gesis

Leibniz-Institut
für Sozialwissenschaften

Societal Differences of Temporal Complexity in Personal Leisure

Ewa Jarosz and Georgios Papastefanou

Societal Differences of Temporal Complexity in Personal Leisure

Ewa Jarosz and Georgios Papastefanou

Ewa Jarosz
Institute of Philosophy and Sociology, Polish Academy of Sciences
Warsaw, Poland

1   Introduction

Much attention in social research has been devoted to inequality based on income and its derivatives (e.g. Erikson and Goldthorpe, 2002; Sorensen, 1996), however, relatively little have been said about the temporal dimension of existing social differences. Unlike money, time is differentiating in at least two ways. First, when treated in the quantitative manner as a measure of the ratio of particular types of activities: e.g. the proportion of working time versus time off work (Bittman and Goodin, 2000, Sevilla-Sanz, Giminez-Nadal, Gershuny, 2012), or the proportion of time spent on paid-work versus unpaid-work (e.g. Sayer, 2005). Secondly, time reflects social differences in the way it is used – including the level of sequence fragmentation intensity of time-use, or diversity of activities performed (Glorieux et al., 2010; Sullivan and Katz-Gerro, 2010). In this study we focus on the dynamic features of time-use trajectories.

Most studies addressing the issue of temporal inequality were done in developed, relatively affluent countries. Since temporal characteristics of behaviors have been related to the socioeconomic conditions (Levine, 1997), we account for the possible impact of macro-level conditions by including data from two countries with significant differences in GDP per capita: Poland and Germany.

The objective of this paper is thus to explore to what extent societal differences are reflected in social differentiation of dynamic characteristics of time use. In the first part of the paper, we shortly introduce the thesis of acceleration and its societal context. Then the datasets are described and specific hypotheses on societal differentiation of accelerated pace of life are examined for empirical evidence. In the methods chapter we introduce complexity indicator which is used to capture the intensity of diurnal leisure activity sequences. Finally, results of multivariate regression analysis are reported and discussed. The paper ends with conclusions on the cross-cultural differences in leisure time acceleration.

2   Theoretical background

In XXth century societies faced substantial changes in the pace and rhythm of life. Technological advancements in the processes of transmission of information on a mass scale, and great acceleration of social change led to unprecedented temporal shift. Fast pace and intensity of life have become a trademark of developed societies (Rosa, 2003; Rosa and Scheuerman, 2009), and keeping up with the tempo - a new imperative.

The acceleration and intensification of life has also been reflected in leisure time-use patterns. Nowadays people engage in, on average, higher number of leisure activities than in the past, yet today they are shorter and require less of personal engagement (Sullivan, 2008). Studies point to an increasing preference for less time-consuming task, and growing interest in the simplified versions of popular sports (Robinson and Godbey, 1999). In developed consumer societies the amount of leisure activities to choose from have significantly increased. Many possible forms of entertainment and limited amount of leisure time available entail the urge to intensify leisure consumption.

Although the general acceleration affects entire societies, it seems that the change in pace and intensity of life has not influenced the lifestyle of each social stratum or social category in the same way. The phenomenon of intensification of time-use has been most pronounced in the upper social classes (see e.g. Linder, 1970). The leisure-time behaviors of upper stratum has thus been referred to as "voracious" (Sullivan and Katz-Gerro, 2010), as characterized by greater intensity and complexity of leisure time-use. Social differences in leisure behaviors can be related to different value attributed to time, related to temporal opportunity costs (Linder, 1970, Becker, 1965, see also Gell, 1996), which are higher in the upper social stratum.

In our study we focus primarily on behavioral differences between classes, and analyze them in cross-national perspective, that is comparing two different societies. The reason for that is that existing studies on time inequality come mostly from affluent Western European countries. Little has been said about the intensity, pace of life and possible social differences within the countries, on lower stage of economic development, with lower wages and perhaps also more limited consumption possibilities.

