+	1.18 (1.54)	0.89 (1.16)	+ ***
Leisure (alone) as primary and as secondary (h/day)	0.50 (1.13)	0.36 (0.85)	+ *	0.19 (0.53)	0.16 (0.45)	+ **
Leisure with other adults (h/day)	1.00 (1.87)	0.88 (1.55)	+	2.01 (2.07)	1.89 (1.91)	+ **
6.2 Contaminated leisure (leisure as primary with childcare as secondary) (h/day)	0.03 (0.20)	0.21 (0.68)	***	0.16 (0.59)	0.22 (0.64)	***
Hygiene (h/day)	0.00 (0.04)	0.05 (0.31)	— ***	0.03 (0.23)	0.07 (0.34)	_ ***
Guidance (h/day)	0.00 (0.02)	0.00 (0.03)	_	0.00 (0.03)	0.00 (0.04)	_
In-home sports (h/day)	0.01 (0.15)	0.01 (0.17)	_	0.02 (0.19)	0.03 (0.22)	_
Conversation (h/day)	0.02 (0.13)	0.15 (0.57)	***	0.11 (0.50)	0.12 (0.50)	_
6.3 Contaminated leisure: leisure as primary with other unpaid work as secondary (household, shopping, and family) (h/day)	0.03 (0.17)	0.13 (0.44)	***	0.04 (0.22)	0.10 (0.37)	***
7. Travel (h/day)	1.71 (1.39)	1.65 (1.35)	+	1.62 (1.42)	1.60 (1.28)	+

Note: Values in bold are significant: SD in parentheses. Significance: *** p < 0.001, ** p < 0.01, * p < 0.05 gender gap (2-tailed t-test): + Male > Female; — Female > Male.

Within leisure sub-groups, the gender gap was stronger for singles, favoring men. The gap was similar for partners, except for social activities, where women undertook more social activities than men, which is in line with many studies in the German context [87–89].

Concerning pure leisure, as expected, men across groups spent more time on leisure alone (as primary/secondary) and adult leisure (with other adults) than women, and the gap was significant. In contrast, women across groups spent more time on contaminated leisure (i.e., leisure as primary with childcare or other unpaid work as secondary) than men. Within the sub-groups of childcare (as a secondary activity during leisure), it should be noted that women across groups reported more time in activities such as conversation with kids and child hygiene than men.

Between groups (These inter-group comparisons between singles and partnered respondents are based on our descriptive inspection.), partnered respondents spent more time on unpaid work (as primary) and less time on sleep, education, and leisure than single respondents. This is because partnered respondents offset some of their free time for work and family, as suggested by Nomaguchi and Bianchi [90]. Looking deeper, it can be noted that, on average, partnered women spent nearly five hours every day on housework, including raising children and housekeeping, while partnered men spend slightly closer to three hours a day on the same activities, which is in line with the findings of many studies in Germany [91–93]. Third, within pure leisure, partners spent less time on leisure alone and more time on adult leisure than singles. It is to be noted that the single men spent relatively less time on multitasking hygiene and conversation when compared to partnered men, while women across groups had a similar load of contaminated leisure.

Overall, the results suggest that the activity patterns of partnered women revolve around spouse, children, family, and job. Furthermore, partnered men are also more engaged with work and family obligations, such as childcare and family care activities, than single men. In contrast, single men spend more time on improving their qualifications through education-related activities and discretionary activities, such as social networking, voluntary activities, and media. The gender gap in contaminated leisure is smaller for partners than for singles, but their sum of contaminated leisure is still larger than among male/female singles.

To summarize, the descriptive analysis establishes an understanding of how the gender gap is pronounced in resources and activity patterns between singles and within partnered parents. Findings suggest that men and women across groups exhibit traditional labor characteristics; where men mostly work longer hours, earn more, make more paid trips, and enjoy more pure leisure and less contaminated leisure, women spend more time on primary unpaid care work, errands, and shopping; perform more unpaid work; and have more contaminated but less pure leisure. To reiterate the descriptive findings, we performed a regression analysis to explore the effects of diverse factors on pure and contaminated leisure across single and partnered respondents.

