Sergey A. Korotaev, Elena N. Gasiukova,
Ovsey I. Shkaratan, Elena N. Danilova

THE ROLE OF SPATIAL TRAJECTORY IN LEISURE PARTICIPATION

Sergey A. Korotaev[1], Elena N. Gasiukova[2],
Ovsey I. Shkaratan [3], Elena N. Danilova[4]

THE ROLE OF SPATIAL TRAJECTORY IN LEISURE PARTICIPATION[5]

There are a number of studies in the literature investigating the relationship between leisure participation and place of residence. However, scant attention has been given to the impact of the spatial trajectory – or relocating – on individuals' leisure activities. The authors of this paper attempt to close this gap by examining spatial mobility as an instance of social mobility. The empirical analysis draws upon data from the 2016 Russian Longitudinal Monitoring Survey, the sample includes 9251 respondents. The leisure participation variable was obtained through the cluster analysis. Sobel's Diagonal Reference Model was utilized to evaluate the relative impact of the locality of destination and the locality of origin on the likelihood of belonging to a certain cluster. A crucial result of the study is the empirical confirmation that the spatial trajectory – the place of residence of the parental family, the location where higher education is obtained, the current place of residence – has a significant effect on individuals' current leisure participation. Thus, the spatial trajectory may be viewed as another source of social distinction that researchers studying leisure activities have not yet focused on.

Key words: spatial mobility, leisure practices, diagonal reference model, distinction, place of residence

JEL Classification: Z19

[1] Research Fellow, Laboratory for Comparative Analysis of Development in Post-Socialist Countries, National Research University Higher School of Economics. E-mail: skorotaev@hse.ru

[2] Junior Researcher, Laboratory for Comparative Analysis of Development in Post-Socialist Countries, National Research University Higher School of Economics. E-mail: lena-gasyukova@yandex.ru

[3] Tenured Professor NRU HSE, Laboratory for Comparative Analysis of Post-Socialist Development in Post-Socialist Countries, National Research University Higher School of Economics. E-mail: ovsey@hse.ru

[4] Leading Research Fellow, Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences. Email: endanilova@gmail.com.

Leisure patterns have become a central subject in the studies of social differentiation or stratification. Researchers have accumulated evidence of an association between leisure activities and social position (Falk & Katz-Gerro, 2016; Bennett *et al.*, 2009; Gayo-Cal, 2006; Chan & Goldthorpe, 2007) as well as location (Widdop, Cutts, & Jarvie, 2016; Hanquinet, Savage, & Callier, 2012; Hanquinet, 2016; Leguina & Miles, 2017; Brook 2016). In his foundational work *Distinction* (1984, 1999), Bourdieu explains the relationship between (leisure) practices of an individual and his or her position in the social and physical space using the concept of habitus which represents the socialization experience sedimented over lifetime.

Habitus is formed over a long period of time and has inertia (hysteresis), which means that leisure practices are affected by both current and previous positions (social and spatial) of an individual. The effect of the previous social position (origination) was examined in a number of works focusing on the relation between social mobility and leisure (Coulangeon, 2015; Daenekindt & Roose, 2013; Friedman, 2014). However, we are not aware of any existing studies exploring a similar effect of previous spatial positions (places of residence).

This paper aims to fill this gap. We propose to view spatial mobility in a similar way to social mobility and have conducted an empirical analysis of the impact of individuals' previous places of residence on their current leisure participation.

Relation between Social Status, Social Mobility, and Leisure Participation

Research shows that a higher social status is associated with active and varied pastimes that require appropriate competences. More educated (Reeves, 2015; Falk & Katz-Gerro, 2016), wealthy individuals (Yaish & Katz-Gerro, 2012; Falk & Katz-Gerro, 2016) from higher occupational groups (Le Roux *et al.*, 2008; Bennett *et al.*, 2009) participate in leisure activities more often and in a more sophisticated way.

It is postulated that leisure preferences reflect habitus that is formed and transformed in the process of socialization (Bourdieu, 1984, p. 66; Van Eijck, 1999; Evans *et al.*, 2010). Apart from family socialization (DiMaggio & Mohr, 1995; Daenekindt & Roose, 2013), educational socialization (additional arts education programs, participation in cultural activities with higher status students, different secondary school levels) also proves to be a significant predictor of cultural activity (Nagel & Ganzeboom, 2002). Further along the education trajectory, the influence of parents becomes weaker (Nagel & Verboord, 2012; Kraaykamp & Van Eijck, 2010). According to Bourdieu (1984), tastes and practices manifested in the process of social interaction are subject to normative pressure from the social environment (in contrast to private practices, cultivated in the family circle) and, hence, undergo transformations throughout life, adapting to current conditions (e.g., Coulangeon, 2015). Therefore, leisure activities of individuals who have achieved social mobility include behaviour patterns that correspond to the social positions of origin and destination (Daenekindt & Roose 2014). Researchers also mention status maximization, a phenomenon that takes place when people tend to adjust their behaviour to the norms of their highest status reference group: in the case of upward mobility, they become involved in the practices of the class of destination, while in the case of downward mobility, they continue to reproduce the practices of the past (e.g., Coulangeon 2015; Daenekindt & Roose, 2013).

Thus, drawing upon the existing literature, it can be argued that: (1) social position has an effect on leisure practices; (2) leisure patterns of an individual are influenced not only by his or her current social position but also by the social position of the parents; (3) out of two positions (origin and destination), the higher one has a bigger impact, according to the status maximization hypothesis.

Spatial Mobility as a Type of Social Mobility

Further in this paper, spatial mobility will be regarded as a type of social mobility, which, in our opinion, is the simplest way to organize discussion. In sociology, mobility is usually viewed in terms of occupational groups/classes. Although there exist many divergent definitions of class, we can outline a range of central issues, whose investigation implies utilization of class as the most relevant tool. In other words, we can identify phenomena associated with or explained through class: (a) wealth inequality, (b) inequality of life chances, (c) social identity, (d) antagonism, (e) prestige, (f) social contacts, (g) political preferences, and (h) leisure activities (based on Wright, 2005; Grusky & Cumberworth, 2010). Below are examples showing that a physical location can be responsible for (almost) all of the above-mentioned phenomena.

a) The salary of employees in the same positions may differ significantly in various locations (Hendrickson, Muro, & Galston, 2018, p. 7). Work experience gained in major cities brings a bigger salary than experience in a similar position in smaller cities (Roca & Puga, 2017). Locations differ in the quality and prices of services provided (retail, education, healthcare, etc.) (Swanstrom, Dreier, & Mollenkopf, 2002), as well as connections to major transport hubs (Hendrickson, Muro, & Galston, 2018, p. 12).

b) The place of residence has an effect on health (Diez-Roux & Mair, 2010) and academic achievements (Wodtke, Harding, & Elwert, 2011).

c) The place of residence can serve as a source of identity (Casakin, Hernández, & Ruiz, 2015). Sometimes the identity of a place is defined and reproduced in class terms, and at the same time it may not match the current employment situation among the location's residents (Robertson, 2013).

d) Identification with different spatially defined communities can lead to intergroup antagonism (Elias & Scotson, 1994; Bernardo & Palma-Oliveira, 2016). Struggle may have not only symbolic but also material causes: regions may have opposite interests in regard to trade and tax regulation and compete for subsidies from the government and resident taxpayers (Hendrickson, Muro, & Galston, 2018).

e) Locations have a certain reputation. They can carry prestige to be appropriated by residents (Wiesel, 2020), or, in contrast, locations with a stigma can stigmatize residents as well (Wacquant, 1993).

f) Spatial position largely determines possible social connections, friendship (Liben-Nowell *et al.*, 2005). Being rooted in the space of social capital becomes another factor of spatial inequality (Swanstrom, Dreier, & Mollenkopf, 2002).

g) There is a tradition of studying the relationship between political preferences, electoral behaviour, and spatial position (e.g., Taylor & Johnston, 2014). Unlike classes, the political representation of locations is explicitly institutionalized: elections in democratic countries are organized according to the spatial principle.

h) The relation between leisure and space is covered in the next section.

The studies mentioned above refer to different spatial scales: which scale is most adequate for describing certain phenomena is a matter of discussion (Sharkey & Faber, 2014). This, however, is also true for occupational groups (for instance, micro/macro classes, Grusky & Cumberworth, 2010). There are examples of identifying spatial position with class position in classical sociological works[6] (Warner, 1963) and in marketing approaches (Parker, Uprichard, & Burrows, 2007). Considering spatial mobility as social mobility will allow us to draw on the extensive theoretical literature on the effects of social mobility, as well as apply a statistical framework developed by social mobility researchers (see a similar instance in Herting, Grusky, & Van Rompaey, 1997).

---

[6] Although Bourdieu does not view the spatial trajectory (unlike the class one) as part of the statistical model in *Distinction*, he does it, for example, in *Homo Academicus* (Bourdieu, 1988).

Space and Leisure Participation

Geographic location acts as an important factor in leisure participation. Sociologists have established a close and consistent connection between social and geographic spaces (Bourdieu, 1999; Toft, 2018). Leisure participation factors include the quality of infrastructure – museums and galleries (Brook 2016; Hooper-Greenhill, Phillips, & Woodham, 2009), sport facilities (Wicker, Hallmann, & Breuer, 2013) – as well as social environment (Widdop & Cutts, 2012), sociocultural meanings of places (developed due to embodied aesthetic experiences with different places) (Skandalis, Banister, & Byrom, 2018), and the aesthetic quality of the environment (Hanquinet, 2016).

Hypothesis 1: Spatial localization is a significant factor in leisure participation.

Changing residence is not always followed by a quick adjustment to the new environment and adoption of new practices. Achieving social mobility, an individual may experience hysteresis – the disruption of habitus due to new conditions (Bourdieu, 1984, p. 109ff.). Being in a new place, an individual may rely on habitual patterns of behaviour for a long time. Consequently:

Hypothesis 2: When changing the place of residence, practices learned in the past continue to influence current leisure behaviour.

Even if the past continues to act as a significant factor in leisure participation in the present, its effect wears off over time under the influence of the new environment. Eventually, the effect of the current place of residence will determine an individual's current leisure practices. Similarly, authors studying the impact of social mobility (Coulangeon 2015; Daenekindt & Roose, 2013) demonstrated that a new social position of an individual outweighs the impact of primary socialization and fosters changes in leisure patterns.

Hypothesis 3: The current spatial position of an individual plays a bigger role in leisure participation than the previous position.

The status maximization hypothesis is well-known in the literature on social mobility. It postulates that mobile individuals are more prone to engage in leisure practices of a higher-status social group, irrespective of whether it refers to the position of destination or origin. In the case of upward mobility, individuals focus on the achieved social position, while in the case of downward mobility, the origin group remains the reference point (Merton 1957) – thus, individuals resist frustration by anchoring their social references in a higher social class. Practices related to a higher status may be perceived as more desired and prestigious, and the ability to reproduce them may be considered as a valuable skill. Applying this logic to the spatial mobility leads us to:

Hypothesis 4: When individuals experience upward spatial mobility, the locality of destination has a bigger impact on leisure practices. And in the case downward mobility, it is the locality of origin.