3   Data and hypotheses

We aim to verify whether the general increase of time intensity and differences in time-use observed in affluent countries apply to countries with different social and economic conditions. This will allow testing the thesis on social acceleration as being the feature of developed economies as well as the scope and scale of time inequality in the societies that differ in this respect. The data we use are German Time-Use Survey (GTUS) conducted in Germany in 2001/2002 and Polish Time-Use Survey (PTUS) conducted in Poland in 2003/2004. Both surveys were carried out within the Harmonized European Time-Use Survey (HETUS) framework. In HETUS each diary day questionnaire is divided into ten-minute time slots and so the 10-minutes spell is the unity of analysis in the raw data of time-use. In Germany one respondent was to fill in 3 diary-days (including one day of the weekend), in Poland each respondent was to complete 2 diary-days (including one day of the weekend). For the purpose of our study for both countries we selected weekend days only – as we are interested in the leisure time activities. We selected those days because leisure sequences over the weekend are relatively uninterrupted and of similar duration across different social categories – contrary to the leisure time over the week, when the length of the sequence is strongly affected by the working time, and as such differs significantly between occupational classes.

Second sample restriction was the decision to include in the analysis only the active (working) population. Weekend time-use is distinctive from the week time-use in case of the active population, which is not necessarily the case for pensioners or students. Secondly, we wanted to investigate the relationship between social stratum belonging and leisure time complexity, and occupational category and income were one of important indicators. We also restricted the age brackets for the analyzed sample by selecting people aged 17 to 60 (retirement age for women).

The survey sample was household-based, so it included people from the same household. We randomly selected only one person from each household and only one day per person (a weekend day) to assure the independence of observations. After all the reported restrictions have been implemented, the final sample size for was 6750 for Germany and 3951 for Poland. At the time when GTUS was conducted, Germany"s GDP per capita was 22,840 \$[1], and the reported GINI index for the country - 28,3[2]. German society was thus affluent, relatively equal, with generally high level of socio-economic development.

Poland, when the Polish survey was conducted, was on the verge of great political and social change. The country joined the European Union in May, 2004 and many new social and economic regulations were introduced in preparation for accession. Nevertheless, by May 2004 Poland was not under the European Union legislation yet, and the country was different from the EU 15+, including Germany. Polish GDP per capita in 2004 was 6,620 \$[3]. Polish society, with a relatively young capitalist regime, was also less equal, with the GINI index of 35,9[4] in 2004.

Taking into account significant differences in the stage of socio-economic development between Germany and Poland, we expect Germany to have faster pace of life than Poland. In the analyses we focus on leisure time use patterns, where this effect should be enforced also by more developed consumer market and greater consumption possibilities in Germany (greater income). The hypothesis regarding country differences is formulated as following: The intensity of leisure time would be greater in Ger-

[1]   World Bank data for 2001
[2]   World Bank data for 2000
[3]   World Bank data for 2004
[4]   World Bank data for 2004

many because of its higher stage of socio-economic development and greater consumption possibilities than in Poland.

While formulating hypothesis about the within-country differences in time-use, we include the information on the level of social inequality as measured by the GINI coefficient. Assuming that leisure time-use patterns are related to social status, social differences in leisure time use would be more pronounced in Poland – because of greater social inequality.. Having these assumptions in mind, we formulated the second hypothesis:

Social class differences in leisure time-use patterns will be greater in Polish society than in German society.

4 Method

As our aim was to describe the trajectory of leisure time-use, we needed a dynamic measure that would characterize the flow of activities over time, and hence the level of intensity of time use.

Increased intensity of leisure has particular implications for time-use sequences: if there are more activities undertaken in a particular period of time, their episodes need to be shorter fit into a sequence of limited duration. In this paper we use this feature of time-use sequences to investigate the issue of the level of activities intensity during leisure time.

Intensification of time-use means that there are more things happening within a particular period of time, and individuals quicker switches from one activity to another, spending less time within a given state. As a result, there are more episodes in the sequence, and. along with the increase in the number of elements in the sequence, increases also the number of transitions between them.