4.3. Regression Analysis

We estimated six models (Table 3) to assess pure and contaminated leisure across single and partnered respondents with children with an adjusted R2 range from 0.352 to 0.037. For pure leisure, the model explains partnered respondents better than singles, while for contaminated leisure, the model fits the data better for singles than for partners.

Table 3. Regression analysis—Pure (PL) and contaminated leisure (CL) for single and partnered respondents.

PI		(1)	(2)	(3)	(4)	(5)	(6)
Coef. Coef. Coef. Coef. Coef. Coef. Coef. Coef. Coef.							
1. Age group (ref. 30-45)							
18-30	1. Age group (ref: 30–45)					Coci.	
2. Gender (ref. Male) Female Partier P	18–30						
2. Gender (ref. Male)							
Semilar Semi							
4-6 0.26*** 0.37 0.33**** -0.09*** -0.36*** -0.09*** -0.30**** -0.09*** -0.09*** -0.01*** -0.01*** -0.01*** -0.01*** -0.02*** -0.03*** -0.02*** -0.03**		-0.88 ***	-0.48 ***	-0.71 ***	0.07 ***	0.09 *	-0.10 ⁺
	3. Age group of youngest child (ref: 0–3)	0.000 444	0.07	0.00 ***	0.00 444	0.00 444	0.00 **
11-14 1.81*** 1.29*** 2.10*** -0.21*** -0.32*** -0.21** -0.21** -							
4. Monthly income (€)	11–14	1.81 ***	1.53 ***	1.91 ***	-0.15 ***	-0.39 ***	-0.14***
S. Working time (ref: part-time: 24 hf /week)							
Full-time (34-18 h/week)		0.00	0.03	-0.03	0.02 **	0.03	0.02 +
Over-time x 8 h / week Not working 0.26*** 0.73** 0.73** 0.00*		_0 26 ***	_0.07	_0 30 ***	_0.03	_0.05	_0.01
Notworking 0.26*** 0.50** 0.13 0.04* 0.02 0.04							
September Court	Not working	0.26 ***	0.50 **	0.13	0.04 *	0.02	0.04
Civil servant -0.08 0.20 -0.03 0.01 0.05 0.01		0.01	0.02	0.05	0.00 ***	0.12 **	0.00 ***
Self-employed -0.32 *** 0.13 -0.32 *** 0.01 0.05 0.01							
New	self-employed	-0.32 ***	0.13	-0.32 ***	0.01	0.05	0.01
8. Urbanity level (ref: Urban) Semi-urban Se	7. Days of week (ref: weekdays—Mon–Fri)						
Semi-turban C.0.44 C.0.55 C.0.12 C.0.03* C.0.06* C.0.01* C.0	weekend—Sat-Sun	0.62 ***	0.55 ***	0.35 ***	0.04 **	0.056 +	0.01
Semi-rural Rural Rural Rural Rural 0.03 0.31 0.07 0.07 0.02 0.08 0.07 0.07 0.00							
Rural -0.05 0.11 0.00 -0.05* -0.08* -0.07**							
East -0.01 -0.04 0.09 0.05 ** -0.01 0.05 *							
East -0.01 -0.04 0.09 0.05 ** -0.01 0.05 *	9. Region (ref: West)						
11. Number of paid work trips -0.42 *** -0.35 *** -0.40 *** -0.05 *** -0.04 * -0.04 *** 12. Number of leisure trips 0.03 -0.16 *** 0.04 * 0.01 * 0.01 0.00 13. Number of cars -0.09 * -0.11 -0.20 *** -0.05 *** -0.03 -0.03 * 14. car = yes -0.33 *** -0.48 *** -0.23 *** 0.03 -0.02 0.04 * 15. Public transport = yes -0.60 *** -0.60 *** -0.55 *** -0.07 *** -0.06 -0.06 * 16. Cycle = yes -0.18 * -0.31 * -0.09 0.00 -0.00 0.01 17. Walk = yes 0.00 -0.03 -0.01 0.02 0.00 0.03 18. Time pressure: neutral agree disagree 0.27 *** 0.52 *** 0.17 * 0.02 0.04 0.02 19. Activity that is unpleasant (ref: none) Personal care Paid work -0.02 0.04 * 0.02 0.06 * 19. Activity that is unpleasant (ref: none) Personal care -0.12 -0.36 * -0.23 ** -0.02 0.04 -0.02 0.06 * 19. Activity that is unpleasant (ref: none) Paid work -0.04 -0.01 -0.03 0.01 0.02 0.01 Leisure 0.46 ** 0.61 * 0.28 * 0.02 0.04 -0.02 0.01 Leisure 0.46 ** 0.61 * 0.28 * 0.02 0.08 0.03 Tavel 0.26 ** -0.04 -0.20 * -0.00 -0.06 0.05 20. Wish to spend more time on leisure (=yes) -0.14 ** -0.12 -0.15 ** 0.02 -0.07 * 0.04 * 21. Domestic help (h/day) 0.00 0.00 0.03 -0.01 * -0.01 -0.02 * 22. Partner's time spent on paid work (h/day) -0.02 * -0.00 * -0.01 * Female * partner's time spent on errands (h/day) 0.00 0.04 * -0.02 * 24. Partner's time spent on crildcare (h/day) 0.04 * -0.01 * Female * partner's time spent on childcare (h/day) 0.04 * -0.02 **		-0.01	-0.04	0.09	0.05 **	-0.01	
12. Number of leisure trips 0.03 -0.16 *** 0.04 * 0.01 * 0.00 0.00 13. Number of cars -0.09 * -0.11 -0.20 *** -0.05 *** -0.03 -0.03 * 14. car = yes -0.33 *** -0.48 *** -0.23 *** 0.03 -0.02 0.04 * 15. Public transport = yes -0.60 *** -0.60 *** -0.55 *** -0.07 *** -0.06 -0.06 * 16. Cycle = yes -0.18 * -0.31 * -0.09 0.00 -0.00 0.01 17. Walk = yes 0.00 -0.03 -0.01 0.02 0.00 0.03 18. Time pressure: neutral agree disagree of large of large disagree of large of larg	10. Number of unpaid work trips	-0.02	-0.03	0.00	-0.01 **	-0.020 ⁺	-0.01 *
13. Number of cars	11. Number of paid work trips	-0.42 ***	-0.35 ***	-0.40 ***	-0.05 ***	-0.04 *	-0.04 ***
14. car = yes	12. Number of leisure trips	0.03	-0.16 ***		0.01 +	0.01	
15. Public transport = yes	13. Number of cars	-0.09 *	-0.11	-0.20 ***	-0.05 ***	-0.03	-0.03 *
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	-	-0.33 ***	-0.48 ***	-0.23 ***	0.03	-0.02	
17. Walk = yes 0.00 -0.03 -0.01 0.02 0.00 0.03 18. Time pressure: neutral agree disagree disagree value of valu	15. Public transport = yes	-0.60 ***	-0.60 ***	-0.55 ***	-0.07 ***	-0.06	-0.06 *
