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Complexity of Leisure Activities over the Weekend:

Socio-economic status differentiation and effects on satisfaction with personal leisure

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1   Introduction

Twentieth century faced a substantial growth in the average amount of leisure time in the post-industrial societies.

Comprehensive analyses done by Gershuny (see e.g. 2011) show that the time of paid work in the developed countries has declined on average by 27% net over the four decades from 1961 to 2001. Over that time, working patterns have also changed substantially and – it seems – irreversibly.

Increase in the amount of time free from work has certainly owed much to the popularization of the two-day weekend. What now might be taken as an axiom in the developed economies is a relatively recent development. Previously, the traditional one day of rest stemmed from religious norms and was meant to enable people to engage in religious celebrations.

In the XXth century consumer society, a single day of rest turned out to be insufficient. When new (secular) needs came into play, a change in social time use patterns was needed. Greater amount of leisure time became an economic and social necessity – the growing number of goods required time to be sold. Leisure – previously regarded as idle and futile – has eventually come to be seen as economically productive. Another day off work was in line with the expectations of the consumer market, policy makers and social actors calling for greater consideration for the working population.

Changes in working time did not pertain to the weekend time only. Weekly working hours have also diminished, bringing even more leisure to post-modern societies. These changes have been generally applauded as marking the end of the dark times of the overworked industrial population and signaling the dawn of the new era, in which more leisure was to bring greater health and happiness.

Although the proportion between work and leisure time remains a valid indicator of the quality of life, the frequently overlooked quality of this time seems to be of no less importance. What has also changed tremendously over the last century, were time-use patterns; and their characteristics need to be included in any research aiming at describing work-life balance, leisure time-use or leisure satisfaction.

One of the early acknowledgements of the substantial change in modern lifestyles within the realm of time, was the publication of Linder's Harried Leisure Class (Linder, 1970) describing the acceleration in the pace of life affecting the affluent social stratum. Other scientists went even further by claiming that the fast pace of life had become not only the characteristics but also the absolute necessity in the post-modern societies (Toffler, 1970).

The changes in the pace of life, initially observed by Linder among high social classes, are now spread in a far more democratic way and the acceleration has been described as affecting all areas of life (Gleick, 1999). The importance of this phenomenon was acknowledged by Rosa, who proclaimed it to be one of the landmarks of post-modernity (Rosa, 2003). Social acceleration is perceived by him as the constitutive and inescapable feature of late-modernity and manifested through its various aspects which are mutually enforcing. The first one, technological acceleration, is related to the wide use of the Information and Communication Technology (ICT). The second one – acceleration of social transformation refers to the increased pace at which social changes take place. The transformation processes that took at least a generation to happen now are completed within a far less time – and people are conscious witnesses of these changes. The last one is the increased speed and compression of daily activities which, to a great extent, it is an outcome of the two facets of acceleration mentioned before.

Yet, since the biologically determined length of waking time remains stable over decades, the amount of available time "for use" does not increase either. Acceleration in activity entails thus time compres-

sion, i.e. the quality of performing more tasks in limited time slots. It might certainly lead to rise in productivity or efficiency of consumption, but – as we argue later in the paper – not necessarily increase personal wellbeing.

2 Theoretical background

The general acceleration and thus intensification of the time-use seems to be triggered by many factors, that also determine to what extend it affects particular societies or social categories.

First of them seems to be the requirements of working environment, which in the capitalist economy is oriented towards efficiency, driven inter alia by the 'time is money' paradigm. Moreover, in the capitalist perspective being busy has been regarded as a virtue, as opposed to the unproductive idleness. Busyness thus not only stems from the straightforward demands of the job but also came to signify high occupational status.. In the same vein, the general decline in the working time is non-homogenous across the whole population; it differs significantly between social classes (Gershuny, 2005).

Secondly, as the trend of acceleration encompasses all areas of human life, the increased temporal fragmentation is not expected to be restricted to professional realm only. The efficiency-maximizing attitude might make people willing to use their leisure time 'to the fullest', tempted also by the multiple time-spending options available in the market. The possibility to benefit from them depends, naturally, also on the financial resources. More affluent people can engage in a greater number and variety of activities. Leisure time spending possibilities of less affluent people would, on the other hand, be restricted by the available financial resources.