We needed a measure that would reflect this characteristics of sequences, and also account for the diversity of activities undertaken. We decided to use complexity index, a measure of sequence complexity introduced by Alexis Gabadinho (Gabadinho et al., 2011). The index is computed as given below:

The *complexity index C(s)* of a sequence *s* is

$$C(s) = ([q(s) \, h(s)]/[q_{max} \, h_{max}])^{\hat{} (.5)}$$

where *q(s)* is the number of transitions in the sequence, q_{max} the maximum number of transitions, *h(s)* the within entropy, and h_{max} the theoretical maximum entropy which is $h\_max = -log \, 1/|A|$. |A| is the size of the set of different activities.

Complexity index incorporates information pertaining to both the number of transitions within the sequence (hence also the frequency of activity change), and the number of different elements in the sequence (activities variability). Because of this attributes we decided to use it as a proxy for the intensity of time use in our study. . Higher values of complexity index would thus indicate greater intensity of time-use (including greater number of different activities undertaken in the given period of time); lower values would represent fewer transitions and limited number of activities undertaken.

The big benefit of using complexity index is the fact that it provides a single number, which can later be used in statistical procedures, which is the pivotal point of our study. We thus use complexity index as the dependent variable to test how leisure intensity is influenced by social characteristics in Germany and Poland, and what are cross-country differences in the level of this intensity.

The independent variables include basic variables describing socio-economic status: occupational category (manual or non-manual), level of education (3 categories), and income (3 categories[5]). Since leisure time is spent mostly outside of working place, but not necessarily out of home and family, we

---

[5] Income was grouped into 3 categories: high, medium and low, each category representing roughly 33% of the sample distribution for a given country. The absolute income for Poland and Germany is hardly comparable because of great differences in the GDP per capital. The intention was thus not to reflect the absolute low, medium and high income categories in the population, but rather to group income with relation to the distribution within Poland or Germany – mainly for the sake of cross-country comparison. And so low income means that the respondent"s income is within circa 33% lowest values of income reported in the sample, medium – within the middle 33%; and high – that their income is within the 33% of highest income values in the country sample.

control for the respondent"s marital status. Due to significant gender differences in leisure reported in the time-use literature (see e.g. Sayer, 2005), we control also for gender, and other essential demographics – age. Last but not least, as we include observations for both weekend days (Saturday and Sunday), we control for the particular day.
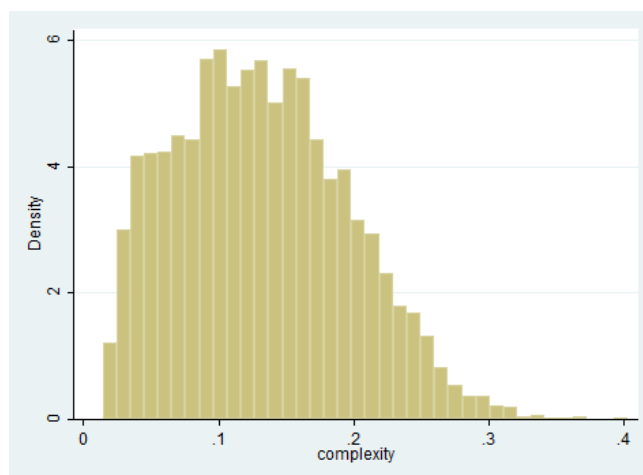
5   Analysis

Activities coding in the HETUS-type studies is very detailed. The initial activity list in HETUS-type stud-ies comprises around 200 activities; the inclusion of all might lead to too high sequence fragmenta-tion. Too many categories blur the occurrence of substantially different activities and introduce very high complexity levels, which can be misleading. In order to include the substantial differences (i.e. the transition from one type of activity into another), we decided to collapse personal leisure activities into more general categories. This allowed us also to limit the number of categories to be included in the sequence complexity measure. We grouped activities into more general umbrella categories, such as e.g. reading (regardless of whether it was a book or a journal), playing games (regardless of the type of game played), etc. As a result, we obtained 23 categories of personal leisure activities. All other activities (e.g. non-paid work, self-care, or caring activities) were coded as "other"; they also were included in the sequence, as interweaving with the episodes of leisure.