18. Time pressure: neutral agree disagree disagree disagree disagree disagree disagree disagree disagree disagree 0.27 *** 0.52 *** 0.17 * 0.04 * 0.02 0.06 * 0.06 * 0.27 *** 0.52 *** 0.17 * 0.04 * 0.02 0.06 * 0.06 * 0.27 *** 0.52 *** 0.17 * 0.04 * 0.04 * 0.02 0.06 * 0.06 * 0.27 *** 0.27 *** 0.01 * 0.01 * 0.02 0.06 * 0.06 * 0.05 * 0.02 0.04 * 0.02 0.06 * 0.05 * 0.03 ** 0.03 ** 0.01 0.02 0.01 * 0.02 0.01 * 0.02 0.01 * 0.02 0.01 * 0.02 0.01 * 0.02 0.03 * 0.03 * 0.01 0.02 0.03 * 0.03 * 0.02 0.08 0.03 * 0.03 * 0.02 0.06 * 0.05	16. Cycle = yes	-0.18 *	-0.31 ⁺	-0.09	0.00	-0.00	0.01
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	17. Walk = yes	0.00	-0.03	-0.01	0.02	0.00	0.03
19. Activity that is unpleasant (ref: none) Personal care Paid work -0.03 -0.01 -0.03 -0.01 -0.01 Paid work -0.30^{***} -0.03^{***} -0.03^{**} -0.03^{**} -0.02 0.04 -0.02 0.04 -0.02 -0.01 -0.03 0.01 -0.02 0.04 -0.02 -0.03 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.03 0.01 0.02 0.03	18. Time pressure: neutral	0.00 ***	0.06 *	0.01 ***	0.02	0.04	0.02
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	agree disagree						
Personal care Paid work -0.30^{***} -0.36^{+} -0.23^{**} -0.02 0.01 -0.01 Paid work -0.04 -0.01 -0.01 -0.03 0.01 0.02 0.04 -0.02 Unpaid work -0.04 -0.01 -0.03 0.01 0.02 0.04 -0.03 0.01 0.02 0.01 Leisure 0.46^{***} 0.61^{**} 0.28^{**} 0.02 0.08 0.03 Travel -0.26^{**} -0.04 -0.02^{+} -0.00 -0.06 0.05 0.05 0.05 0.05 Partner's time on leisure (=yes) 0.01 0.00 0.00 0.03 0.01 0.00 0.04^{**} 0.04 0.00 0.03 0.01 0.00 0.03 0.01 0.00 0.0							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Personal care	-0.12					
Leisure Travel 0.46^{***} 0.61^{*} 0.28^{*} 0.02 0.08 0.03 0.05 20. Wish to spend more time on leisure (=yes) -0.14^{**} -0.12 -0.15^{**} 0.02 -0.07^{*} 0.04^{*} 21. Domestic help (h/day) 0.00 0.00 0.03 -0.01^{*} -0.01 -0.02^{*} 22. Partner's time spent on paid work (h/day) 0.00 0.03							
Travel $-0.26**$ -0.04 -0.20^+ -0.00 -0.06 0.05 20. Wish to spend more time on leisure (=yes) $-0.14**$ -0.12 $-0.15**$ 0.02 $-0.07*$ $0.04*$ 21. Domestic help (h/day) 0.00 0.03 $-0.01*$ -0.01 $-0.02*$ 22. Partner's time spent on paid work (h/day) $-0.02*$ $-0.02*$ -0.00 Female * partner's time spent on errands (h/day) -0.02 $-0.01*$ 23. Partner's time spent on errands (h/day) -0.02 $-0.01*$ Female * partner's time spent on errands (h/day) 0.00 0.00 24. Partner's time spent on childcare (h/day) $0.04*$ $-0.01*$ Female * partner's time spent on childcare (h/day) $-0.01*$							
21. Domestic help (h/day) 0.00 0.00 0.03 -0.01* -0.01 -0.02* 22. Partner's time spent on paid work (h/day) -0.02* Female * partner's time spent on paid work (h/day) 0.03 + 0.02*** 23. Partner's time spent on errands (h/day) -0.02 -0.01* Female * partner's time spent on errands (h/day) 0.00 0.01 24. Partner's time spent on childcare (h/day) 0.04 + -0.01 Female * partner's time spent on childcare (h/day) 0.03 * 0.03 *		-0.26 **					
22. Partner's time spent on paid work (h/day) $-0.02*$ -0.00 Female * partner's time spent on paid work (h/day) $0.03*$ $0.02***$ 23. Partner's time spent on errands (h/day) -0.02 $-0.01*$ Female * partner's time spent on errands (h/day) 0.00 0.01 24. Partner's time spent on childcare (h/day) $0.04*$ $-0.01*$ Female * partner's time spent on childcare (h/day) $0.04*$ $-0.03*$	20. Wish to spend more time on leisure (=yes)	-0.14 **	-0.12	-0.15 **	0.02	-0.07 *	0.04 *
Female * partner's time spent on paid work (h/day) 23. Partner's time spent on errands (h/day) Female * partner's time spent on errands (h/day) 24. Partner's time spent on childcare (h/day) Female * partner's time spent on childcare (h/day) 70.00 10.01 10.02 *** 10.02 *** 10.01 10.01 10.01 10.01 10.03 * 10.03 *	21. Domestic help (h/day)	0.00	0.00	0.03	-0.01 *	-0.01	-0.02 *
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	22. Partner's time spent on paid work (h/day)			-0.02 *			-0.00
Female * partner's time spent on errands (h/day) 24. Partner's time spent on childcare (h/day) Female * partner's time spent on childcare (h/day) 0.00 0.01 -0.01 Female * partner's time spent on childcare (h/day) 0.03 *				0.03 +			0.02 ***
24. Partner's time spent on childcare (h/day) Female * partner's time spent on childcare (h/day) -0.01 -0.01 -0.03 *	23. Partner's time spent on errands (h/day)			-0.02			-0.01 *
Female * partner's time spent on childcare (h/day) -0.12 ** 0.03 *	Female * partner's time spent on errands (h/day)			0.00			0.01
(h/day)	24. Partner's time spent on childcare (h/day)			0.04 +			-0.01
				-0.12 **			0.03 *
-0. I artiful a different of the following from the first of the following from the follo	25. Partner's time spent on leisure (h/day)			0.25 ***			0.02 ***