The Selection Effect

When studying the effects of mobility, it is difficult to separate the effect of the change of status/residence from the selection effect. The latter means that individuals who have made a move were in certain aspects different from those who never changed their place of residence. Indeed, people who move are usually the ones who possess the necessary information, are prepared and motivated to live in a new location (Hedman, Van Ham, & Manley, 2011), and are aware of the mismatch between their social status and the current social environment (Galster & Turner, 2017; Whisler *et al.*, 2008). Moreover,

culturally active individuals prove to be more selective (Hanquinet 2016; Cunningham & Savage 2015). Arriving in a desired location, they can fully appreciate the aesthetic qualities of the space (Savage, Bagnall, & Longhurst 2005).

Those who stayed in their place of origin differ from those who were born in the same place but have changed their place of residence. This difference would not disappear even if the former were transferred somehow to a new place (e.g., as a result of experimental manipulation Briggs, Popkin & Goering, 2010). The expected difference is the selection effect. Based on our data, we cannot detect this effect, but we can also narrow down the focus and consider a "strong selection effect": those who experienced spatial mobility demonstrate leisure patterns popular in the place of destination even more often than residents who are native to the area. Indeed, mobile individuals put in considerable effort to move to a new location, while native residents do not have to work for it – besides, we do not know whether the environment matches their preferences.

Hypothesis 5: Mobile individuals demonstrate higher participation in leisure practices prevalent in the locality of destination, as compared to native residents.

Educational Mobility

One of the prevalent forms of spatial mobility is relocation to pursue higher education. Studying at a university in a different city has an extremely strong socializing effect, mainly due to the influence of classmates. This influence may be significant as a result of students living together, in relative isolation from family and other relationships (Buchanan, Ljungdahl, & Maher, 2015), a high degree of homogeneity of their goals and interests as well as strong interdependence (Milem, 1998; Astin, 1993, p. 398). Student socialization facilitates identity/habitus transformation (Byrom & Lightfoot, 2012). Hence,

Hypothesis 6: The effect of the locality where an individual obtains higher education can offset the effect of the locality of origin.

An Empirical Case Study: Spatial Inequality and Mobility in Russia

The empirical analysis draws on data from a survey conducted among Russian residents (see below). Russia is characterized by significant regional differentiation as well as the centre-periphery model of the relationship between various localities. Inequality between settlements occupying either a central or peripheral position, based on the administrative structure of the country, is reflected in the influential hierarchy of "four Russias" proposed by Zubarevich (2013). The hierarchy comprises large cities (population over 250,000), towns (population under 250,000), (semi-)rural areas, and, lastly, underdeveloped republics of the Caucasus region and South Siberia that are still undergoing a demographic transition. Lifestyles in each of the "four Russias" differ radically: in large metropolitan areas the post-industrial economic model is predominant and leisure infrastructure is rapidly developing, while the periphery is characterized by backward economy with mostly menial jobs and limited leisure opportunities.

Due to a higher standard of living, regional centres attract population from small towns and rural villages (Karachurina & Mkrtchyan, 2019), while the population of regional centres is not particularly mobile (Zaiontchkovskaya & Nozdrina, 2008). Migration rates in Russia peak among young movers who relocate to obtain education or seek better life opportunities (Kashnitsky, 2020). Figure 1 shows that migration rates of educated respondents peak at the age of 18. Migration rates of older generations (50-64; 65+) are relatively high which reflects the process of rural depopulation in the 1960s and 1970s, when the share of the urban population increased by almost 20%. At the same time, quite a lot of older respondents experienced non-upward mobility between the ages of 22 and 24, which probably has to do

with the cultivation of virgin lands and placement of specialists in agriculture jobs (Siegelbaum & Moch, 2015, pp. 61-62), as well as compulsory appointment of graduates in rural areas where they would hardly volunteer to work (White, 2007). A decline in relocation at the age of 18 in the 35-49 cohort stems from the ultimate loss of young population in Russian villages, which was typical for the late 1980s: less than one quarter of adolescents aged 15-19 years still lived in villages (Mkrtchyan, 2013).
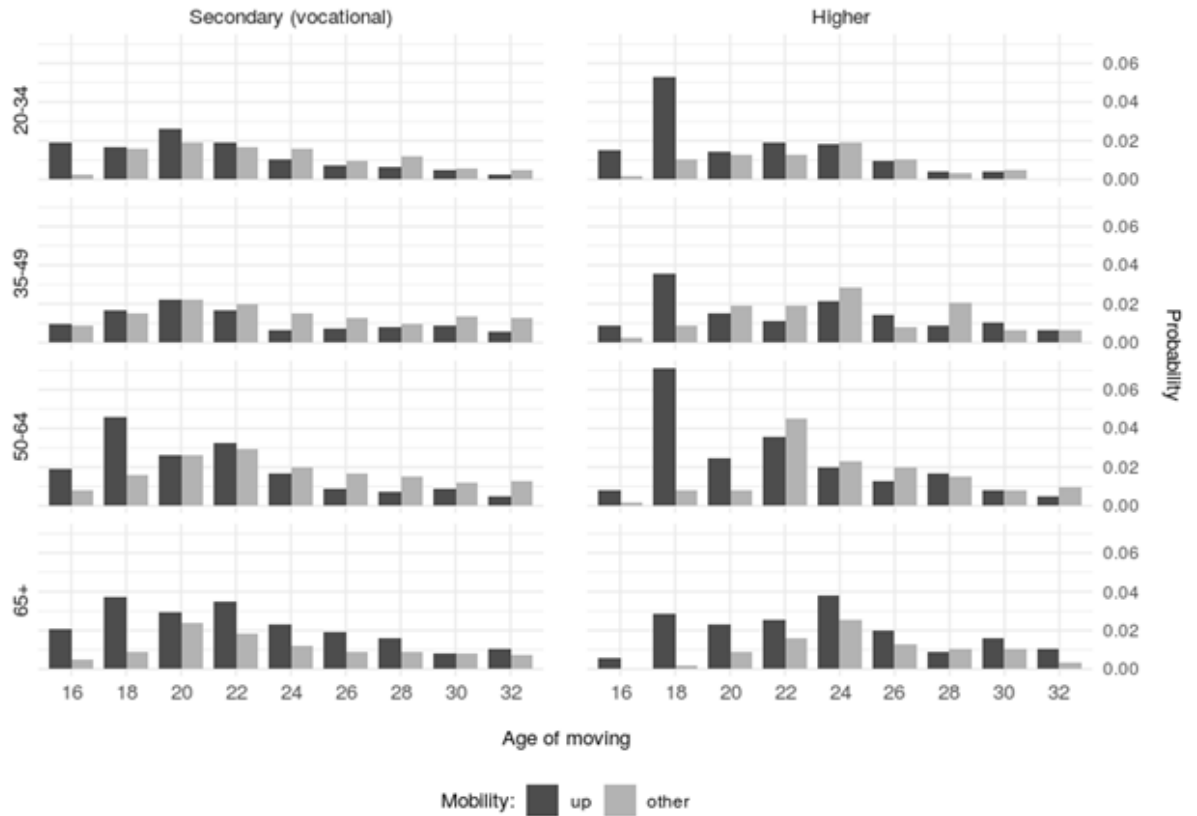

Fig. 1. Social mobility levels among various cohorts of respondents with different educational background. *Note:* Calculated on the analysis database.

Data

The empirical analysis was performed on the data from the 25th round (2016) of the Russian Longitudinal Monitoring Survey. Data from the 2006 and 2011 waves were also taken into consideration. The sample was restricted to respondents older than 20 years. Since this paper does not aim to identify ethnic and regional characteristics, residents of two areas in the Republic of Kabardino-Balkaria were excluded from the sample, as the preliminary cluster analysis demonstrated that their leisure practices are extremely region specific. The total sample size is 9,251.

Measures

Leisure participation

Respondents were presented with 14 groups of leisure activities and asked how often, on a scale of never to daily, they participate in activities from each group. The distribution of responses to the question on leisure practices is shown in Table 1.

Table 1
Frequency of leisure participation

Activities	never	year	month	week	day
cinema, theatre, concerts, museums, sports, events (as a spectator)	5135	2805	1144	112	
sports, physical activity	6772	705	587	712	420
walking, outdoor activities, bicycle	2212	1440	2087	2278	1179
TV		400		1192	7604
reading	2894	1215	1824	1813	1450
music listening, audiobooks, watching videos	2378	625	1212	2286	2695
computer games, Internet surfing	3845	652		1625	3074
gardening	4177	795	843	1599	1782
cafe, restaurants, bars	5707	2130	1164	195	
hangouts with friends and family	567	967	3489	3275	898
night clubs	8340	614		242	
shopping	1720	980	3302	2616	578
creative activity: playing musical instruments, drawing, etc.	7479	615	450	419	233
volunteering in public, charitable, and political organizations	8585		611		