The sequences comprising of leisure and „other" activities, were used to compute complexity index. To do so we used the TraMineR package in R, developed by Gabadinho (Gabadinho et al., 2011). Com-plexity index was computed for each sequence representing individual trajectory of leisure activities over Saturday or Sunday. At this stage we decided to exclude complexity index with the value of zero, because it represented sequences of no transitions (only one state), which were very unlikely to hap-pen in the real life, unless a person was ill and sleeping all day.

The distribution of the complexity index we obtained was slightly skewed, but close to normal distri-bution for both countries.

Figure 1:   Distribution of complexity index in the German sample, excluding complexity equal to zero; n= 6750, mean = 0.132, std dev.= 0.063

Figure 2:   Distribution of complexity index in the Polish sample, excluding complexity equal to zero; n= 3951, mean = 0.137, std dev.= 0.062
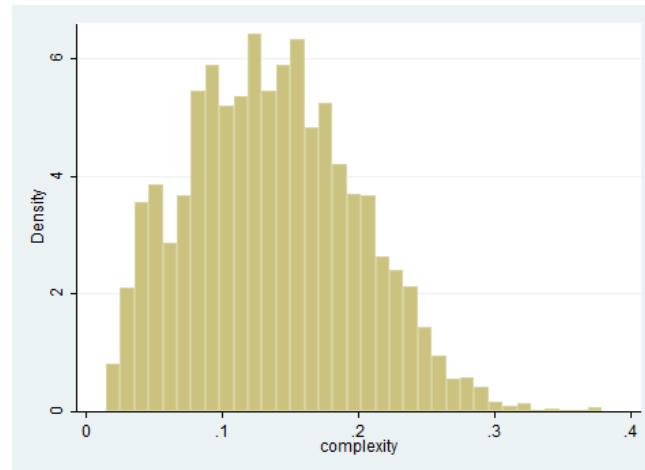
Using complexity index as dependent variable we conducted two stages of regression analysis. First, multivariate regressions were carried out separately for Poland and Germany in order to test the within-country class differences in temporal complexity of leisure time-use. The next step was to run multivariate regression on the pooled dataset (combined data for Poland and Germany) to test country net effect on the level of sequence complexity in leisure time.

In the pooled regression we used the same model as for the within-country regression, comprising education, income, occupational status, gender, age, marital status and day reported in the diary as independent variables. On top of that we added country dummy variable. We inserted the country first into the regression to gradually check whether country differences would become less pronounced or even insignificant while we added the next variables – primarily ones related to the socio-economic status, followed by day, gender, age and marital status. At this stage of analysis, the explanatory power of the country variable was the focus of our analysis specifically aimed at testing the hypothesis pertaining to the links between macro-level socio-economic conditions in the country and individual leisure complexity.

6　Results

6.1　Within–country analysis

As outlined before, in the country-level regressions (run separately for Germany and Poland) we tested the model comprising the following independent variables: general occupational category (manual or non-manual work), income (high, medium or low) and marital status (married, single, and widowed or divorced), controlling for gender, age and diary day.

In terms of similarities between the countries, age and gender were statistically significant in both Germany and Poland (see Table 1below). Women have significantly less complex leisure than men, which means they engage is less diverse leisure activities and the number of them is lower (less transitions between states). This finding seems to confirm existing gender differences in leisure as reported in the literature. Greater gender differences in Poland might be related to the fact that more traditional and less equal (in terms of GINI index) Polish society might provide conditions for greater inequality in leisure time-use patterns across different social categories, including gender.

The effect of age is similar in the two countries – complexity of leisure increases with years of age – but again, like in case of gender, it was more pronounced in Poland. We also tested the effect of age squared, but it did not bring substantial improvement in the model fit.