Last but not least, there are well-documented links between the type of work performed (hence occupational status), and psychological functioning and behaviours outside of the working environment (Kohn and Schooler, 1983; Slomczynski, Miller and Kohn, 1981; Schooler, 1984). This provide grounds to assume that although busyness as profession-related trait cannot be directly translated to leisure time practices (Gershuny, 2005), working patterns may affect attitudes and behaviours expressed in the non-work environment.

As Kohn convincingly demonstrates, the character of work differs between the occupational positions, and the nature of the work has vast impact upon other areas of life, by shaping individual psychological functioning. Kohn and his collaborators presented several empirically validated lines of these distinctions, among them the level of task complexity, which differed significantly between the positions of higher and lower occupational status[1]. Working patterns were reflected in free time behaviours – showing similar characteristics, e.g. greater intellectual freedom and self-directedness among the people of higher occupational status. Kohn's work shows evidence for causal effect of the occupational realm on non-work life. Following this line of reasoning, one might expect that higher complexity at work may be reflected also in greater complexity of leisure time behaviours, and differ between social classes.

The hypotheses on class differences in leisure time-use patterns are in line with the existing research on the topic showing that people of higher socio-economic position engage in a greater number and variety of leisure-time activities (Bittman, 2002; Sullivan and Katz-Gero, 2010). Sullivan and Katz-Gerro show it has also a symbolical meaning: 'In a setting characterized by fluctuations and discontinuities, individuals assert a personality by adopting habits, styles, and fashions that make them stand out' (Sullivan and Katz-Gerro, 2010: 125). Compression and intensification of experiences becomes

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[1]　As the Authors put it in their own words: 'the relationships of stratification to psychological functioning were substantially attributable to three job conditions that affects the exercise of self-direction in one's work – namely, the substantial complexity of one's work, the closeness of supervision and the routinization of the work.' (Slomczynski, Miller and Kohn, 1981, p. 721)

thus not only a way to keep up with the accelerated pace of life but also a means to ascertain one's social position.

This acceleration and intensification of time-use has particular implications for the sequence specificity. As time cannot be stretched, the density of activities needs to increase. Greater number of tasks can be crammed into a limited leisure time period only through its increased fragmentation: the sequence being divided into shorter time slots and thus time being spread between different activities (Wajcman, 2008). Just like in the working life, increase in the leisure time-efficiency requires relevant time compression. And just like the task-overloaded working schedule might generates tension, 'voracious' behaviours during leisure time can further contribute to psychological discomfort. Studies show that temporal density and fragmentation of leisure activities adds to the impression of being harried (Wajcman, 2008; Southerton and Tomilson, 2005). As Robinson and Godbey point out, 'when we stretch it [time], the stress created is often transferred to us' (Robinson and Godbey, 1999: 41).

To sum up the theoretical background, here we outline the essential points in our reasoning. First of all, High-Speed-Hypothesis (Rosa, 2003; Rosa and Scheuerman, 2009) postulates that high pace of life is a general characteristic in modern developed societies. The process of general acceleration encompasses virtually all areas of human life, including leisure time. This leads to greater time congestion and fragmentation, also during leisure. Hence, despite quantitative increase in the amount of time free from work, the subjective experience of leisure might suggest the opposite. Eventually, leisure satisfaction may decrease.

In the same time, along with the general increase in the amount leisure time, different ways of spending by different social strata have marked the new lines of social distinction. Numerous factors might have contributed to this phenomenon, including the differences in working time arrangements – especially complexity levels at work. The level of leisure complexity may be mediated by occupational status and mirror particular social class belonging. Working patterns in upper social class involve more complexity, which may influence also leisure time-use patterns. The fact that leisure behaviours of upper class were described as 'voracious' provides additional support to this thesis.

From the presented reasoning stem our main hypotheses, which we verified in the empirical research. The first hypothesis pertains to the existence and specificity of class differentiation in terms of leisure time-use patters:

> H1: Leisure pattern of upper classes involves greater variety than that of lower classes, which is reflected in higher leisure complexity.