Note: Small categories were consolidated

Based on 14 variable indicators of leisure activities, we conducted a cluster correspondence analysis (clusCA) – a procedure for joint dimension reduction and clustering (Markos, Iodice D'Enza, & van de Velden, 2019). Using the Calinski-Harabasz index and the average silhouette width index, the optimal number of axes and clusters was determined – two axes and three clusters. Fig. 2 shows category coordinates and cluster means. For clarity, activities with similar category patterns (frequency) are displayed on separate charts.
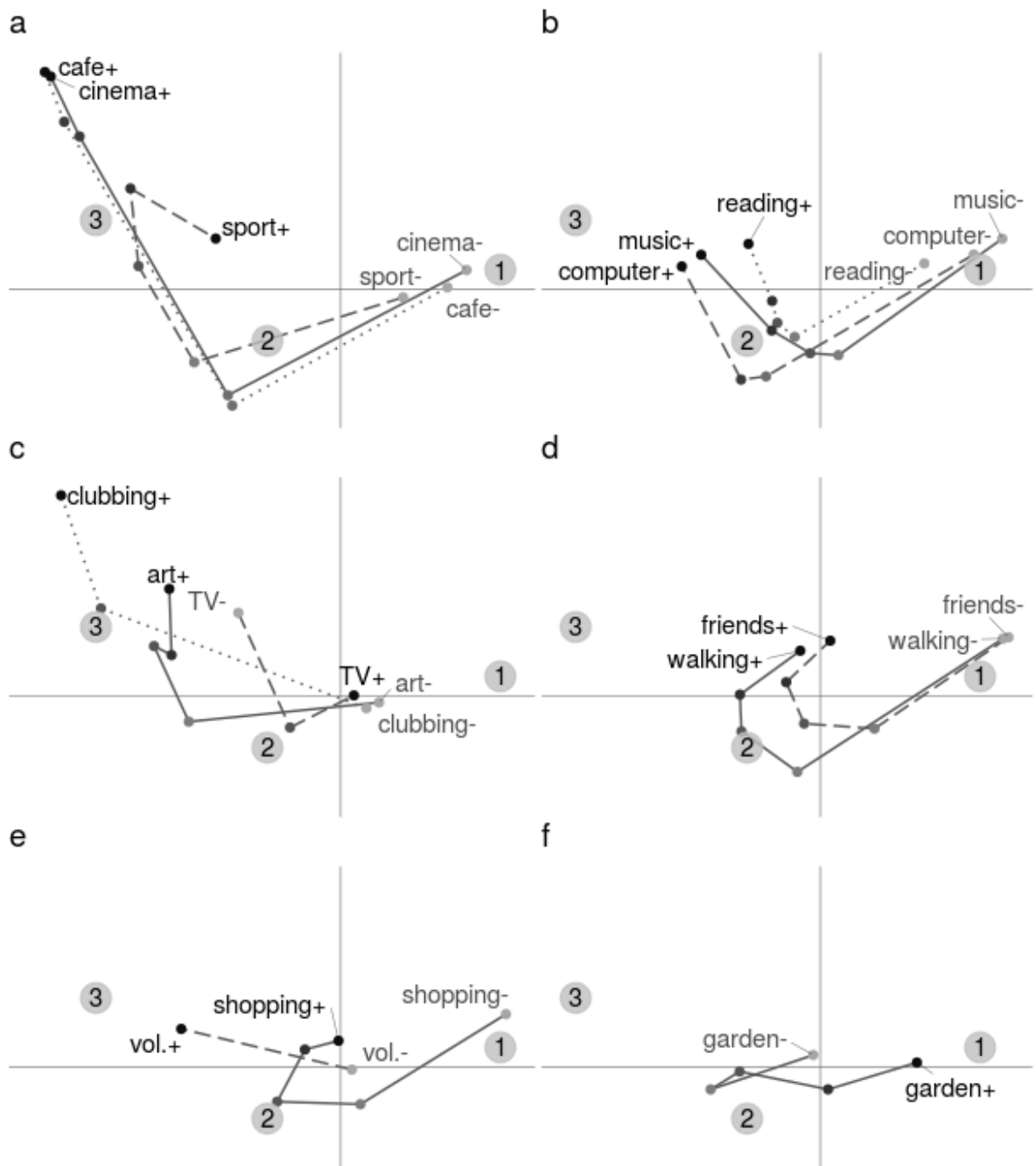
Fig. 2. Results of ClusCa.
Note: Numbers in grey circles are cluster centres. Dots denote frequency categories. Light grey colour indicates low incidence. Lines connect categories related to a specific activity. For convenience, categories are displayed in separate figures.

It is evident that almost all activities in Figure 1 demonstrate a monotonic growth in the frequency as the cluster number increases. Certain deviation from monotonicity is present in the "day" category for activities such as walking, hangouts with friends and shopping (Fig. 2d, e); however, the careful consideration revealed a predominantly monotonic relation of respondents' involvement in these activities and cluster number (see Appendix A). For TV and gardening, the relationship is inverse: frequency decreases from the first cluster to the third one (Fig. 2c).

The sociodemographic characteristics of clusters are given in Table 2. It is apparent that indicators increase monotonically from cluster 1 to cluster 3. Cluster 3 is associated with younger age, high income, education level, and living in an urban area.

Table 2
Sociodemographic characteristics of clusters

Description	Cluster		
	1	2	3
N	4034	3606	1556
Mean age	60.4	45.4	37.1
Income, 10^3 rub	17.0	23.9	30.6
Bachelor's or higher, %	15.0	38.9	61.8
Towns or country, %	39.6	23.0	13.0
City, %	25.6	29.4	25.0
Regional centre, %	24.9	36.1	38.2
Moscow, St. Petersburg, %	9.9	11.6	23.8

To discuss clusters in more colloquial terms, we will refer to clusters with a high numeral as more "youthful" patterns of leisure activities. It should be emphasized that this label will be used solely for convenience purposes. We do not attach any theoretical or empirical significance to it and do not assume that it may be used beyond the scope of this paper.

Importantly, clusters show a monotonic relationship with involvement in leisure practices as well as with sociodemographic characteristics of respondents. For this reason, participation in a cluster may be viewed as an ordinal variable.

Locality

The current place of residence, the locality of secondary school, and the locality of university[7] (if available) are coded as follows: (1) country (rural and semi-rural area), (2) town (cities and towns not included in the next category), (3) regional centre (administrative centres of federal subjects of Russia: oblasts, republics, etc.), (4) Moscow, St. Petersburg.

Spatial mobility

Two dummy variables were created to reflect the direction of spatial mobility (variables '*up*' and '*down*', see table 4). When the locality of destination was more urbanized than the locality of origin, mobility was coded as upward and, in total, it accounted for 21% of the sample. Conversely, downward mobility accounted for 6%. Here it is assumed that a respondent does not change the place of residence more than once, which is plausible, given the low level of spatial mobility of Russians.

The difference between the type of the locality of school graduation and the type of the locality of higher education (i.e. spatial mobility for university studies) was encoded by a binary variable '*ed_mob*'(table 4).

Education

If education is an indicator of social distinction, then it is not the nominal level of education but the relative one that matters. It can be expected that the rarer a diploma is, the more advantages its owner has over the rest of the population. Consequently, the same nominal level of obtained education can be less valuable for representatives of more educated younger cohorts, as compared to the less educated older ones (see Bukodi & Goldthorpe, 2016).

The relative measure of education was calculated based on the data from the 2015 microcensus of Russia (2015 Socio-demographic...). Using the RLMS database in this case would be less feasible due to

---

[7] If a person studied at several universities, only the most recent one was taken into account. Location of previous universities was almost always in the same category or in a lower one (less urbanized).

its incomparably smaller size and, hence, poorer representation in rare categories. The initial education variable had four categories: (4) bachelor's degree or higher, ISCED 6; (3) short-cycle tertiary education, ISCED 5; (2) upper secondary education (is officially mandatory since 1977), ISCED 3; (1) incomplete secondary education, ISCED 1-2 (based on ISCED 2011, Indicators of Education …, p. 16, 311-315).

The variable of the relative education level was calculated as the average cumulative proportion score (Bross, 1958):

$$r(e,y) = \sum_{k=1}^{e-1} p(k,y) + \frac{1}{2} p(e,y), \qquad (*)$$

where $e\{1,2,3,4\}$ stands for the nominal level of education, y is the year of birth, and $p(e,y)$ is the percentage of those who were born in the year y and have the level of education e (based on the census).

Relative levels of education were calculated according to (*) for five-year cohorts. The continuous measure of relative education was obtained using polynomial interpolation. The results are shown in Fig. 3.
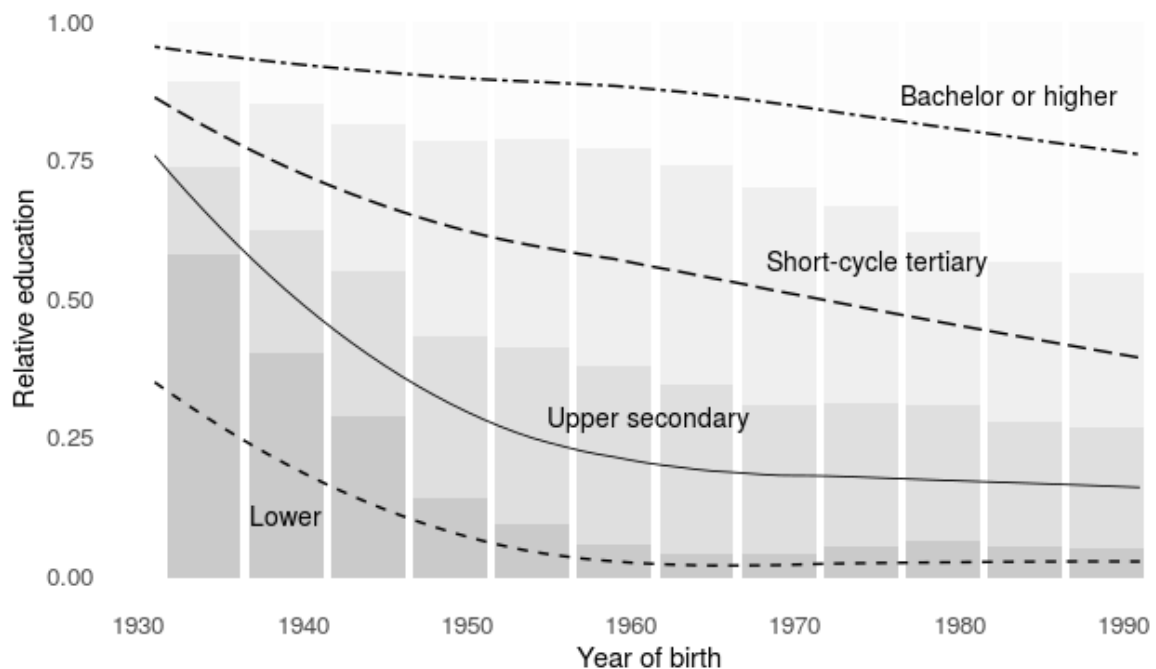

Fig. 3. Values of the relative education variable depending on the year of birth and the nominal education level of respondents.
Note: The brightness indicates age group distribution across education levels. Calculations are based on the 2015 microcensus.

Parental education

The question about parents' education was last asked in the 15th (2006) and 20th (2011) waves of the RLMS. For 4850 respondents, education of at least one parent was established utilizing the data from these waves. The numerical variable of parental education was calculated using (*), based on data from the 2002 census (The Russian Census...). The variable marks the highest relative education of parents.

Class

Class was coded according to the scheme of D. Oesch (Oesch 2006). The scheme has two vertical skill levels (managers and (semi-)professionals on the one hand and workers and clerks on the other) and four horizontal marks, with each representing its own labour logic — independent, technical (from workers to engineers/programmers), organizational (from clerks to managers), and interpersonal (from

shop assistants to university teachers). The final classification of professional groups, including their numbers, is shown in Table 3.

Table 3
Professional classification according to D. Oesch

Work Logic	Class	No.
Independent	2. Small business owners	573
Technical	3. Technical (semi-)professionals	910
	4. Production workers	2470
Organizational	5. Associate managers	1441
	6. Clerks	603
Interpersonal	7. Socio-cultural (semi-)professionals	1012
	8. Service workers	1882
	Total	8891

Note: [a]Due to small numbers, representatives of large employers and self-employed professionals were distributed among other classes of the top hierarchical level

Demographic indicators

Log of income, sex, age group (20-34, 35-49, 50-64, 65+), having a domestic partner, having a job, having children under 18.

Method

Diagonal Reference Model

Our analysis is based on the Diagonal Reference Model (DRM) proposed by Sobel (1981, 1985). The DRM was developed to analyse social mobility and social inconsistency. It allows to simultaneously estimate the effects of two strongly correlated variables with the same scales, such as the social position of origin and the social position of destination. The DRM is widely applied in studies exploring the impact of mobility on various social indicators, including cultural and leisure participation (e.g., Daenekindt & Roose, 2013; Chan & Turner, 2017).