Table 1:　　　Regression results for Germany and Poland

	Germany			Poland		
	Coef.	Std. Err.	t	Coef.	Std. Err.	t
Sunday	0.0253	0.0019739	12.81*	0.0398	0.0025834	15.40*
female	-0.0160	0.0025851	-6.19*	-0.0162	0.0028169	-5.75*
age	0.0003	0.0001273	2.63*	0.0009	0.0001412	6.21*
white collars	0.0031	0.00268	1.14	0.0027	0.0035408	0.77
middle education	0.0043	0.0064246	0.67	0.0000	0.0040793	0.01
high education	0.0066	0.0066449	1.00	0.0096	0.0053506	1.80[+]
middle income	0.0006	0.0027452	0.23	0.0049	0.0032859	1.50
high income	0.0026	0.0031837	0.82	0.0079	0.003551	2.23*
single	0.0022	0.0030326	0.74	0.0140	0.0036833	3.79*
divorced/widowed	0.0039	0.0031986	1.23	0.0091	0.004565	2.00*
cons	0.1055	0.008569	12.31*	0.0792	0.0076654	10.34*
Adj R-squared	0.054			0.136		

Notes: * denotes p≤0.05, [+] denotes p≤0.10

A more differentiating dimension – in terms of cross-country comparisons – were socio-economic categories within the sample, the impact of which substantially differed in Germany and Poland.

In case of Germany, the general occupational division between manual and non-manual workers was not a differentiating dimension within the sample. In Poland it did not have a significant effect either, which might suggest that either these categories were too general to be socially distinctive, or that the leisure time-use patterns are not determined by the general work characteristics. Other social status components, however, such as income and – to a less extent – high education – seem to have an influence on temporal complexity of leisure in Poland, but not in Germany. Especially, the significant coefficient for high income in Poland, might suggest that greater purchasing power and consumption opportunities in the more affluent groups can be linked with more intense and diversified leisure – which is in line with the findings by Glorieux et al. for Belgium (2010), or Sullivan and Katz-Gerro for the UK (2010). Lack of such relationship in Germany is an interesting observation and might be related to the macro-economic factors, such as greater average GDP per capita (and hence purchasing power) and lower income disparities (measured by GINI coefficient). Perhaps in a more equal and more affluent society, income is not such a distinctive determinant for leisure behavior, which seems to support our hypothesis that societies of greater inequality might be characterized by more inequality in leisure time use patterns.

Interestingly, Polish society was subject to greater differentiation also on the family-related dimension: marital status. People having no spouse (or formally separated), such as single people, divorced or widowed have significantly more complex leisure patterns than people who are married, everything else controlled for. There was no such relationship in the German sample, which might suggest more unified time-use patterns in the German society.

Lastly, in Germany as well as in Poland, the effect of the day of the weekend was substantial, with significantly higher complexity scores for Sunday in both countries. This finding might imply that days when people are less likely to engage in unpaid housework or other domestic chores (Sunday) can be used for more diverse and rich leisure.

Not surprisingly, the model was also better fit to the Polish data, explaining over 13% of the variance, while the adjusted R-squared for the German data was above 5%. It is important to point out that the values of R-squared are likely to be lower than usual because of using a composite measure of sequence pattern as the dependent variable. Complexity index is derived from the computations based on behavioral patterns; it is not drawn directly from the questionnaire item or a simple record in the diary. Nevertheless, the cross-country differences in the model fit as well as in the within-country coefficients for particular variables are significant and informative.

6.2   Cross-country analysis

The first step in the cross-country analysis was to run a standard t-test in which we compared mean temporal complexity levels for Poland and Germany[6]. Contrary to our hypothesis and expectations, complexity index was significantly higher for Poland. This result questioned our hypothesis that a more socio-economically advanced society (Germany) would have greater complexity of leisure time-use patterns. Having in mind the within-country differences revealed by separate regression in Poland and Germany, we assumed the initial result of mean comparison might be attributed to greater social differences in leisure existing in Poland. However, further analyses showed this was not the case, and controlled for socio-economic factors, gender, and age, country differences still remained significant.