(1)	(2)	(3)	(4)	(5)	(6)
PL All	PL Singles	PL Partners	CL All	CL Singles	CL Partners
Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
		-0.07 ***			-0.00
3.48 ***	2.82 ***	2.71 ***	0.30 ***	0.65 ***	0.22 ***
0.260	0.183	0.352	0.037	0.070	0.040
45592.41	9752.42	31831.90	19250.73	3891.60	13811.44
45875.83	9974.16	32158.13	19534.15	4113.35	14137.67
10584	2177	7639	10584	2177	7639
	PL All Coef. 3.48 *** 0.260 45592.41 45875.83	PL Singles Coef. Coef. 3.48 *** 2.82 *** 0.260 0.183 45592.41 9752.42 45875.83 9974.16	PL All PL Singles PL Partners Coef. Coef. Coef. -0.07 *** -0.07 *** 3.48 *** 2.82 *** 2.71 *** 0.260 0.183 0.352 45592.41 9752.42 31831.90 45875.83 9974.16 32158.13	PL All PL Singles PL Partners CL All Coef. Coef. Coef. Coef. -0.07 *** 3.48 *** 2.82 *** 2.71 *** 0.30 *** 0.260 0.183 0.352 0.037 45592.41 9752.42 31831.90 19250.73 45875.83 9974.16 32158.13 19534.15	PL All PL Singles PL Partners CL All Singles CL Singles Coef. Coef. Coef. Coef. Coef. -0.07 *** 3.48 *** 2.82 *** 2.71 *** 0.30 *** 0.65 *** 0.260 0.183 0.352 0.037 0.070 45592.41 9752.42 31831.90 19250.73 3891.60 45875.83 9974.16 32158.13 19534.15 4113.35