The effect of the variables under consideration – the type of the locality of origin and destination – is modelled as follows. Let us assume that μ_{ii} is the effect when the type of the locality of birth i ($i \in \{1,...,n\}$, n – the number of categories) is the same as the type of the locality of destination. Then, when they do not coincide, the effect will be calculated as follows:

$$\mu_{ij} = w\mu_{ii} - (1-w)_{jj} ,$$

where $w \in [0,1]$ is the relative weight of the current locality of residence, $(1-w)$ is the relative weight of the locality of origin. As a result, n^2 of possible variable combinations is modelled using n parameters: $\boldsymbol{\mu} = (\mu_{11}, \mu_{22},..., \mu_{nn})$, w. Vector $\boldsymbol{\mu}$ has length n, and $\mu_{cc} = 0$, where c is the number of the basic category. In vector notation, this expression can be written as:

$$w\boldsymbol{d\mu} + (1-w)\boldsymbol{o\mu}, \quad (I)$$

where $\boldsymbol{d} = (d_1,..., d_n)$ and $\boldsymbol{o} = (o_1,..., o_n)$ are vectors of length n denoting the types of the locality of origin and destination respectively. Then, $d_i = 1$ if i is the type of the locality of destination, and $d_i = 0$ in other cases. Similarly, $o_j = 1$ if j is the type of the locality of origin, and $o_j = 0$ in other cases.

Ordered Logistic Regression

Our dependent variable is categorical. The correlation between such variable and predictors can be modelled using an ordered or multinomial regression. Ordered regression has significantly fewer estimated parameters, which increases the statistical power and simplifies the interpretation of results. Since the variable of cluster participation has a monotonic relationship with key predictors (age, income, education, type of locality), viewing this relationship as ordinal will be more appropriate. However, not all independent variables can be expected to have a monotonic effect on the dependent variable. According to a more general approach (Fullerton, 2009), some variables are treated according the ordinal model, whereas others vary freely across equations, as in the multinomial model:

$$\log\frac{\pi_i(x,u)}{\pi_c(x,u)} = \alpha_i + \phi_i x\boldsymbol{\beta} + \boldsymbol{u}\boldsymbol{\gamma}_i, \quad \text{(II)}$$

where x is the vector of independent variables whose relation to the dependent variable is modeled within the constraints of the ordered model; u is the vector of independent variables whose relation to the dependent variable is multinomial; $\pi_i(x, u)$ is the probability of the dependent variable taking on value i with this set of x, u; c is the number of categories of the dependent variable (3 in this case); α_i, $\boldsymbol{\beta}$, ϕ_i, $\boldsymbol{\gamma}_i$ are estimated parameters (vectors are in bold).

In equation (II), the ordinal part is presented as Anderson's stereotype model (1984). In this model, the effect of predictor k on category i is determined by two variables – β_k (k-th element of vector $\boldsymbol{\beta}$) and ϕ_i. The number of estimated parameters can be reduced, given the proportional odds assumption. In this case, ϕ_i is not evaluated in the model but is set a priori as $\phi_i = \frac{c-i}{c-1}$ – that is, the difference between any two adjacent ϕ_i is the same and equals $\frac{1}{c-1}$.

According to the preliminary analysis, variables with a non-monotonic relation to the dependent variable include sex, partner, children, and job. For other variables, the proportional odds assumption can be accepted (see Appendix B). Calculations were made using the R package gnm (Turner & Firth, 2020).

Results

Effect of the locality on leisure patterns

All models discussed in this and the following sections are presented in Table 4. Each model is marked with a number and a letter. The number indicates the functional form of the model, whereas the letter demonstrates which variables are introduced in the DRM model as the point of origin and the point of destination (the first and the second term).

Table 4
Description of models

$\log\frac{\pi_m(x,u)}{\pi_3(x,u)} = \alpha_m + \boldsymbol{u}\boldsymbol{\gamma}_m + \frac{3-m}{2} \times$		A	B	C
	$d =$	c	max(c, s)	c
	$o =$	s	min(c, s)	u
1	$\times (x\boldsymbol{\beta} + wd\boldsymbol{\mu} + (1\text{-}w)o\boldsymbol{\mu})$	21.5	20.0	0
2	$\times (x\boldsymbol{\beta} + (w + w_u up)d\boldsymbol{\mu} + (1 - w - w_u up)o\boldsymbol{\mu})$		27.4	
3	$\times (x\boldsymbol{\beta} + \beta_u up + \beta_d down + wd\boldsymbol{\mu} + (1\text{-}w)o\boldsymbol{\mu})$	32.8	33.0	
4	$\times (x\boldsymbol{\beta} + \beta_u up + \beta_d down + (w + w_u up)d\boldsymbol{\mu} + (1 - w - w_u up)o\boldsymbol{\mu})$		41.2	
5	$\times (x\boldsymbol{\beta} + (w + w_e ed\_mob)d\boldsymbol{\mu} + (1 - w - w_e ed\_mob)o\boldsymbol{\mu})$	18.7		6.5

Model 1A is the baseline model for further analysis. All coefficients indicating the effect of the locality type are significant (Table 5), which speaks in favour of Hypothesis 1 (locality is important). Furthermore, the relative weight of the current locality (w) is significantly higher than 0.5 (0.64 – 1.96*0.06 > 0.5), the weight of the locality of secondary school ($1-w$) is lower than 0.5 (in support of hypothesis 3) but higher than 0 (0.36 - 1.96*0.06 > 0) (in support of hypothesis 2).

Table 5
Model 1A

Variables	2 vs 3	1 vs 3
Int	1.29 (0.17)***	2.38 (0.30)***
SexW	0.07 (0.08)	-0.15 (0.09)
Partner	0.50 (0.08)***	0.17 (0.09)
Children	0.55 (0.08)***	0.35 (0.11)**
Job	0.28 (0.10)**	-0.50 (0.12)***
Log_inc	-0.44 (0.07)***	
Class:		
Small business owners	-0.39 (0.17)*	
Technical (semi)professionals	-0.85 (0.16)***	
Production workers	0	
Associate managers	-1.25 (0.14)***	
Clerks	-0.75 (0.18)***	
Socio-cultural (semi-)professionals	-1.17 (0.16)***	
Service workers	-0.41 (0.13)**	
Age:		
25-34	0	
35-49	1.93 (0.11)***	
50-64	3.63 (0.14)***	
>65	5.52 (0.18)***	
Education	-2.75 (0.17)***	
w	0.64 (0.06)	
1-*w*	0.36 (0.06)	
Locality:		
Towns or rural areas	1.38 (0.12)***	
City	0	
Regional center	-0.43 (0.11)***	
Moscow, St.Petersburg	-1.27 (0.14)***	

Note: ***p<0.001, **p<0.01, *p<0.05; standard errors in parentheses

It is apparent that coefficients of all locality types vary significantly, while the hierarchy of coefficient values corresponds to the hierarchy of localities' urbanization levels. The same is true for age categories. Fig. 4 shows coefficient values for the variable of class as well as the significance of their differences. Production workers tend to belong to less "youthful" clusters (class 4). They are followed by service workers (8) and small business owners (2) who demonstrate the same result. Office clerks (6) are the most likely to have "youthful" leisure practices among non-professionals. As for professionals, the highest result is shown by managers (5). Thus, both dimensions of the classification proposed by Oesch

affect the class coefficient. In the vertical dimension, professionals have more "youthful" leisure activities than non-professionals. In the horizontal dimension, the technical logic of work is much less conducive to "youthful" leisure practices, as compared to the organizational logic, whereas the interpersonal logic has an intermediate effect.
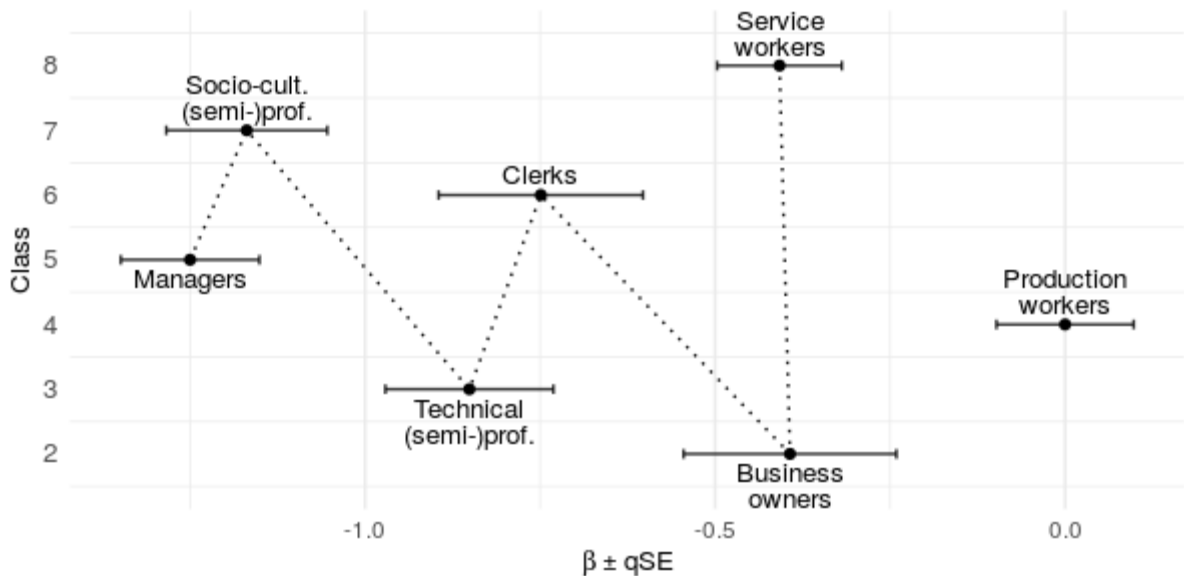

Fig. 4. Coefficient values for categories of Oesch classes.
Note: Error bars represent values of quasi-standard errors. Quasi-standard errors allow to compute the standard error of difference between categories coefficients as $se^2(\beta_a - \beta_b) = q\text{-}se^2(\beta_a) + q\text{-}se^2(\beta_b)$ (Firth, 2003). Dotted segments connect coefficients whose differences are not statistically significant at the 95% level.

Although all main predictors (locality, class, income, education) proved to be significant, respondents' age has the biggest impact on leisure patterns. The odds ratio between extreme age groups $\exp(5,562) = 248$, while the maximum odds ratio between classes: $OR(\text{Oesch 4 vs. Oesch 5}) = \exp(1,169) = 3,2$, and between the types of localities for native residents: $OR(\text{town, country vs. Moscow, St. Petersburg}) = \exp(1,379+1,269) = 14$.

Coefficients for variables not related to space exhibit a very high degree of stability between models; therefore, for brevity, only the spatial position parameters are provided in tables.