We also assume that fast pace of living contributes to greater time compression and saturation with activities (i.e. increase in temporal complexity). These characteristics pertain also to leisure time, which might lead to increased time pressure and reduced leisure satisfaction. We thus expect that:

> H2: Increased leisure complexity will lead to reduced leisure satisfaction.

Both hypotheses were empirically tested. The paper discusses basic concepts and study design as well as the research results and postulates recommendation towards the possible directions worth further exploration.

3   Data and methods

Since our intention was to capture temporal characteristics of leisure time-use patterns that could reflect the fast pace of modern life, we needed the concept that would enable to operationalize the rather abstract notion of 'fast pace of life'. Due to the connection between the pace and intensity of time-use, we assume that the fast pace of events can be described in terms of the specificity of their sequence. Fast pace entails greater compression of time, which means that a higher number of activities is crammed within a given period of time and thus shorter time slots are assigned for each of them. This stems from the fact that time is a zero-sum game and so there is always a trade-off between alternative activities. The level of sequence fragmentation together with the duration of activities spells point to the level of time compression. Along with the increase in the pace of life, the number of activities in the sequence rises too. Since the sequence duration is limited (e.g. by the length of waking time, which remains stable), increase in the number of activities entails decrease in the duration of each of them.

Moreover, since leisure time may well be contaminated with non-leisure activities, we need to distinguish between the different types of activities within the sequence (both leisure and non-leisure). The very variance within the pool of undertaken leisure activities is also meaningful, since the higher number of different activities, the greater expected time compression.

Temporal fragmentation along with the variance of activities would thus be a plausible indicator of the intensity and hence the pace of life that can well be applied in the empirical analysis.

In the data analysis we intended to use a dynamic indicator offering the ability to capture these aspects of sequence complexity. Complexity as a concept is essential in our analyses since, by capturing activities as plotted within a single sequence, it encompasses both their variety (the number of different activities) and duration of each activity spell. This allows us to include rich data on the dynamic trajectories as opposed to simple time budget calculations.

We decided to use the complexity index as proposed by Gabadinho (Gabadinho et al. 2011), which grasps both sequence fragmentation, i.e. the number of activities within the sequence, and their variability.

The index i combines the measurement of:

$q(s)$, the actual number of transitions in the sequence (the exact variability of activities between each of the 10-minutes time slots),

q_{max}, the maximum number of transitions in the sequence (the maximum number of transitions between the ten-minute time slots within the whole sequence),

$h(s)$, the actual entropy[2] in the sequence (the level of confidence for the estimation of each next activity in the 10-minutes time slot, due to the number of different activities occurring within the sequence) and

h_{max}, the theoretical maximum entropy (the level of confidence for estimation of the each next activity taking into account the whole pool of possible activities).

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[2]   For methodological clarity, we ought to mention that entropy is defined here in terms of Shannon entropy (Gabadinho et al., 2011) as the 'uncertainty' of predicting the states in a given sequence. In this case, if all states in the sequence are the same, the entropy is equal to zero, and the more variability of the states within a sequence – the greater its entropy.

The following equation was proposed by Gabadinho:

$$C(s) = \left(\frac{q(s)\, h(s)}{q_{max}\, h_{max}}\right)^{.5}$$

And if put in words, it would mean that

$$C(s) = \frac{\text{Number of transitions * Entropy within Sequence}}{\text{Maximum number of transitions * Theoretical maximum entropy}}$$

Since the notion of pace or tempo of activities is relevant only with reference to a dynamic process, not a static condition, we needed the data that allows for sequence analysis and hence enables such dynamic, complexity index-based approach.

The most appropriate, comprehensive and reliable data were time use diaries from the German module of Harmonized European Time Use Survey[3]. We used the 2001-2002 dataset of the German Time Use Survey, a study carried out on the representative quota sample of private households in Germany (including also foreigners' households). Social categories excluded from the research were persons without permanent home, and persons living in collective dwellings or institutions. In total, it covered the sample of 5 400 households, 12 600 persons and 37 700 diaries.