Table 2:   Regression on pooled German and Polish data

complexity	Coef.	Std. Err.	t
Poland	0.0075	0.0018432	4.09*
Sunday	0.0301	0.0015741	19.09*
female	-0.0156	0.001896	-8.25*
age	0.0005	0.0000952	5.76*
white collars	0.0038	0.0020992	1.81+
middle education	0.0012	0.0035073	0.35
high education	0.0053	0.0038992	1.35
middle income	0.0022	0.0020669	1.08
high income	0.0046	0.0023357	1.98*
single	0.0063	0.0023444	2.70*
divorced/widowed	0.0051	0.0026038	1.96*
cons	0.0934	0.0057598	16.21*
Adj R-squared	0.076		

Notes: * denotes $p \leq 0.05$, + denotes $p \leq 0.10$

In the pooled cross-country analysis we used the same model as in the within-country analyses, except for the dummy variable for country with Germany as the reference category. The net effect of the country on temporal complexity of leisure was significant. Complexity was higher for Poland, which confirmed the prior results of the t-test, and contradicted our working hypothesis. None of other independent variables (socio-demographic characteristics, or research day) accounted for the cross-country differences in temporal leisure complexity, which remained significant even after all other variables were added to the model.

In the pooled analysis, significant differences were maintained for all demographic variables – with lower complexity for women and younger people within the sample. Also people with higher income (highest within the sample) and no spouse (single, divorced or widowed) were more likely to have more

---

[6]   In mean comparisons as well as regression analysis we used unweighted country data. This decision was due to the fact that we were not as much interested in researching complexity in the two populations, but rather comparisons using representative samples for each country. Secondly, the categories into which we recoded social status split into occupational status, educational attainment and income were very general to facilitate harmonization between countries. The suggestion for next research might be to include specific social class categories (e.g. CASMIN schema by Erikson, Goldthorpe and Portocarero, 1979) with assigned weights. This, however, also calls for the use of census data, since no weights were provided in the HETUS studies.

intense leisure. The impact of the day of the research was the same as in case of the within-country analyses: Sunday was characterized by significantly more complex leisure.

Our findings seem to confirm the hypothesis about social inequality being reflected in the temporal complexity of leisure time activities – especially when tested in less equal society. However, we found no evidence to support the claim about greater intensity of time-use in more socio-economically developed countries. Based on our analysis, it seems that the general level of affluence and consumer market development does not determine an increased complexity of leisure time behaviors.

Overall, complexity seems to be more related to individual-level characteristics, such as social status, marital situation, or gender than the general macro-level socio-economic situation, such as GDP per capita in the country. Nevertheless, even the model accounting for individual social characteristics does not account for the total of the cross-country variance in complexity measure, which suggests there is another factor or set of factors determining country differences in this respect.

Intrigued by the findings of the cross-country analyses we made an attempt to investigate the possible drivers behind the country differences in complexity of leisure. Our ad-hoc hypothesis assumed the disparities in complexity levels between Germany and Poland might be due to specific cultural and historical background. Taking two countries of geographical neighborhood into analysis, we expected that geographical proximity would allow ignoring such differences, but our findings questioned this assumption. We thus assumed that post-socialist societies that were introduced to the market economy much later, accelerated the pace of development (and life in general) to catch up with the advanced economies, and greater intensity of work (reflected e.g. in longer working hours in Poland than in Germany) influenced also leisure time-use.

Since we had no longitudinal data, possibilities to test this hypothesis were fairly limited. Nevertheless, in the German dataset we could distinguish between Eastern Germany (the former German Democratic Republic) and Western Germany (the former Federal Republic of Germany), which were under different institutional and social arrangements until the fall of the Berlin wall in 1989. Although analogies between Eastern Germany and Poland are very limited due to their different situation before 1989 and, especially, different transition trajectories, this was the only way to distinguish between areas with and without any socialist heritage.

We thus compared complexity levels of leisure time-use for the two parts of present-day Germany. According to our working hypothesis, we would expect higher complexity indicators for Eastern Germany, which was more similar to Poland before 1989, and thus had to go through more intense transition phase when market economy was introduced. The results of our analyses showed no significant differences in the complexity levels in Eastern and Western Germany. The working hypothesis was thus rejected, although more research needs to be done to compare temporal complexity levels in post-socialist countries and countries with long history of market economy.