Model 1B is designed to verify Hypothesis 4 on status maximization. In this model, the DRM elements are recoded, so that the first of them (*d*) marks more urbanized locality between school locality and current one; the second one (*o*) marks less urbanized locality. Model 1B demonstrates an advantage over 1A based on the BIC indicator, but, according to the rule of thumb, it is too small to make any conclusions (Kass & Raftery, 1995).

In Model 2A, the weight of the current locality varies depending on whether it is more urbanized (upward mobility) or less urbanized (downward) (see Table 6). In the case of positive mobility, the weight of the current (and at the same time a more urbanized) locality is significantly bigger than the weight of the locality of origin ($0.703 - 1.96 * 0.064 > 0.5 > (1 - 0.703) + 1.96 * 0.064$). Any other pairwise comparison of four weights – w_{down}, w_{up}, $1 - w_{down}$, $1 - w_{up}$, – indicates no statistically significant differences. The weight of the locality of destination is significantly bigger than that of the locality of origin only when the former is also a more urbanized locality. Thus, we have arguments in favor of Hypothesis 3 and Hypothesis 4. It should be also noted that in the vast majority of cases the locality of destination proves to be the most urbanized locality – in other words, upward mobility outweighs downward mobility.

Table 6
Coefficients of Models 1C – 3A

Variables	1C	3A	3B
Upward		-0.43 (0.19)*	-0.32 (0.19)
Downward		0.06 (0.23)	0.02 (0.24)
The first (*d*) weight of DRM	0.58 (0.05)	0.44 (0.12)	0.53 (0.13)

Note: coefficients common for all models demonstrate high stability. Their values for each model are very close to those presented in Table 5, so for brevity they are omitted.

Table 7
Coefficients of Models 3B – 5C

Variables	2A	4A	5A	5C
Upward		-0.37 (0.20)		
Downward		0.38 (0.44)		
The first (*d*) weight of DRM:				
upward	0.70 (0.06)	0.49 (0.14)		
downward	0.46 (0.11)	0.20 (0.30)		
school=university			0.52 (0.06)	0.53 (0.06)
school≠university			0.93 (0.10)	0.68 (0.08)

Note: see notes to Table 6.

Models 3 and 4 aim to verify Hypothesis 5 associated with the selection effect. Models 3A, 3B, 4A (see Tables 6 and 7) are derived from Models 1A, 1B, 2A respectively by means of adding binary variables denoting upward and downward spatial mobility. Technically, coefficients of these variables reflect the so-called 'net' mobility effect (Sobel, 1981). Hypothesis 5 suggests that the sign of the coefficient will be negative for the upward mobility variable and positive for the downward mobility variable. With upward mobility, the coefficient is significant only in Model 3A. As for downward mobility, it is not significant in any model. Although the direction of the upward mobility coefficient in Model 3A corresponds to the prediction of Hypothesis 5, we believe it can be explained by status maximization. Indeed, when controlling for the more urbanized locality out of the two localities in the DRM (Models 3B and 4A), the significance disappears. According to BIC, Model 3A is notably inferior to Models 1A and 1B.

Higher education

To compare the significance of early socialization in the parental family and at school with the role of socialization at a higher education institution, the variable of the locality of origin was altered: for those who studied at a university, the locality of the university was considered as the locality of origin. For others, as initially stated, it was the locality of the secondary school. Models 1C and 1D demonstrate considerably better BIC values than models 1A. The weights of the locality of destination and origin are statistically indistinguishable from 0.5.

For a closer comparison of the roles of school and university, Models 5A and 5C were examined. In these models, the weight of the current locality depends on whether the type of the locality of school is the same as the type of the locality of university. In other words, the weight depends on whether a respondent did move before university entrance or graduation from it. In model 5C (as in 1C) the locality of origin is the locality of university (for graduates from university) or school (for others). According to Hypothesis 6, when the locality of university and the locality of school are not the same, the latter should be insignificant (Model 5A), but the former retains significance (Model 5C). That is, for the respondents who relocated to study in university the first (destination) weight in Model 5A should be close to 1 while

the first weight in Model 5C should be significantly lower than 1. The obtained results (Table 7) support Hypothesis 6.

Parental education

To ascertain that the influence of the spatial trajectory on leisure practices persists even after controlling for intergenerational mobility, we used data on parental education obtained in previous waves. Information of this kind was available for almost half of the respondents. Arguments in favor of the asymptotic unbiasedness of the analysis results for the given sample are presented in Appendix C (Table C1).

The model explored in this section is developed by adding the parental education variable to Model 1A. It was established (see Appendix D) that parental education has significance, but introducing this variable in the model does not have a noticeable impact on the DRM coefficients, which suggests that the spatial effect cannot be reduced to the effect of social mobility (in the traditional sense) alone.

Discussion

We will start the discussion by investigating the impact of covariates on leisure participation. As expected, significant predictors of leisure participation are class, education, and income. The findings demonstrate relevance of differences underlying the Oesch class schema. More qualified employees exhibit leisure patterns closer to "youthful" ones. Across qualification levels, those whose work is based on technical logic (workers and engineers) have least "youthful" leisure activities. Presumably, occupations associated with communication or symbolic production are practiced by socially active people with a wide range of interests, for whom active leisure participation is a part of the professional ethos. Technical occupations, on the other hand, require knowledge and skills in a narrow field; hence, people pursuing them are less selective in other areas of life.

Findings demonstrate a monotonic relationship between social position indicators and variety and frequency of leisure activities. Such result was obtained in many studies before, but, as some critics point out (Taylor, 2016), this was due to the fact that researchers mostly focused on highbrow activities. In this case, an unprejudiced accounting of all types of leisure activities would demonstrate a more even involvement in leisure across various social groups. In the present paper, a rather broad range of indicators is used which is hardly restricted to the legitimate leisure activities; therefore, a cautious conclusion can be made that low-status groups of population, indeed, have less varied leisure practices, and this result is not caused by a specific set of questions in the survey. If so, then the inequality in the frequency and variety of leisure practices in Russia becomes dramatic.

Despite the importance of social status indicators, age is the factor that probably affects leisure patterns the most. As they grow older, Russians increasingly give up on all leisure activities examined in the paper, except for gardening[8] and watching TV. According to other studies, some activities, such as cinema (UK: Reeves, 2014; Scherger, 2009) or sports (UK: Scherger, 2009), are typical for young people, but as they age, their involvement in these pastimes decreases monotonically. Other activities show an inverted U-shape pattern, reaching maximum close to or at the age of retirement – for example, visiting museums, galleries, and exhibitions (EU: Falk & Katz-Gerro, 2016, UK: Scherger, 2009) or volunteering (UK: Reeves, 2014). As people age, their leisure participation slowly declines. They stop taking up new hobbies and gradually become less involved in activities they used to do before, health problems being the key disengagement factor (Agahi, Ahacic, & Parker, 2006; Scherger, Nazroo, & Higgs, 2011; also Reeves 2014). Nevertheless, age effects described in the above-mentioned works are incomparably

---

[8] The tradition of working on one's own plot of land reflects specific values or ethos of the older generation (Zavisca, 2003) developed in times of planned economy and deficit, inflation and income instability, and "shock" reforms of the 1990s when households struggled with food insecurity (Southworth, 2006). Even when there is no economic necessity, many Russians are convinced that home-grown food is healthier than the one sold in stores, and they view their work at the dacha as a beneficial and wholesome pastime (Zavisca, 2003).

smaller than the ones we have discovered, while a drop in leisure participation among our respondents starts long before the retirement age. Using panel data to analyse leisure activities among Russians (residents of St. Petersburg), Sokolov (2019) came to a conclusion that the decrease in leisure engagement is explained not by aging or the life course effect but by belonging to different cohorts – those who experienced the fall of the USSR as adults and those who underwent socialization already in the capitalist Russia. From this point of view, one can clearly see that the process of intergenerational changes in Russia is parallel, although at a later point in time, to a respective process in developed countries that separated generations of the late 1930s and 1940s from those who were born before (Gilleard & Higgs, 2002; however, Reeves (2014) does not notice any cohort effect in the leisure practices of older age groups either).

The main aim of this paper is to identify the effect of spatial mobility on leisure participation. By considering the spatial position of individuals as an integral part of their social position, we demonstrate that early socialization has a lifelong impact. According to our findings, significant predictors include the current place of residence as well as the locality of secondary school (Hypotheses 1, 2). Therefore, of importance is not only the locality of destination but the spatial trajectory of an individual as well. Given that the effect of the spatial trajectory remains in place when controlling for parental education (Appendix D), it can be argued that the effect of the spatial position cannot be explained through other social status indicators.

In addition, this paper attempts to compare the influence of two points on the spatial trajectory. Since the prevalent mobility pattern in Russia is relocation to larger cities that offer better living conditions, career prospects, and leisure opportunities, it is difficult to clearly distinguish between the effect of the current place of residence and the effect of a more urbanized one. Both hypotheses (3 and 4) appear to be fairly plausible: the locality of destination has more effect on leisure practices than the locality of origin, and a more urbanized place of residence has also a bigger impact as compared to the less urbanized one.

The analysis also revealed how greatly socialization in universities can affect one's leisure practices in adult life. When controlling for the locality of university, the effect of the locality of secondary school proves to be statistically indistinguishable. Long interaction (spending free time together) with a group of peers who have common goals and interests during this period appears to have a bigger influence than the parental family. This finding also indicates the importance of the life course period during which migration takes place. There is a difference in the effects on lifestyle in the future between, on the one hand, the obtaining higher education at the locality of origin and subsequent relocation and, on the other hand, relocation with the goal of receiving education. Potentially, institutions of tertiary and short-cycle tertiary education may produce such an effect. Unfortunately, our data provide no information about the locality of short-cycle tertiary education. In any case, the effect should be weaker at least due to shorter duration of such education.

Conclusion

For decades, the effects of social mobility as seen in terms of profession and education have been a rather popular topic in sociology. The effects of spatial mobility, however, have largely been under the radar. This neglect on the part of researchers stands in contrast to the importance of space for the categorization of everyday reality – namely, as the basis for constructing identity (Casakin, Hernández, & Ruiz, 2015; including class identity: Robertson, 2013) as well as stereotypes and prejudices (Tse, 2016). The spatial trajectory can thus be viewed as another source of social distinction, and this paper is an attempt to adopt this perspective.

The impact of the current place of residence and spatial mobility on leisure practices was investigated in the paper. Considering social mobility as an instance of social mobility allowed us to borrow research hypotheses from the relevant literature. Using data from surveys conducted in Russia, we

have established that both the type of the current locality and the type of the locality of origin are significant predictors of leisure practices.

Certain limitations of this paper also need to be pointed out. Firstly, the poll questions included highly consolidated sets of practices comprising typically highbrow (theatre) and middlebrow (movies) activities. More disaggregated information would probably deliver a different – not hierarchized – picture of leisure patterns.