Time-use diaries provide information on the authentic 24-hours routines disaggregated in 10-minutes time slots. The data was collected using open questions and the records are episode-based, hence avoiding numerous biases being a problem in survey-based time accounts. For each time slot, German time use diary recorded main activity, secondary activity, persons present, location and means of transport (if applicable). It covered two consecutive days and one day of the weekend (Saturday or Sunday). To avoid seasonal distortion it was carried out over the year – split into four different periods.

Since the available data was intended for a household study, it comprised dependent respondents' records (as time use patterns of household members are related to each other). We randomly selected a sample of 5000 persons (N=5000), making sure each household is unique and represented only once within the sample used in our study. In this vein we avoided possible collinearity between the variables included in the analysis and assured to have independent responses in the sample.

Another necessary restriction was the age of participants of the study. The 2001/2002 German Time Use Survey covers the sample of people aged 10 and older, while we needed to focus on the population whose leisure time clearly differs from the work or study-related activities. Therefore we decided to select the respondents whose age falls within the brackets of labour market activity or intense educational activity. In the study we included the respondents older than 17 – since their schooling schedule is settled, rather rigid and hence the distinction between leisure time and non-leisure time becomes more clear. Another cut-off point was retirement age. We excluded all people who were retired, for their leisure time patterns would certainly stand out from the one of working/ learning population – first of all because of its far greater amount available.

Once the restrictions within the sample have been made, we came to consider the most universally shared leisure experience that might provide a sample of activities for our analysis. Since working hours differ greatly even across the working/ learning population, leisure time available within the

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[3] The Survey was carried out by the Federal Statistical Office, on behalf of the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth.

week may be a subject to high variance. However, weekend is a relatively long period of theoretically undisturbed leisure that is time, when most of the population does not perform any paid work (Gershuny, 2011). Unpaid work may be done over the weekend, but the spells of such activities can be included in the general sequence complexity.

The HETUS[4]-type studies record up to two activities for each time slot, yet, for the simplicity of analysis we decided to take into account only the primary activity. Secondary activity is regarded as one that accompanies the primary one (they are conducted simultaneously within the same time slot), however, it is the primary activity that mostly determines the character of particular time slot and sets it within a particular context (in this case: leisure/ non-leisure). Moreover, the practice of recording primary activities only has been widely used, e.g. in the American Time Use Surveys. Excluding secondary activity, however, has numerous drawbacks that we are aware of, and they become problematic in case of more complex studies incorporating the elements of interference between the prime and secondary activities. Nevertheless, primary activity record is sufficient for our analysis at its present stage, namely describing time sequences of primary activity over the weekend in terms of their fragmentation, number, duration and variability of activities, which amounts to the general leisure complexity.

Having estimated complexity index for the selected sequences (Saturday and Sunday separately), we later use it as a dependent variable in the OLS regression with social status variables as predictors. Since numerous examples in the literature show significant gender difference in the quality of leisure (see e.g. Shaw, 1998; Bittman and Wajcman, 2000), we control for gender in the regression. Respondent's life stage and related family obligations also play significant role in leisure time use patterns, especially with parenting coming as a period of more extensive non-paid work such as childcare, hence we also use age as another control variable.

I(n relation to the possible episodes of unpaid work, the general question which arises of whether the increased sequence complexity is caused by unintended disturbances in performed activities (which may be due to the necessity to switch temporarily from one activity to another) or it is an expression of individual freedom and preference for flexible schedule, manifested in interweaving different activities in preferred configurations.

This issue can be addressed in the second stage of our research pertaining to the personal leisure satisfaction. According to our assumptions based on the studies reported earlier in this paper, greater complexity would entail lower leisure satisfaction. However, it thus also bears an implicit assumption that complexity would be the result of time pressure and necessity to compress time and increase temporal density of activities, rather than the ability to freely switch between activities – perhaps serving one's enjoyment. This assumption may be verified using complexity index as the predictor for personal leisure satisfaction.

This is possible, as adjacent to the time use diaries, German Study comprised also the survey items on self-reported levels of personal leisure time. The subject is covered in two questions:

> q1. Are you satisfied with your personal leisure? With responses rated form 1 (very unsatisfied) to 7 (very satisfied), and:

> q2. How do you rate your use of time for personal leisure? With responses forming a dummy variable and including three possible answers: too little, just enough and too much.