7   Summary and discussion

We argued in this paper that complexity of leisure time-use is related to individual socio-economic characteristics; it is also influenced by the macro-level conditions, such as high intensity of life and consumption possibilities in developed economies. We use complexity measure proposed by Gabadinho (2011) to test these hypotheses using data for Germany and Poland, to account for macro-level differences.

Our findings suggest that social differences in temporal complexity of leisure are more pronounced in the less equal Polish society. In the same time, we found no evidence to support the hypothesis that more intense leisure time-use patterns are the feature of more advanced or affluent consumer societies. Contrary to our expectations, leisure time complexity was, on average, higher in Poland, which has been a market economy since 1989. This finding, however, calls for more in-depth exploration, using data from at least several post-socialist countries and countries with long history of capitalist economy for comparison.

The very issue of complexity of time use also deserves further investigation. Complexity of tasks or behaviors is important not only in terms of social inequality, but also as related to the quality of life. As reported by Miller and Kohn (1983), "substantive complexity of work should be most directly pertinent for intellectual behavior in non-work realms of life" (Miller and Kohn, 1983: 219). The argument was further developed in the research by Schooler and Mulatu, which provide strong evidence that the complexity of leisure time activities enhances intellectual functioning over lifespan (Schooler, Mulatu, 2001, see also: 1999).

The effect of temporal complexity on wellbeing and psychological functioning needs to be thoroughly studied, but our research on the relationship between complexity of leisure and the subjective quality of leisure (Papastefanou and Jarosz, 2012) suggest that leisure complexity might be positively related to the leisure satisfaction.

Despite the possible benefits of complex leisure, one should not forget about the counter argument developed by Robinson and Godbey, who claim that increasing time compression (which accompanies intensification of time use) can create tension and feeling of hurriedness, and „the stress created is often transferred to us" (Robinson and Godbey, 1999: 41; see also: Southerton and Tomlinson, 2005). This suggests that the meaning and impact of temporal complexity on long-term psychological wellbeing is not straightforward, and perhaps the relationship is nonlinear.

Last but not least, complexity index is a new indicator, and there are no definite guidelines as to what its typical values for time-use sequences should be. This is another argument in favour of expanding the research on this topic, and preferably also including countries of different social composition, macro-level conditions, and historical background.

References

Becker, G. (1965), A Theory of the Allocation of Time. *Economic Journal*, 75, 493-517.

Bittman, M, Goodin, R. (2000), An Equivalence Scale for Time. *Social Indicators Research*, 52, 3, 291-311.

Bittman, M., Wajcman J. (2000), The Rush Hour: The Character of Leisure Time and Gender Equity. *Social Forces*, 79, 1, 165-189.

Elzinga, C. (2006), Turbulence in categorical time series. Department of Social Science Research Methods, Vrije Universiteit Amsterdam.

Elzinga, C., Liefbroer, A. (2007), De-standardization of Family-Life Trajectories of Young Adults: A Cross-National Comparison Using Sequence Analysis. *European Journal of Population*, 23:225–250

Erikson, R., Goldthorpe, J., and Portocarero, L. (1979), Intergenerational Class Mobility in Three Western European Societies: England, France and Sweden. *British Journal of Sociology*, 30, 4, 415-441.

Erikson, R., Goldthorpe, J. (2002), Intergenerational Inequality: A Sociological Perspective. *Journal of Economic Perspectives*, 16, 3, 31-44.

Harmonised European Time Use Surveys, Eurostat online database.
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database, Last access: July 31, 2013

Abadinho, A., Ritschard, G., Müller, N.S. and Studer, M. (2011), Analyzing and Visualizing State Sequences in R with TraMineR. *Journal of Statistical Software*, 40, 4, 1-37.

Gell, A., (1996), *The Anthropology of Time: Cultural Constructions of Temporal Maps and Images.* Oxford: Berg, Oxford International Publishers.

Gershuny, J. (2001), *Changing Times: Work and Leisure in Postindustrial Society.* Oxford: Oxford University Press.

Gleick, J. (1999), *Faster: The Acceleration of Just About Everything.* New York: Pantheon Books.