Secondly, the categorization of practices by respondents according to options given in the survey can be problematized. It is easy to assume that an activity which stays the same for an external observer can be categorized by respondents differently due to differences in perception or use of different discursive practices. Walking can be a possible example here. When the weather is good, a city resident may prefer to walk part of his or her way to work (and not use public transportation) and consider it a proper walk. Rural residents, as a rule, spend a lot of time walking while doing chores at home, working the land and taking care of animals, going to a grocery store, etc. This type of activity provides all benefits of a "walk", but since it is carried out for the purpose of getting to places, it cannot be classified as such. Only 9% of rural residents "go for a walk" every day (as opposed to 29% in Moscow and St. Petersburg), whereas 39% never "go for a walk" (against 12%) (Table 8). Thus, variations in this indicator could be considered not only a variation in behaviour but also, to a certain extent, in discourse.

Table 8. Frequency of leisure participation – "walking"

Locality	never	day
Country	39%	9%
Town	22%	11%
Regional center	17%	11%
Moscow, St.Petersburg	12%	29%

Note: % of the locality's total population

Thirdly, classification of localities based on their administrative status is open to question. Such status not only fails to comprehensively describe the locality but also does not take into account its relative position. For instance, residents of towns and villages located close to large metropolitan areas can take advantage of many leisure opportunities available to city residents, which is impossible for those who live in more isolated towns and rural areas.

Despite these limitations, our paper provides important findings regarding the significant link between leisure participation and spatial mobility. The spatial trajectory analysis contributes substantially to explanatory frameworks focused on the processes of leisure participation.

References

2015 Socio-demographic survey (micro census of population). Retrieved (May 26, 2021) from https://gks.ru/free_doc/new_site/population/demo/micro-perepis/finish/micro-perepis.html.

Agahi, N., Ahacic, K., & Parker, M. G. (2006). Continuity of leisure participation from middle age to old age. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *61*(6), 340–346.

Anderson, J. A. (1984). Regression and ordered categorical variables. *Journal of the Royal Statistical Society: Series B (Methodological)*, *46*(1), 1–22.

Astin, A. W. (1993). *What Matters in College?* San Francisco: Jossey-Bass.

Barndorff-Nielsen, O. E., & Cox, D. R. (1994). *Inference and asymptotics*. London: Chapman & Hall.

Bartlett, J. W., Harel, O., & Carpenter, J. R. (2015). Asymptotically unbiased estimation of exposure odds ratios in complete records logistic regression. *American journal of epidemiology*, *182*(8), 730–736.

Bennett, T., Savage, M., Silva, E. B., Warde, A., Gayo-Cal, M., & Wright, D. (2009). *Culture, class, distinction*. London: Routledge.

Bernardo, F., & Palma-Oliveira, J. M. (2016). Urban neighbourhoods and intergroup relations: The importance of place identity. *Journal of Environmental Psychology*, *45,* 239–251.

Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Cambridge, MA: Harvard University Press.

Bourdieu, P. (1988). *Homo academicus*. Stanford, CA: Stanford University Press.

Bourdieu, P. (1999) Site effect. In P. Bourdieu (Ed.), *The Weight of the World: Social Suffering in Contemporary Society* (pp.123–129). Cambridge: Polity Press.

Briggs, X. S., Popkin, S. J., & Goering, J. (2010). *Moving to opportunity: The story of an American experiment to fight ghetto poverty*. New York: Oxford University Press.

Brook, O. (2016). Spatial equity and cultural participation: How access influences attendance at museums and galleries in London. *Cultural Trends*, *25*(1), 21–34.

Bross, I. D. (1958). How to use ridit analysis. *Biometrics, 14*, 18–38.

Buchanan, J., Ljungdahl, L., & Maher, D. (2015). On the borders: adjusting to academic, social and cultural practices at an Australian university. *Teacher Development, 19*(3), 294–310.

Bukodi, E., & Goldthorpe, J. H. (2016). Educational attainment-relative or absolute-as a mediator of intergenerational class mobility in Britain. *Research in Social Stratification and Mobility, 43*, 5–15.

Byrom, T., & Lightfoot, N. (2012). Transformation or transgression? Institutional habitus and working class student identity. *Journal of Social Sciences, 8*(2), 126–134.

Casakin, H., Hernández, B., & Ruiz, C. (2015). Place attachment and place identity in Israeli cities: The influence of city size. *Cities*, *42(Part B)*, 224–230.

Chan, T. W., & Turner, H. (2017). Where do cultural omnivores come from? The implications of educational mobility for cultural consumption. *European Sociological Review*, *33*(4), 576–589.

Chan, T. W., & Goldthorpe, J. H. (2007). Social status and newspaper readership. *American journal of sociology*, *112*(4), 1095–1134.

Coulangeon, P. (2015). Social mobility and musical tastes: A reappraisal of the social meaning of taste eclecticism. *Poetics*, *51*, 54–68.

Cunningham, N., & Savage, M. (2015). The secret garden? Elite metropolitan geographies in the contemporary UK. *The Sociological Review*, *63*(2), 321–348.

Daenekindt, S., & Roose, H. (2013). A mise-en-scène of the shattered habitus: The effect of social mobility on aesthetic dispositions towards films. *European Sociological Review*, *29*(1), 48–59.

Daenekindt, S., & Roose, H. (2014). Social mobility and cultural dissonance. *Poetics*, *42*, 82–97.

Diez-Roux, A. V., & Mair, C. (2010). Neighborhood and health. *Annals of the New York Academy of Sciences, 1186*, 125–145.

DiMaggio P., Mohr J. (1995) The Intergenerational Transmission of Cultural Capital. *Research in Social Stratification and Mobility*, *14,* 167–199.

Elias, N., & Scotson, J. L. (1994). *The established and the outsiders* (Vol. 32). London: Sage.

Evans, M. D., Kelley, J., Sikora, J., & Treiman, D. J. (2010). Family scholarly culture and educational success: Books and schooling in 27 nations. *Research in social stratification and mobility*, *28*(2), 171–197.

Falk, M., & Katz-Gerro, T. (2016). Cultural participation in Europe: Can we identify common determinants? *Journal of Cultural Economics*, *40*(2), 127–162.

Firth, D. (2003). Overcoming the reference category problem in the presentation of statistical models. *Sociological Methodology, 33*(1), 1–18.

Friedman, S. (2014). The price of the ticket: Rethinking the experience of social mobility. *Sociology*, *48*(2), 352–368.

Fullerton, A. S. (2009). A conceptual framework for ordered logistic regression models. *Sociological methods & research, 38*(2)*,* 306–347.

Galster, G., & Turner, L. M. (2017). Status discrepancy as a driver of residential mobility: Evidence from Oslo. *Environment and Planning A*, *49*(9), 2155–2175.

Gayo-Cal, M. (2006). Leisure and participation in Britain. *Cultural Trends*, *15*(2–3), 175–192.

Gilleard, C., & Higgs, P. (2002). Concept forum-the third age: class, cohort or generation? *Ageing & Society, 22*(3), 369–382.

Grusky, D. B., & Cumberworth, E. (2010, February*). A national protocol for measuring intergenerational mobility?* Paper presented at the National Academy of Science Workshop on Advancing Social Science Theory: The Importance of Common Metrics, Washington, DC.

Hanquinet, L., Savage, M., & Callier, L. (2012). Elaborating Bourdieu's field analysis in urban studies: cultural dynamics in Brussels. *Urban Geography*, *33*(4), 508–529.

Hanquinet, L. (2016). Place and cultural capital: Art museum visitors across space. *Museum and Society*, *14*(1), 65–81.

Hedman, L., Van Ham, M., & Manley, D. (2011). Neighbourhood choice and neighbourhood reproduction. *Environment and Planning A, 43*(6), 1381–1399.

Hendrickson, C., Muro, M., & Galston, W. A. (2018). *Countering the geography of discontent: Strategies for left-behind places.* Washington, DC: Brookings Institution.

Herting, J. R., Grusky, D. B., & Van Rompaey, S. E. (1997). The social geography of interstate mobility and persistence. *American Sociological Review, 62(2)*, 267–287.

Hooper-Greenhill, E., Phillips, M., & Woodham, A. (2009). Museums, schools and geographies of cultural value. *Cultural Trends, 18(2)*, 149–183.

Hughes, R. A., Heron, J., Sterne, J. A., & Tilling, K. (2019). Accounting for missing data in statistical analyses: multiple imputation is not always the answer. *International journal of epidemiology*, *48*(4), 1294–1304.

Indicators of Education in the Russian Federation: Data Book (2017). Bondarenko, N., Gokhberg, L., Zabaturina, I., et al. Moscow: HSE.

Karachurina, L., & Mkrtchyan, N. (2019). Age-specific Migration in Regional Centres and Peripheral Areas of Russia. *Comparative Population Studies*, *44,* 413–446.

Kashnitsky, I. (2020). Russian periphery is dying in movement: a cohort assessment of internal youth migration in Central Russia. *GeoJournal, 85*(1), 173–185.

Kass, R., E., Raftery, A., E. (1995). Bayes Factors. *Journal of the American Statistical Association, 90*(430), 773–795.

Kraaykamp, G., & Van Eijck, K. (2010). The intergenerational reproduction of cultural capital: A threefold perspective. *Social forces*, *89*(1), 209–231.

Le Roux, B., Rouanet, H., Savage, M., & Warde, A. (2008). Class and cultural division in the UK. *Sociology*, *42*(6), 1049–1071.

Leguina, A., & Miles, A. (2017). Fields of participation and lifestyle in England: revealing the regional dimension from a reanalysis of the Taking Part Survey using Multiple Factor Analysis. *Cultural Trends*, *26*(1), 4–17.

Liben-Nowell, D., Novak, J., Kumar, R., Raghavan, P., & Tomkins, A. (2005). Geographic routing in social networks. *Proceedings of the National Academy of Sciences, 102(33)*, 11623–11628.

Little, R. J., & Rubin, D. B. (2020). *Statistical analysis with missing data*. New York: John Wiley & Sons.

Markos, A., Iodice D'Enza, A., & van de Velden, M. (2019). Beyond tandem analysis: Joint dimension reduction and clustering in R. *Journal of Statistical Software (Online)*, *91*(10), 1–24.

Merton, R. K. (1957). Continuities in the theory of reference groups and social structure. In R. K. Merton, *Social theory and social structure*. (pp. 335–440). New York: Free Press.

Milem, J. F. (1998). Attitude change in college students: Examining the effect of college peer groups and faculty normative groups. *The Journal of Higher Education, 69(2),* 117–140.

Mkrtchyan, N. V. (2013). Migration of young people to regional centers of Russia at the end of the 20th and the beginning of the 21st centuries. *Regional Research of Russia*, *3*(4), 335–347.

Nagel, I., & Ganzeboom, H. B. (2002). Participation in legitimate culture: Family and school effects from adolescence to adulthood. *Netherlands Journal of Social Sciences*, *38*(2), 102–120.