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[4] HETUS: Harmonized European Time Use Survey carried out in the EU countries and coordinated by the Eurostat.

Although we agree with the well-argued reservations that might be presented with reference to the self-reported levels of satisfaction or wellbeing (see e.g. Cromby, 2009), we decided to use these two variables to evaluate the level of satisfaction with personal leisure as related to the level of temporal complexity in leisure time (over the weekend). Since the two indicators measure slightly different phenomena (although each contributing to the general satisfaction with leisure), we conducted separate analysis for both variables.

As the two questionnaire items pertain to personal leisure in particular, we needed to introduce yet another adjustment to the data, namely recode leisure categories to fit the personal leisure criterion. We thus assumed personal leisure activities would be all activities that are done for the sake of personal (as opposed to collective) enjoyment – regardless of their character. As activities falling within this framework we included the following ones: TV/ video watching, reading, listening to the music, sports, playing games, attending performance, activities related to personal hobby and leisure involving the use of the computer.

As opposed to personal leisure, other activities categories included: non-personal leisure (e.g. collective activities), paid and non-paid work and activities related to self-care. The detailed list of all activities can be found in the appendix (Table 1 and Table 2).

Having done that, we tested temporal complexity index as the predictor for the level of satisfaction with personal leisure.

4   Results

Using the equation proposed by Gabadinho (Gabadinho et al., 2011), we estimated complexity index for individual time-use sequences over two days of the weekend. The exemplary charts showing such sequences are included in the Appendix (Table 3).

Having the index estimated[5] for each respondent in the sample, we used multivariate OLS regression to regress it on the set of selected independent variables pertaining to the social status, and control variables. As social status determinants we included the following independent variables available from the time use study metric data: educational status (divided into three categories: high, middle and low level of education[6]), income position (the total of thirteen classes of household net income[7]) and occupational status (self-employed, official[8], white collar worker, blue collar worker). Control variables in the regression were gender and age. Two separate regressions were run for two days of the weekend.

Results of the analysis confirmed the first hypothesis (H1). Among the independent variables, educational status and occupational status proved to have significant influence on the complexity levels in case of both Saturday and Sunday leisure time-use. Higher status entailed relatively higher leisure complexity. The differences were significant also in the comparisons between high and low level of education and between middle and low. White collar versus blue collar workers comparison also gave significant results – pointing to greater relative leisure complexity of the former.

However, household income was significant only in case of Sunday complexity levels and the relationship was opposite to those of between education/occupational status and complexity. Categories with higher household income showed significantly less complexity in their Sunday leisure time. Also the regression using squared income as the predictor failed to explain this finding by finding no curvilinear relationship between the variables.

Table 1:   Regression of complexity index: impact of income, occupation and education as predictors, controlling for gender and age (beta, OLS):

predictor	Saturday	Sunday
High vs low educational status	0.18*	0.16*
Middle vs low edu status	0.08*	0.07*
No vs low edu status	0.01	0.04*
Missing vs low edu status	0.05	0.02
HH net income	-0.10	-0.20*
HH net income squared	0.10	0.13

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[5]   It needs to be emphasized that the complexity index covers the measurement of various personal leisure activities and the category of 'other', namely all other activities that occurred within the sequence and cannot be qualified as personal leisure. Hence, while allowing for capturing of the interweaving of leisure and non-leisure in the sequence, complexity index does not refer only to leisure activities. The necessity of including the 'other' stems from the fact that the sequence needs to be complete (all activities occurring within it are included) and there is intertwining of different possible elements in the sequence.

   Thus, to be more exact we should specify that it was personal leisure and 'other' activities that were regressed on socio-economic variables including educational status, income, occupational status, gender and age.