Glorieux, I., Laurijssen, I., Minnen, J. and van Tienoven, T. (2010), In Search of the Harried Leisure Class in Contemporary Society: Time-Use Surveys and Patterns of Leisure Time Consumption. *Journal of Consumer Policy*, 33, 2, 163-181.

Hall, E. (1984), *La danse de la vie – Temps culturel, temps vécu.* Paris: Seuil.

Heisig, J. (2011), Who Does More Housework: Rich or Poor? A Comparison of 33 Countries. *American Sociological Review*, 76, 1, 74-99.

Levine, R. (1997), *A Geography of Time.* New York: Basic Books

Linder, S. (1970), *The Harried Leisure Class.* New York: Columbia University Press.

Miller, K. A., Kohn, M. L. (1983), The Reciprocal Effects of Job Conditions and the Intellectuality of Leisure Time Activity. Pp. 217-241 in, Kohn, M. L., Schooler, C. (Eds.), Work and Personality: An Inquiry into the Impact of Social Stratification. Norwood, NJ: Ablex Publishing.

Papastefanou, G., Jarosz, E. (2012), Complexity of Leisure Activities over the Weekend: Socio-economic Status Differentiation and Effects on Satisfaction with Personal Leisure, in: *GESIS Working Papers 2012/26.* Mannheim: GESIS.
Available at:
http://www.gesis.org/fileadmin/upload/forschung/publikationen/gesis_reihen/gesis_arbeitsberichte/WorkingPapers_2012-26.pdf. Last access: August 05, 2013.

Robinson, J. P., Godbey, G. (1999), *Time for Life: The Surprising Ways Americans Use their Time.* 2nd Ed. University Park, PA: Pennsylvania State University Press.

Rosa, H. (2003), Social Acceleration. Ethical and Political Consequences of a De-Synchronized High-Speed Society (mit Entgegnungen von William Scheuerman, Barbara Adam und Carmen Leccardi). *Constellations - an International Journal of Critical and Democratic Theory*, 10, 1, 3-52.

Rosa, H., Scheuerman, W. (Eds.) (2009), *High-Speed Society: Social Acceleration, Power, and Modernity*. Philadelphia: Penn State University Press.

Sayer, L. C. (2005), Gender, Time and Inequality: Trends in Women"s and Men"s Paid Work, Unpaid Work and Free Time. *Social Forces,* 84, 1, 285-303.

Shaw, J. (1998), `Felling a List Coming On": Gender and the Pace of Life. *Time & Society*, 7, 2, 383-396.

Schooler, C., Mulatu, M. and Oates, G. (1999), The Continuing Effects of Substantively Complex Work on the Intellectual Functioning of Older Workers. *Psychology and Ageing*, 14, 3, 483-505

Schooler, C., Mulatu, M., (2001), The Reciprocal Effects of Leisure Time Activities and Intellectual Functioning in Older People: A Longitudinal Analysis. *Psychology and Ageing*, 16, 3, 466-82

Sevilla-Sanz, A., Giminez-Nadal, J. and Gershuny, J. (2012), Leisure Inequality in the United States: 1965–2003. *Demography*, 49, 3, 939-964.

Sorensen, A. (1996), The Structural Basis of Social Inequality. *American Journal of Sociology*, 101, 5, 1333-1365.

Southerton, D., Tomlinson, M. (2005), "Pressed for Time" – The Differential Impacts of a "Time Squeeze"". *Sociological Review*, 53, 2, 215–239.

Sullivan O. (2008), Busyness, Status Distinction and Consumption Strategies of the Income Rich, Time Poor. *Time & Society*, 17, 1, 5-26.

Sullivan O., Katz-Gerro T. (2010), Voracious Cultural Consumption: The intertwining of gender and social status. *Time & Society*, 19, 2, 193-219.

Veblen, T., (2008), *Teoria Klasy Próżniaczej*. Warszawa: Warszawskie Wydawnictwo Literackie MUZA S.A.

Wajcman, J. (2008), Life in the Fast Lane? Towards a Sociology of Technology and Time. *British Journal of Sociology*, 59, 1, 59-77.

World Bank data: http://data.worldbank.org/. Last access: July 22, 2013