Nagel, I., & Verboord, M. (2012). Reading behaviour from adolescence to early adulthood: A panel study of the impact of family and education on reading fiction books. *Acta Sociologica*, *55*(4), 351–365.

Oesch, D. (2006). Coming to grips with a changing class structure: An analysis of employment stratification in Britain, Germany, Sweden and Switzerland. *International Sociology*, *21*(2), 263–288.

Parker, S., Uprichard, E., & Burrows, R. (2007). Class places and place classes geodemographics and the spatialization of class. *Information, Communication & Society, 10*(6), 902–921.

Reeves, A. (2014). Cultural engagement across the life course: Examining age–period–cohort effects. *Cultural Trends*, *23*(4), 273–289.

Reeves, A. (2015). Neither class nor status: Arts participation and the social strata. *Sociology*, *49*(4), 624–642.

Robertson, D. (2013). Knowing your place: The formation and sustenance of class-based place identity. *Housing, Theory and Society, 30*(4), 368–383.

Roca, J. D. L., & Puga, D. (2017). Learning by working in big cities. *The Review of Economic Studies, 84*(1), 106–142.

Russia Longitudinal Monitoring survey. National Research University "Higher School of Economics" & OOO "Demoscope" together with Carolina Population Center. Retrieved (May 6, 2021) from http://www.hse.ru/org/hse/rlms.

Savage M., Bagnall G., Longhurst B. (2005). *Globalization and Belonging*. London: Sage.

Scherger, S. (2009). Cultural practices, age and the life course. *Cultural Trends*, *18*(1), 23–45.

Scherger, S., Nazroo, J., & Higgs, P. (2011). Leisure activities and retirement: do structures of inequality change in old age? *Ageing & Society*, *31*(1), 146–172.

Sharkey, P., & Faber, J. W. (2014). Where, when, why, and for whom do residential contexts matter? Moving away from the dichotomous understanding of neighborhood effects. *Annual review of sociology, 40,* 559–579.

Siegelbaum, L. H., & Moch, L. P. (2015). *Broad Is My Native Land: Repertoires and Regimes of Migration in Russia's Twentieth Century*. Ithaca, NY. and London: Cornell University Press.

Skandalis, A., Banister, E., & Byrom, J. (2018). The spatial aspects of musical taste: Conceptualizing consumers' place-dependent identity investments. *Marketing Theory, 18*(2), 249–265.

Sobel, M. (1981). Diagonal Mobility Models—A substantively motivated class of designs for the analysis of mobility effects. *American Sociological Review, 46*(6), 893–906.

Sobel, M. E. (1985). Social mobility and fertility revisited: Some new models for the analysis of the mobility effects hypothesis. *American Sociological Review, 50(5)*, 699–712.

Sokolov, M. M. (2019). Pokoleniya vmesto klassov? Vozrast i potrebitel'skaya revolyuciya v Rossii [The generations instead of classes. The age and consumer revolution in Russia]. *Sociologiya vlasti [Sociology of power], 31*(1), 71–91.

Southworth, C. (2006). The dacha debate: household agriculture and labor markets in post-socialist Russia. *Rural Sociology*, *71*(3), 451–478.

Swanstrom, T., Dreier, P., & Mollenkopf, J. (2002). Economic inequality and public policy: The power of place. *City & Community*, *1*(4), 349–372.

Taylor, P. J., & Johnston, R. (2014). *Geography of elections*. London: Routledge.

Taylor, M. (2016) Nonparticipation or different styles of participation? Alternative interpretations from Taking Part, *Cultural Trends*, *25*(3), 169–181.

The Russian Census of 2002. Retrieved (April 29, 2021) from http://www.perepis2002.ru/index.html?id=87.

Toft, M. (2018). Enduring contexts: Segregation by affluence throughout the life course. *The Sociological Review, 66*(3), 645–664.

Tse, C.W. (2016). Urban residents' prejudice and integration of rural migrants into urban China. *Journal of Contemporary China*, *25*(100), 579–595.

Turner, H., Firth, D. (2020). *Generalized nonlinear models in R: An overview of the gnm package*. *R package version 1.1-1.* Retrieved (May 16, 2021) from https://cran.r-project.org/web/packages/gnm/vignettes/gnmOverview.pdf.

Van Eijck, K. (1999). Socialization, education, and lifestyle: How social mobility increases the cultural heterogeneity of status groups. *Poetics, 26(5-6)*, 309–328.

Wacquant, L. J. (1993). Urban outcasts: stigma and division in the black American ghetto and the French urban periphery. *International journal of urban and regional research, 17*(3), 366–383.

Warner W. L. (Ed.) (1963). *Yankee City*. New Haven & London: Yale University Press.

Wicker, P., Hallmann, K., & Breuer, C. (2013). Analyzing the impact of sport infrastructure on sport participation using geo-coded data: Evidence from multi-level models. *Sport management review, 16*(1), 54–67.

Whisler, R. L., Waldorf, B. S., Mulligan, G. F., & Plane, D. A. (2008). Quality of life and the migration of the college-educated: a life-course approach. *Growth and Change*, *39*(1), 58–94.

White, A. (2007). Internal migration trends in Soviet and post-Soviet European Russia. *Europe-Asia Studies, 59*(6), 887–911.

White, I. R., & Carlin, J. B. (2010). Bias and efficiency of multiple imputation compared with complete-case analysis for missing covariate values. *Statistics in medicine*, *29*(28), 2920–2931.

Widdop, P., & Cutts, D. (2012). Impact of place on museum participation. *Cultural Trends, 21*(1), 47–66.

Widdop, P., Cutts, D., & Jarvie, G. (2016). Omnivorousness in sport: The importance of social capital and networks. *International review for the sociology of sport*, *51*(5), 596–616.

Wiesel, I. (2020). Producing and appropriating neighbourhood prestige: cultural capital in Australia's elite suburbs. *Social & Cultural Geography*, *21*(9), 1197–1222.

Wodtke, G. T., Harding, D. J., & Elwert, F. (2011). Neighborhood effects in temporal perspective: The impact of long-term exposure to concentrated disadvantage on high school graduation. *American sociological review, 76*(5), 713–736.

Wright, E. O. (2005). Conclusion: If "class" is the answer, what is the question? In E. O. Wright, *Approaches to class analysis*. (pp. 180–192). Cambridge, UK: Cambridge University Press.

Yaish, M., & Katz-Gerro, T. (2012). Disentangling 'cultural capital': The consequences of cultural and economic resources for taste and participation. *European Sociological Review*, *28*(2), 169–185.

Zaiontchkovskaya, Z. A., & Nozdrina, N. N. (2008). The migration experience of the population of Russian regional centers, based on a sociological survey in 10 cities. *Studies on Russian Economic Development, 19(4)*, 395–404.

Zavisca, J. (2003). Contesting capitalism at the Post-soviet Dacha: The meaning of food cultivation for urban Russians. *Slavic Review*, *62*(4), 786–810.

Zubarevich, N. (2013). Four Russias: Human potential and social differentiation of russian regions and cities. In M. Lipman, N. Petrov (Eds.), *Russia 2025*. (pp. 67–85). London: Palgrave Macmillan.

Appendix A

Table A1
Cumulative percentage of participation in walking, hanging out with friends, shopping, and gardening

	walking			friends			shopping			garden		
	1	2	3	1	2	3	1	2	3	1	2	3
day	13.1	9.2	20.4	11.7	5.7	14.2	6.7	5.1	8.0	29.0	14.4	5.8
week	28.0	38.4	60.8	42.6	40.5	63.9	31.4	32.4	49.0	46.0	34.3	18.4
month	39.5	71.0	89.5	74.6	87.4	96.5	52.4	82.5	90.4	51.4	45.5	32.8
year	50.1	96.0	96.5	87.0	99.1	99.3	63.0	95.5	95.6	54.7	57.7	46.9
never					100							

Appendix B. Model Specification

Grouping independent variables

Before proceeding with the data analysis, we need to divide independent variables into two groups: those with a monotonic relation to the dependent variable (x from equation II) and the rest (u). For this, we will consider multinomial Model 01 with the third cluster as the baseline category. Variables whose coefficients have the same sign when comparing the probabilities of belonging to clusters 2 (vs.3) and 1 (vs.3) – β_2 and β_1 (and $|\beta_1| > |\beta_2|$) – will be categorized as **x**.

Multinomial Model 01 shows (see Table B1) that a monotonic relationship with the dependent variable is exhibited by all predictors except sex, partner, children, and job. Furthermore, sex is the only insignificant variable in the model. All variables, apart from the above-mentioned, will be considered to have an ordinal relationship with the dependent variable. In Model 02 (see Table B2) the variables of sex, partner, children, and job are modelled as in a multinomial regression, while others are based on Anderson's stereotype model. Coefficient ϕ_2 does not differ significantly from 0.5; therefore, the proportional odds assumption is reasonable in this case.

Table B1
Multinomial Model 01; Model 02: partial stereotype model

Model	01		02	
	2 vs 3	1 vs 3	2 vs 3	1 vs 3
Int	1.85 (0.28)***	2.66 (0.31)***	1.28 (0.17)***	2.40 (0.29)***
SexW	0.05 (0.08)	- 0.15 (0.10)	0.08 (0.08)	- 0.14 (0.09)
Partner	0.47 (0.08)***	0.17 (0.09)	0.52 (0.08)***	0.19 (0.09)*
Children	0.57 (0.09)***	0.35 (0.11)**	0.53 (0.08)***	0.35 (0.11)**
Job	0.29 (0.12)*	- 0.51 (0.12)***	0.23 (0.10)*	- 0.52 (0.12)***
Log_inc	- 0.32 (0.07)***	- 0.45 (0.07)***	- 0.42 (0.07)***	
Class:				
Small business owners	- 0.50 (0.16)**	- 0.49 (0.18)**	- 0.36 (0.17)*	
Technical (semi-)professionals	- 0.61 (0.14)***	- 0.96 (0.16)***	- 0.85 (0.15)***	
Production workers	0	0	0	
Associate managers	- 0.68 (0.13)***	- 1.35 (0.15)***	- 1.25 (0.14)***	
Clerks	- 0.38 (0.17)*	- 0.80 (0.19)***	- 0.75 (0.18)***	
Sociocultural (semi-)professionals	- 0.75 (0.15)***	- 1.23 (0.17)***	- 1.14 (0.16)***	
Service workers	- 0.52 (0.13)***	- 0.55 (0.14)***	- 0.38 (0.12)**	

Age:			
25-34	0	0	0
35-49	0.98 (0.09)***	1.93 (0.12)***	1.94 (0.11)***
50-64	1.99 (0.12)***	3.76 (0.14)***	3.67 (0.14)***
>65	2.59 (0.18)***	5.45 (0.20)***	5.55 (0.18)***
Education	- 1.10 (0.15)***	- 2.74 (0.17)***	- 2.79 (0.17)***
Locality:			
Country	0.30 (0.11)**	0.96 (0.12)***	1.06 (0.11)***
Town	0	0	0
Regional centre	- 0.16 (0.09)	- 0.48 (0.10)***	- 0.48 (0.10)***
Moscow, St. Petersburg	- 1.01 (0.11)***	- 1.30 (0.13)***	- 1.26 (0.13)***