[6]   See Appendix Table 4 for reference

[7]   See Appendix Table 5 for reference

[8]   A specific occupational category of state-paid professional of high social position and prestige

Self-employed vs blue collar	-0.04	-0.03
Official vs blue collar	0.02	0.02
White collar vs blue collar	0.08	0.05
Gender (women vs men)	-0.09	-0.12
Age	-0.24	-0.35
Age squared	0.36	0.35
Obs n	1715	1591
R-squared	0.04	0.04
Adj R-squared	0.04	0.04

Notes: * denotes p<.01

Accordingly to the expectations, the control variables, gender and age, also proved to have significant effect on the leisure time-use complexity. Interestingly, being a female decreased the chances for more complexity over the weekend. Taking into account the reports of leisure contamination and lower quality of leisure among women (see e.g. Bittman and Wajcman, 1999), it may cast a new light on the issue of leisure complexity itself – perhaps as not related that much to leisure disturbances but rather stemming from the possibility to choose between numerous available leisure options. If this is the case, then the hypothesis that the scope of possible options is limited for women occupied with household chores or child care seems to provide a plausible explanation for the results obtained. Other explanation may be related to the works of Kohn and Schooler (1983) showing stronger influence of complex work environment on men than on women. If leisure complexity is conditioned also by occupational position then perhaps this influence might be weaker for women[9].

The effect of age on the weekday complexity index implies curvilinear relationship between the variables. Leisure complexity is thus expected to be higher in younger and older age categories (within the age range of the sample) and decrease in the middle-age categories, the effect which pertains to both Saturday and Sunday. The possible explanation might relate to the life cycles and increase of family-related obligations in the middle years of life, which may restrain temporal leisure complexity along with restricting the actual leisure time itself. Since adults in families of children below the age of 16 are generally show to be at increased risk of time shortage, this explanation seems plausible.

To sum up the results, leisure time complexity of respondents with high educational status or middle educational status is significantly higher than one of respondents with low status, both on Saturday and Sunday. Similar results were achieved in case of occupational status (white collar workers versus blue collar workers), which altogether support the hypothesis of higher leisure complexity in higher social classes.

While analysing the coefficients we must, however, bear in mind that the relatively low adjusted R squared for the regression model (0.04 for each of the two analyzed weekend days) allows us to speak of a rather weak explanatory power of the general model. This might, however, be due to the fact that complexity index is itself a composite measure pertaining to actual behavioural patterns, not a factor or variable operationalized in the questionnaire items.

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[9] The analysis might have shown more complex relationships between gender and level of leisure complexity should secondary activity be taken into account. Although not covered in this paper, it may be a promising direction for further exploration and an additional dimension that would certainly be useful to get thorough understanding of leisure complexity as related to gender.

Since complexity index was also our proxy for the pace of life, in the second stage of the analyses we used it to test the second hypothesis (H2) claiming that leisure satisfaction decreases with the fast pace of leisure.

Because in the context of this paper our question is related to an overall, gross effect of time-use complexity, we run a simple regression analysis with the complexity index as the predictor[10]. From this background we tested the complexity effects on different facets of subjective quality of personal leisure, namely the (1) subjective level of personal leisure satisfaction and (2) evaluative rating of personal leisure time use[11].

Since both questions measure two facets of the more general issue of leisure satisfaction – the first one pertaining more to its qualitative characteristics and emotional outcomes, the latter – to the assessment of whether it is sufficient also in quantitative terms, we performed two independent analyses on the variables to obtain independent measurements on complexity effect on leisure satisfaction[12].

Level of personal leisure satisfaction as a continuous variable was regressed on the complexity index in an OLS regression model, while rating of personal leisure time use – a discrete variable, was the dependent variable in two separate logistic regression models.

The model obtained captures weak but significant positive effect of leisure complexity on personal leisure satisfaction.

Table 2:   Overall gross effect of personal leisure activities' complexity on satisfaction with personal leisure (b, OLS):

Predictor	satisfaction with personal leisure
Complexity of personal leisure activities	0.12*
Obs n	5081
R-squared	0.01
Adj R-squared	0.01

Notes: * denotes p<.001

Although based on the adjusted R-squared, we cannot explain much of the variance by this single model, it shows the assumption of relation between temporal complexity of leisure and satisfaction, derived from it, is grounded in empirical data. The possible weak relationship might be due to the fact that, restricted by the indicators available in the data (personal leisure) we had to focus on this aspect on leisure only and categorize all non-personal leisure activities as 'other'. Such operation on the data certainly diminishes activities variance within the sequence – hence affecting its complexity. It was necessary for the sake of methodological correctness, but some leisure activities which are proven to be highly rewarding in emotional terms but cannot be counted among non-personal – namely, social

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[10]   It is beyond the scope of this paper to analyse the net effects of personal leisure activities' trajectory complexity on subjective quality of personal leisure, as there is little research on complexity effects. We see our analysis as first step in looking for subjective outcomes of behavioral complexity to provide a starting basis for further theoretical and empirical research

[11]   Distribution of answers to these two questions can be found in the Appendix: Table 6 and Table 7.

[12]   Using either ordinal least squares regressions or logistic regression according the scaling of the dependent variable, we just report non-standardized coefficients as we do not include control variables to be compared with their effects

interactions (see e.g. Kraaykamp, van Gils and van der Lippe, 2009) has not been taken into account, otherwise than within the general category of 'other'.

Another regression model was computed using a discrete dependent variable of the use of personal leisure – which pertains to the subjective assessment of the sufficiency of personal leisure duration. Using 'just enough' category as the reference group, the model shows that greater temporal complexity is less likely to occur in case personal leisure time is evaluated as 'as too little' and slightly more likely to occur in the cases of 'too much of personal leisure'.

Table 3:   Effect of personal leisure activities' complexity on ratings of personal leisure use (b-coefficient, logistic regression):

Predictor	too little vs. OK rating of leisure time use	too much vs. OK rating of leisure time use
Complexity of personal leisure activities	-3.8*	1.7[+]
Obs n	4810	2721

Notes: * denotes p<.001 , + denotes p<.10

To sum it up, contrary to the claims that low quality of leisure is induced by the fast pace of life, our findings indicate the opposite relationship might be true. There seems to be a weak yet positive relationship between the level of satisfaction with personal leisure (both in terms of its satisfying benefits and duration) and the level of activities complexity measured for two weekend days – each separately.

5   Conclusions

One of the plausible explanations as to why the objective increase in the amount of leisure does not bring the increase in the subjective wellbeing, is that the quality of leisure has been subject to substantial changes. General social acceleration has contributed to the decline in leisure quality by making it subject to high time compression (consisting on greater complexity of time-use) and thus evoking the feeling of time shortage or time pressure.

As working hours of upper social classes are longer, their amount of leisure time is more limited. Moreover, since work tasks in upper classes involve greater complexity and voracious consumption may be a means for class distinction, we assume overall these characteristics may lead to increased complexity of their leisure time.

The results of our research showed weak but significant positive relationship between social status and personal leisure complexity at the weekend. People occupying higher social position are more likely to experience greater complexity of personal leisure.

The relationship shown in the analysis may be weakened by the study constraints. We had to restrict our analyses to personal leisure only – for the sake of comparability with leisure satisfaction indicators available in the adjacent module. As a result the scope of analysed leisure activities did not comprise social activities (e.g. meetings with others, talking and general socializing), all of which were included in the residual category of 'other' activities. Necessity to exclude these episodes from personal leisure complexity pattern has certainly diminished activities variance within the sequence and thus – general leisure complexity.

Our research provided evidence against the second hypothesis on the negative influence of leisure complexity on leisure satisfaction. Higher leisure complexity was shown to be related to greater satisfaction with personal leisure. Individuals having more complex leisure patterns were also less likely to experience leisure shortage (odds ratio at -8.06) compared to people who have 'just enough' of leisure time. Moreover, since social activities, omitted in our analyses, have been shown to bring much emotional gratification to their participants, it is likely that should they be included, the overall leisure satisfaction would yet increase with the increase in sequence complexity.

Although the relationship between social status and personal leisure complexity seems to be quite straightforward, the influence of complexity on satisfaction derived from leisure time is less obvious. The results of our research question the assumption that more complexity generates greater tension and the feeling of time pressure. Quite the contrary – complexity seems to enhance satisfaction with leisure, however, the relationship is weak and further research is needed to produce conclusive outcomes.

For the sake of simplicity in estimating leisure complexity, we took into account only primary activity. Introduction of the analysis of the secondary activity might cast light on the leisure time use across social classes and provide explanation to the issues we encountered in this study – such as gender differences in leisure time complexity or the effect of income on the leisure time-use (see e.g. Heisig, 2011).

Growing interest in the national wellbeing has contributed to moving the focus of policy-makers from income-based analyses to new indicators of wellbeing, including time-use data. Episode-based diaries provide not only more robust but also more comprehensive accounts of people's activities, both in the market and off-market dimension. Temporal complexity seems to be a promising indicator of the quality of life within these spheres. Existing differences in the complexity levels across social classes and categories call for attention in the process of the social policy formulation. The relationship between

complexity and the level of satisfaction derived from activities, however, still needs further exploration.

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Appendix

Table 1: Personal leisure activities frenqunecies

Type of activity	No activity	Once	More than one time
TV/ video	21.5	38.4	40.2
Reading	43.5	31.6	24.9
Sport	61.3	26.8	11.9
Gaming	78.4	13.9	7.7
Attending cultural events	80.2	15.2	4.6
Hobby	81.5	13.9	4.6
Listening to the music	87.4	9.9	2.8
Computer use	88.7	8.1	3.3

Table 2: Over weekend activities frenqunecies

Type of activity	No activity	Once	More than one time
Eating	0.7	5.6	93.7
Selfcare	3.1	12.4	84.5
Changing places	21.9	8.3	69.8
Housework	23.5	21.6	54.9
Preparing Meals	29.0	19.2	51.9
Talking	34.7	28.0	37.3
Purchases, fiances	60.0	23.0	16.0
Resting	69.2	21.8	8.9
Childcare	81.0	6.0	13.0
Meeting others	84.3	13.0	2.8
Filling in the diary	84.7	11.9	3.4
Taking care of pets	85.1	7.9	7.1
Forms of social help/ social support	86.4	8.3	5.3
Working	86.8	6.2	7.0
Learning related to work	93.9	3.4	2.6
Attending courses	99.3	0.4	0.3

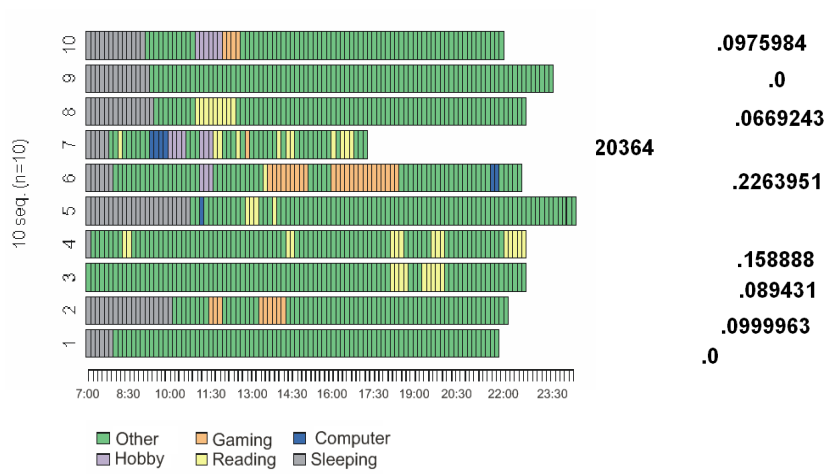*Table 3:*   Sequence complexity estimation: exemplary complexity charts

Table 4:   Education classes in Germany: categorization

	Arbiture and Technical arbiture
Middle education level	Realschule
Low education level	Hauptschule
'No education' level	Left school without certificate/no schooling levelspecified
Missing Values	No information

Table 5:   Income brackets (referring to monthly net income)

1	Less than 250 EUR
2	250–500 EUR
3	500–750 EUR
4	750–1000 EUR
5	1000–1250 EUR
6	1250–1500 EUR
7	1500–1750 EUR
8	1750–2000 EUR
9	2000–2250 EUR
10	2250–2500 EUR
11	2500–3750 EUR
12	3750–5000 EUR
13	5000 EUR or more

Table 6: Personal leisure satisfaction: Are you satisfied with personal leisure time?

	%
very unsatisfied	7.1
2	11.3
3	17.1
4	16.4
5	16.7
6	15.9
very satisfied	15.6
N of cases	5081

Table 7: Evaluation of leisure time use: How do you rate your use of time for personal leisure?

	%	
too little	46.5	2364
just enough	48.1	2446
too much	5.4	275
N of cases	5085	