Table 3. Cont.

Note: Values in bold are significant. Significance: *** p < 0.001, ** p < 0.01, * p < 0.05, + p < 0.1; Source: own.

4.3.1. Interindividual Differences

Pure leisure increased with age while contaminated leisure decreased. Additionally, female gender and having young children (0–3) negatively affected pure leisure but positively affected contaminated leisure (in line with H1) (see Table 3, Model 1, and Model 4).

Monthly income was positively associated with contaminated leisure (matches H2), which may suggest that higher income groups perform multitasking as a coping strategy.

Full time work (or overtime) had a more negative effect on both pure and contaminated leisure (in line with H2). This indicates that individuals with long working hours may possibly spend less time at home and decrease their overall participation in leisure, as suggested by Craig and Brown [10].

Being self-employed was negatively related to pure leisure (in line with H2). This suggests that the sporadic work routines and working hour flexibility of self-employed individuals allow them to perform market work at the expense of leisure time, in line with many studies [43,94]. Also, being a laborer was positively related to contaminated leisure. Furthermore, on weekends, individuals had more contaminated leisure than on weekdays, similar to the findings of Craig and Brown [10].

Significant changes were related to the spatial environment. Living in less dense areas (rural districts) compared to large urban cities was negatively associated with contaminated leisure, which is in line with H3. This possibly suggests the individuals living in less dense areas face less time constraints, leading to less contamination.

Travel attributes, such as number of paid work trips, number of cars per household, and travel by public transport, were negatively associated with pure and contaminated leisure as well (in line with H4). These findings suggest traveling increases participation in various activities to cater for work–family demands, leaving less time for pure leisure (also contamination). However, reverse causality may also be true because the association does not clarify whether traveling leads to reduced leisure or whether individuals with free time (for instance, free evenings after work or free weekends spent engaging in passive, social leisure) travel less.

In line with H5, individuals who experienced (or did not experience) time pressure had less (or more) pure leisure than those who had neutral responses. Feelings of unpleasantness in connection to paid work or travel (as opposed to leisure) had a negative association with pure leisure. In addition, wishing to spend time on leisure activities was negatively correlated with pure leisure (matches H5). It is to be noted that time pressure, preference and perception variables had no strong association with contaminated leisure.

Having domestic help in the household was negatively related to respondents' contaminated leisure. This is perhaps because domestic help may reduce parents' burdens by partly undertaking childcare responsibilities, as suggested by many studies [45,95].

4.3.2. Group Differences—Singles vs. Partners

Here, we discuss important differences between single and partnered respondents below (see Table 3 for Models 2–3 and 5–6).

Older singles (65 and above) had more pure leisure than middle-aged adults, while young partners (18–30) had more contaminated leisure. Being of female gender increased contaminated leisure for singles, but the effect was weak and insignificant for partners.

Working overtime or full time (versus part time) decreased pure leisure for partners, while for singles it remained not significant. For partners, being self-employed (as opposed to an employee) decreased pure leisure.

Living in rural areas was negatively associated with contaminated leisure for both singles and partners, while living in East Germany (vs. West) was positively associated with contaminated leisure for partners. It is possible that the more egalitarian gender norms within partnerships, such as low gender wage gap and equal division of paid work in East (compared to more traditional views in West) Germany, increased the contamination of leisure.

An increase in leisure trips was negatively associated with pure leisure for singles, while it was positively associated with partners' pure leisure. Driving (but not the number of cars) was positively related to contaminated leisure for partners.

Partnered respondents (also singles) who agreed that they experience time pressure (versus neutral) had less pure leisure, while those who disagreed had more contaminated leisure. Having negative feelings related to paid work or travel was negatively associated with pure leisure for partners. Additionally, the desire to spend time on leisure was negatively related to pure leisure for partners, while it was positively associated with their contaminated leisure.

Regarding partner interaction, the partner's time spent on paid work was negatively associated with the men's pure leisure, while it was positively associated with women's contaminated leisure (partly in line with H6). An increase in a partner's leisure was positively associated with both men's and women's pure leisure and contaminated leisure (contradicts H6).

A partner's time spent on childcare was negatively associated with women's pure leisure and positively associated with their contaminated leisure (contradicts H6). In addition, a partner's time spent on errands and shopping was negatively associated with men's (but not women's) contaminated leisure (partly in line with H6).

5. Conclusions

The study explored the leisure quality of single and partnered parents using the cross-sectional time use diaries from GTUS. To our knowledge, this is the first contribution to the gender and mobility literature that studies pure and contaminated leisure focusing on social, spatial, and travel dimensions, time use preferences, and perceptions, together with gendered partner interaction. We summarize the findings in the following.

First, the findings on sociodemographic measures suggest that young partners (18–30), single mothers, parents with young children, and laborers (singles) are the vulnerable groups who have less pure leisure but more contaminated leisure. Working overtime has a negative effect on pure leisure for partnered respondents. Other job characteristics do not sufficiently explain contaminated leisure. These findings support the notion of time poverty preventing participation in leisure at home, as pointed out by Craig and Brown [10].

Second, the spatial effects on leisure quality indicate the household pattern within partnerships. For instance, partners from less dense areas follow a traditional and homecentered household structure (as opposed to egalitarian attitudes in very dense urban areas) and may have less contamination of leisure, while the egalitarian pattern followed in East (as opposed to West) Germany allows for more contamination of leisure through childcare. However, these findings must be interpreted with caution as the constraints or opportunities in residential areas or in regions are rather the outcome of residential self-selection processes, as suggested by Elldér [96].

Third, in the mobility context, travel attributes (travel by public transport and paid trips, but not driving) are negatively associated with both pure and contaminated leisure. This may suggest that travelling by public transport and paid trips do not allow juggling

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of activities due to limited flexibility, while driving may enable childcare multitasking as it allows parents to take part in multiple out-of-home leisure activities with children, e.g., sports, theatres, visiting museums, or cultural activities. Caution is required owing to a possible reciprocal association, as it is not clear if parents' leisure with children increases driving and decreases purpose-based trips. In addition, engaging in leisure trips increases the pure leisure of partnered respondents, but not for singles, which perhaps suggests this involves partners spending quality time together for leisure activity participation.

Fourth, the negative association between subjective negative feelings and pure leisure indicates that individuals feeling under time pressure and experiencing unpleasant paid work/travel and a desire for leisure are those who are deprived of leisure time. Such an association is observed when both parents work. This may affect individual and family wellbeing, as pointed out by Mullens and Glorieux [62]. It should be noted that preference and perception do not fully explain contaminated leisure for either partners or singles.

Finally, partner interactions on leisure quality suggest traditional gender roles within partnerships. Women are overburdened with childcare multitasking during leisure, despite their partners' contributions to childcare or errands, which is in line with recent findings in Germany [97]. Additionally, a partner's working hours positively affect women's contaminated leisure, as pointed out by Craig and Brown [10]. This perhaps suggests gender role strain within partnerships. However, on the other hand, a partner's working hours decrease men's pure leisure, while a partner's leisure hours increase men's pure and contaminated leisure. This reveals the egalitarian intra-household relations within couples who not only share the work demand but also enjoy joint leisure together. In addition, this suggests coping strategies to manage childcare responsibilities, as suggested by Dunatchik and Speight [11].

Taken overall, our study reveals the activity patterns of single and partnered parents (especially mothers). Single mothers work longer and earn more than partnered mothers, and so they have stressful and contaminated leisure, indicating their lack of time and role conflict between work and childcare obligations, as pointed out by Reimann et al. [98] and Zagel and Hübgen [99]. In the light of partner involvement in childcare, mothers still spend considerable time on contaminated leisure, despite their partner's contribution to childcare. Moreover, our descriptive analysis shows that, during leisure, mothers spend time on certain childcare tasks, such as hygiene and conversation, suggesting their emotional attachment with children. Additionally, the spatial context (residential and regional differences) and the travel patterns strongly affect leisure contamination for partners. This finding provides evidence for policy makers involved in urban planning to ensure urban and regional mobility for family leisure.

From a policy perspective, the spatial planning policies in Germany promote tourism, leisure, and recreation to facilitate the socio-spatial relations not only at national level but also at regional or local level (e.g., the spatial planning policy guidelines in 2006 [100]). In addition, many welfare and labor market policies in Germany foster gender fairness and work-family integration (BMFSFJ [101]. To name a few: the parental leave policy (introduced in 2007) that allows new parents to stay at home for up to three years, monetary incentives for new parents (Elterngeld, Erziehungsgeld, see Blum et al. [102], and the Act to Support Children (of 2008) providing daycare facilities for children below the age of three. These policies not only enable women to re-enter (or balance) work after a maternity break, but also allow fathers to spend time with children during 'daddy months'. However, in certain contexts, Germany still adheres to the conservative regime, for instance, with limited public childcare, restrictions in opening hours/places in childcare facilities, limited or non-existent after-school care for children, joint tax policies, differences in the insurance system, and the blending of paid work and family penalizing married women [103]. In addition, the family-oriented policies do not meet the demands of single parents. Even though eligible for social help (Sozialhilfe), single parents are prone to poverty due to their disadvantaged socioeconomic wellbeing in the labor market, as pointed out by recent

studies [104,105]. Hence, there is a need to reconsider the welfare regimes to reduce the childcare burden for the wellbeing of both partnered and single mothers.

While this study yields important findings, there are still limitations to this research. First, for certain variables (trips, mode choice, perceptions), we cannot determine the direction of causality in effects. For instance, this refers to mode choices and trip numbers and feelings of time pressure. Additionally, the perception of travel safety and security may affect the overall perceived travel quality and, in turn, the leisure quality [106]. Longitudinal studies on leisure quality could probably solve the problem of causal sequence. Second, methodologically, the regression analysis cannot control for unmeasured factors (other mobility attributes); we, therefore, cannot be sure if the associations are influenced by any third variable. Third, the study does not include the spatial segmentation or fragmentation of leisure by childcare due to a lack of data on location. Finally, our data do not provide information about preferences on multitasking, home office, home schooling, or the provision of nearby childcare services, which would provide deeper insights into leisure quality. Future research could investigate these limitations to expand further on leisure quality.

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