Note: ***p<0.001, **p<0.01, *p<0.05; standard errors in parentheses

Table B2
Description of models including baseline regressions

$\log\dfrac{\pi_m(x,u)}{\pi_3(x,u)} = \alpha_m + u\gamma_m +$		A	B	C
	$d =$	c	$\max(c, s)$	c
	$o =$	s	$\min(c, s)$	u
01	$+ x\beta_m + d\mu$	102.5		102.5
02	$+ \phi_m x\beta + d\mu$	54.2		54.2
03	$+ \phi_m(x\beta + wd\mu + (1-w)o\mu)$	26.6		
1	$+ \dfrac{3-m}{2}(x\beta + wd\mu + (1-w)o\mu)$	21.5	20.0	0
2	$+ \dfrac{3-m}{2}(x\beta + (w + w_u up)d\mu + (1 - w - w_u up)o\mu)$	27.4		
3	$+ \dfrac{3-m}{2}(x\beta + \beta_u up + \beta_d down + wd\mu + (1-w)o\mu)$	32.8	33.0	
4	$+ \dfrac{3-m}{2}(x\beta + \beta_u up + \beta_d down + (w + w_u up)d\mu + (1 - w - w_u up)o\mu)$	41.2		
5	$+ \dfrac{3-m}{2}(x\beta + (w + w_e ed\_mob)d\mu + (1 - w - w_e ed\_mob)o\mu)$	18.7		6.5

Note: "*c*" – current locality; "*s*" – locality of school; "*u*" – locality of university for those who studied at one, for others – locality of school.
Five lines at the bottom correspond to Table 4.
Cells represent differences between the BIC and Model 1C for each case.

Hyperparameter tuning

The R package gnm allows to calculate the diagonal reference model (I) as well as the stereotype model (II); however, they are not supposed to be combined within one model, and the authors also do not know of any other available mathematical solutions with this set of functions.

A conventional solution to this problem is hyperparameter tuning. In the case under consideration, two out of three coefficients for ϕ_i (see II) are set a priori ($\phi_3 = 0$, $\phi_1 = 1$); therefore, a transition from the proportional odds model to Anderson's stereotype model would require estimation of just one additional parameter ϕ_2 with a domain of $(0;1)$. For every fixed value ϕ_2, other model parameters can be estimated using the gnm package and the method of maximum likelihood estimation. Numerical evaluation of the profile likelihood function (likelihood function for fixed ϕ_2) makes it possible to choose an optimal value for ϕ_2 (see Fig. B1). Assessment of the confidence interval for ϕ_2 can be conducted using a chi-squared test (Barndorff-Nielsen, Cox, 1994, p. 90).
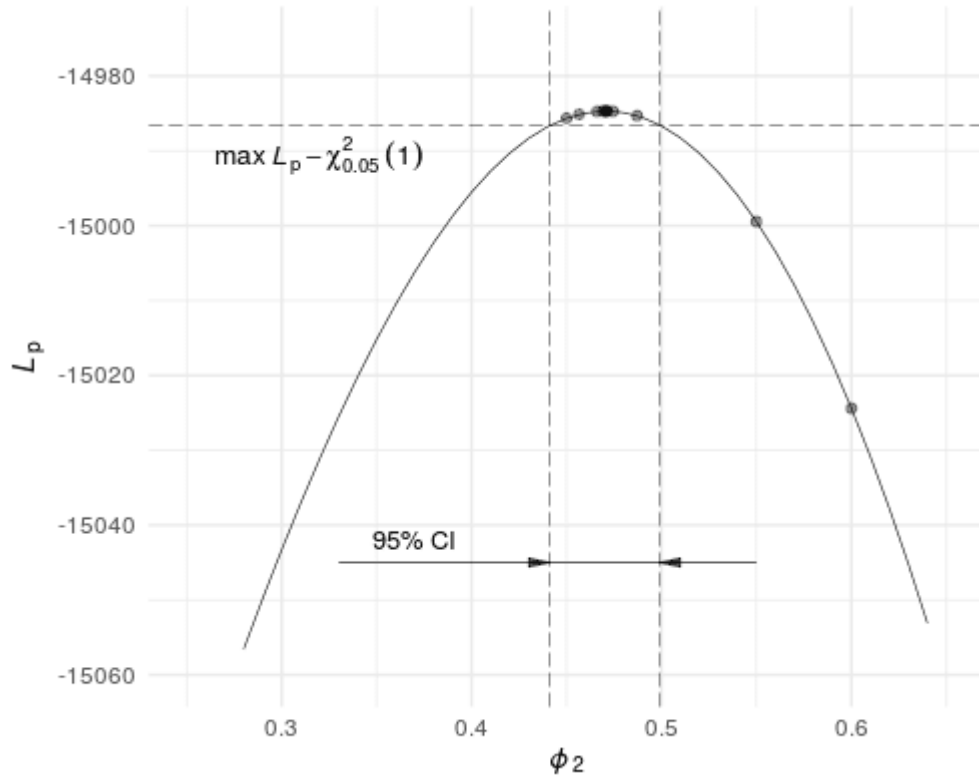

Fig. B1. Profile log likelihood model (03).
Note: The figure shows fitted curve and initial points with coordinates set using Bayesian optimization. Building the confidence interval is also demonstrated.

As seen in Figure B1, the maximum value of L_p is reached when $\phi_2 = 0.47$, 95% CI [0.44, 0.50]. Value 0.5 is at the boundary of the confidence interval, and according to the BIC, this model (Model 03, Table B1) is inferior to a simpler Model 1A, where $\phi_2 \equiv 0.5$ (proportional odds) (see Table B1). Thus, the proportional odds assumption in this case is acceptable. Instead of a more general Model 03, where ϕ_2 is the estimated parameter, one can use Model 1A, where $\phi_2 \equiv 0.5$ a priori or $\phi_m = \frac{3-m}{2}$.

Appendix C

The estimates of the regression coefficients with missing data are not subject to bias if the probability of being missed (and excluded from the analysis) depends on y after conditioning on the covariates, where y is a dependent variable (Little & Rubin, 2020, p. 49). That is, $P(R_x = 1 \mid x, z, y) = P(R_x = 1 \mid x, z)$, where

R_x is the binary indicator for missing values of variable x ($R_x = 0$ for those respondents who do not have a value for x, $R_x = 1$ for others), *y* is the dependent variable, *z* stands for other independent variables (White & Carlin, 2010). The stated condition can be verified using a logistic regression where the dependent variable is R_x and independent variables are all other variables utilized in the analysis, including *y* (Hughes et al., 2019; Bartlett et al., 2015). Table C1 demonstrates a lack of association between the missing data indicator for the variable of parental education (R_x) and the leisure cluster (*y*). Thus, coefficients in a reduced sample should be asymptotically unbiased.

Table C1
Connection between the missing data indicator for the variable of parental education and the leisure cluster

Variables	B
Intercept	0.40 (0.20)*
Cluster1	**-0.05 (0.09)**
Cluster2	**0.06 (0.07)**
Sex (female=1)	0.05 (0.06)
Partner	-0.07 (0.06)
Children (yes = 1)	-0.25 (0.07)***
Have a job (yes = 1)	0.25 (0.08)***
Age:	
25-34	0
35-49	0.63 (0.07)***
50-64	0.94 (0.09)***
65+	-1.52 (0.11)***
Log_income	-0.12 (0.04)**
Class:	
small business owners	0.04 (0.11)
technical (semi-)professionals	0.20 (0.10)*
production workers	0
associate managers	0.24 (0.09)**
Clerks	0.10 (0.11)
sociocultural (semi-)professionals	0.28 (0.10)**
service workers	0.09 (0.08)
Relat. Education	-0.09 (0.11)
Current locality:	
Country	0.78 (0.08)***
Town	0
Regional centre	-0.50 (0.08)***
Moscow, St. Petersburg	-0.61 (0.13)***
School locality:	
Country	-0.10 (0.07)
Town	0
Regional centre	0.19 (0.09)
Moscow, St. Petersburg	0.28 (0.14)

Note: ***p<0.001, **p<0.01, *p<0.05; standard errors in parentheses

Appendix D

For comparison, we also built Model 1A based on the sample of respondents who provided data on parental education.

Table D1

Model 1A and Model 1A with data on parental education

Variables	Model 1A + parental education	Model 1A
Intercept (1 vs 3)	2.80 (0.39)***	2.33 (0.38)***
Intercept (2 vs 3)	1.66 (0.23)***	1.43 (0.23)***
Sex (female=1) (1 vs 3)	-0.28 (0.13)**	-0.22 (0.13)
Sex (female=1) (2 vs 3)	0.01 (0.10)	0.03 (0.10)
Partner (1 vs 3)	0.40 (0.12)***	0.43 (0.12)***
Partner (2 vs 3)	0.60 (0.11)***	0.50 (0.08)***
Children (yes = 1) (1 vs 3)	0.06 (0.14)	0.05 (0.14)
Children (yes = 1) (2 vs 3)	0.41 (0.11)***	0.41 (0.11)***
Have a job (yes = 1) (1 vs 3)	-0.51 (0.16)***	-0.50 (0.16)***
Have a job (yes = 1) (2 vs 3)	0.19 (0.14)	0.19 (0.14)
Log_income	-0.41 (0.09)***	-0.40 (0.09)***
Class:		
small business owners	-0.14 (0.23)	-0.17 (0.23)
technical (semi-)professionals	-0.71 (0.22)***	-0.77 (0.22)***
production workers	0	0
associate managers	-1.09 (0.20)***	-1.15 (0.20)***
Clerks	-0.45 (0.24)*	-0.48 (0.24)**
sociocultural (semi-)professionals	-0.95 (0.21)***	-1.01 (0.21)***
service workers	-0.24 (0.17)	-0.25 (0.17)
Age:		
25-34	0	0
35-49	2.07 (0.02)***	2.05 (0.15)***
50-64	3.67 (0.18)***	3.66 (0.18)***
65+	4.71 (0.28)***	4.67 (0.28)***
Relat. Education	-2.80 (0.24)***	-3.10 (0.23)***
Parental education	**-1.12 (0.21)***	
w	0.56 (0.09)	0.54 (0.08)
Locality:		
Country	1.22 (0.15)***	1.27 (0.15)***
Town	0	0
Regional centre	-0.55 (0.16)***	-0.62 (0.15)***
Moscow, St. Petersburg	-1.17 (0.21)***	-1.27 (0.21)***
N	4559	

Note: ***p<0.001, **p<0.01, *p<0.05; standard errors in parentheses

Sergey A. Korotaev

National Research University Higher School of Economics, Laboratory for Comparative Analysis of Development in Post-Socialist Countries

E-mail: skorotaev@hse.ru

Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE.