

Time is Money and Money Needs Time? A Secondary Analysis of Time-Budget Data in Germany

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Leisure activity budgets, temporal patterns, and perception of leisure allocation differ between people with different leisure and income budgets. Focusing on individuals who are gainfully employed we examine the inequalities of leisure time and perception of time use in addition to income inequalities. This research follows the tradition of Linder (1970) which has been further applied by, among others, Lindskog and Brege (2003) and Bonke, Deding, and Lausten (2004), for example. Using data of the German Time Use Survey 2001/2002, a typology of lifestyle groups was generated using cluster analysis. Three types were found which differed in their leisure budgets, activities, temporal patterns, perception of time use, and sociodemographic structure.

KEYWORDS: *Inequalities, leisure time, perception of leisure allocation, typology, time use data.*

Literature Review

In modern societies human activities are framed by personal income, interests, and time. Benjamin Franklin (1749/1961) was the first to state that "time is money." Furthermore the origin of time diaries can be traced to him (Bevans, 1913, p. 10). Soeren Kierkegaard (1844/1984) introduced the term "temporality" regarding time from a more subjective and existentialistic point of view, which contrasts to time in the Newtonian sense (e.g., Zimmerli & Sandbothe, 1993, p. 19). From this point of view, time is experienced differently by individuals depending on the importance of the experience. A beautiful day, for example, might rush by for someone who is enjoying it whereas two hours of boredom might seem to never pass. Emile Durkheim (1912/1979) introduced the concept of social time. Time is no longer individual but shared by members of the same group of civilization. This concept was further developed by Sorokin and Merton (1937) in their famous study of social time.

Time has become a valuable resource, but you cannot save or spend it as money: An individual's supply of time is limited. With more time-spending possibilities and more working hours in the day, the more valuable time appears to be (e.g., Winston, 1982). In times of high unemployment, how-

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ever, work seems to have become a status symbol. Adam (1989) succinctly stated, "Time earners are suspicious" (p. 1).

Different social circumstances lead to better or worse circumstances of living, defined as inequalities. Traditional indicators of inequalities include educational status, gender, income status, or nationality (e.g., Hradil, 2001; Schimank, 2000). Furthermore, so-called "new inequalities"¹ have arisen between men and women, young and old, employed and unemployed, and time-rich and time-poor (time is used in the sense of leisure).²

In the past, leisure was regarded as "behavior undertaken without reference to time . . . slow-paced and luxuriating in time" (Robinson & Godbey, 1999, p. 45). Today leisure time is often spent as efficiently as working time (see, e.g., Robinson & Godbey) in industrialized countries. At least for some social groups "[l]eisure may become less 'leisurely' as [those] people try to pack as much experience, activity, and enjoyment as possible into the scarce time" (Kelly, 1982, p. 125). Much has already been written on the relationship between leisure time and income (see, e.g., Hochschild, 1996; Kelly, 1976; Linder, 1970; Robinson & Godbey, 1999; Sullivan & Gershuny, 2001, 2004). In *The Harried Leisure Class*, Linder (1970) analyzed spare time in the sense of consumption time. He stated that consuming goods, and not only producing goods, takes time. If a person's income is growing while working more or even with the same hours, people would need more time for spending their money and for consuming these goods (known as the Linder paradox, pp. 1-3). A nice vacation in South Africa, for example, takes a lot of *money* and *leisure time*. With regard to industrial societies Linder already pointed out: "The leisure problem of the economic type . . . probably exists only in the imagination of those who are unaware that consumption takes time" (p. 11).

It was the German sociologist Erwin Scheuch (1972) who coined the term "time deepening" in analogy to "capital deepening." If a person was able to do several things simultaneously he could "crowd a greater number of activities into the same 24 hours" (p. 77). Along the same lines Linder (1970) mentioned three forms of acceleration: firstly, the consumption of more expensive goods, and secondly, "simultaneous consumption" meaning that more than one good or activity is consumed at the same time. Thirdly, there is the possibility of "successive consumption" meaning that an individual "enjoys one commodity at a time, but each one for a shorter time period" (Linder, 1970, p. 79). More recently, Robinson and Godbey (1999) described four forms of time deepening: Attempting to speed up a given activity (e.g., visiting a national park without getting out of the car), substituting a leisure activity which can be done more quickly for one that takes longer (e.g.,

¹The term "new inequality" seems misleading because the idea is suggested that the conventional inequalities have disappeared, which is not true. (see, e.g., Lamprecht & Stamm, 1994).

²The idea of more complex inequalities already exists in classical works. Geiger (1987/1932) spoke of differences of mentality; Max Weber (1922) introduced the concept of "Lebensführung", and Simmel (1900) created the term "style of life" ("Lebensstil").

phoning for home-delivered fast-food instead of cooking), doing more than one activity at once (e.g., reading while watching TV and eating dinner), and undertaking a leisure activity with more precise regard to time (e.g., planning bathroom time). While Veblen (1967/1912) coined the term “conspicuous consumption”, Sullivan and Gershuny (2004) created the idea of “inconspicuous consumption”. This concept relates to an imagined future use of purchases which have already been made. High cost leisure goods symbolizing a certain lifestyle are demanded by high-income earners with a lack of leisure time.

As the importance of leisure in an economic sense has been growing (see, e.g., Robinson & Godbey, 1999), our analysis concentrates on inequalities concerning leisure in relation to income. We assume that people with different leisure and income budgets differ in their choices of leisure activities, the time of day they participate in leisure (i.e., temporal patterns), and their perception of time allocation. The focus of our research is on people who are gainfully employed, including the self-employed. Leisure³ is defined as time for social life and entertainment (social activity), sports, hobbies and games, and mass media use (primary activities).⁴

The following typology (see also Bonke et al., 2004; Lindskog & Brege, 2003) is used as the starting point for our analysis (Figure 1). Looking at income groups, the high earners’ behavior is primarily limited by time because they spend more time working than the general population. They are defined as “time-poor/income-rich”. This group of workers has attracted much attention (see, e.g., Hochschild, 1996; Sullivan & Gershuny, 2004). In 1961, Wilensky already spoke of a “growing minority” (p. 33) which was later called the “harried leisure class” (Linder, 1970). In contrast, there is another group of workers which have attracted much attention as unemployment has increased over time in modern societies: the “time-rich/income-poor”. Their activities are limited mostly by income. Furthermore, there are people who are rich and poor on both dimensions. They are “time-rich/income-rich” (e.g., wealthy heirs) and “time-poor/income-poor” (e.g., modern one-parent families).

From a historical point of view Lindskog and Brege (2003) stated that the time-poor/income-rich and the time-rich/income-poor make up the majority of the working population today. In contrast, the time-rich/income-rich and the time-poor/income-poor dominated in the past. This statement

³We have to consider the theoretical problems of the leisure phenomena, which has been discussed often. Leisure cannot be defined completely in an objective sense. It also implies a subjective dimension meaning, for example, that while some people consider cooking as a leisure activity, others consider cooking as an obligation or as their work (i.e., cooks). Because time-budget data is used for our analysis, we have to “work” with the underlying definition of leisure, but we are aware of the theoretical problems of this definition. More elaborated theoretical studies exist in the Anglo-American literature (see, e.g., Kelly, 1987). Elias and Dunning (2003) differentiate between activities with respect to various degrees of formalization.

⁴This definition has been recommended by Eurostat (2000) in the harmonised guidelines for time use research.

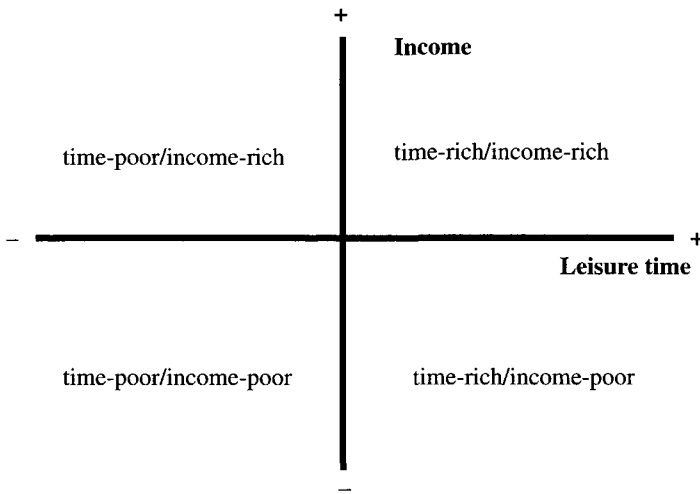


Figure 1. Leisure time and income: A fourfold matrix.

can be questioned, however, especially with respect to the situation of the current time-poor/income-poor. The number of single parents who must work long hours has increased over time.

We assume that leisure activities and the patterns and perception of leisure allocation differ between the time-rich and time-poor in relation to income. In our study the leisure activities social activity, sports, hobbies and games, and mass media are analyzed separately. We hypothesize that the four groups described above differ in respect to the leisure activities they participate in as they differ in their leisure time budgets.

Contemporary research programs concentrate on lifestyles instead of looking at the dichotomy between work and leisure (see, e.g., Chan & Goldthorpe, 2003). Lifestyle researchers, on the one hand, assume that the lifestyle (including leisure and work) is determined on a vertical dimension by assessing variables like income, education, age, and gender. Conversely, they postulate that the lifestyle is determined by latent variables such as interests, motivations, and attitudes as well. However, these variables are difficult to measure and cannot be analyzed with the data available to use from the German Time Use Survey. In line with contemporary lifestyle research we assume that factors such as educational status, family status, gender, and age are more explanatory of leisure behavior than the sphere of work (e.g., Lamprecht & Stamm, 1994; Prah, 2002).

In addition to pure activity patterns, which are conventionally analyzed in time use research, the "timing" of leisure has to be considered as well. With regard to a qualitative dimension in a wider sense, concepts like "time of one's own" (Nowotny, 1993) and "wealth of time" (Rinderspacher, 1985) are gaining in importance. Weekend leisure time, for example, seems to be more valuable than leisure time in the evening after a hard day at work.

Several small slots of time might be worth less than two hours of unexpected "free time" on a sunny day (Garhammer, 2001, p. 111). Thus, in the analysis of time, two important aspects must be included as well: *when* leisure takes place and *how long* it lasts.

Some groups might experience the same amount of leisure time (in minutes) while perceiving the duration of time differently, depending partly on their perceived level of stress or satisfaction. Time perception has attracted much attention in current research (see, e.g., Michelson, 1999; Robinson & Godbey, 1999). Time sovereignty means that one can decide for oneself whether to work or to enjoy leisure at a chosen point in time. The so-called "time pioneers" (Hörning, Gerhard, & Michailow, 1990) have realized that time, in addition to material goods, is just as valuable as the power to decide over time. Ideally this small group of workers is flexible in their choice of working and leisure time. They strive for independence with regard to their individual use of time. We assume that those who are flexible in timing (time pioneers) differ from those workers who are not flexible in choosing their leisure time ("nontime pioneers"). In this study we compare their activity patterns and perception of leisure.

To test the hypothesis that the four groups discussed above differ with regard to sociodemographic structure and leisure, the following research strategy is used when analysing the time diary data from the German Time Use Survey 2001/2002. Initially, on the basis of the four groups, leisure activities, temporal patterns, and perception of time allocation are compared using separate analyses of the time-rich and time-poor subgroups. Furthermore, we compare the two subgroups of the "time-poor/income-rich" workers with flexible working hours (time pioneers) to those with fixed working hours (nontime pioneers). Finally, a typology of lifestyles using cluster analysis is generated. This analytical method enables us to take both temporal and sociodemographic variables into consideration simultaneously.

Methods

Data

"The phrase 'time budget' has arisen because time, like money, is a resource that is continually being allocated by the individual Like money, time is thought of as being spent, saved, invested, or wasted" (Converse, 1968, p. 48). Time budget analysis is grounded on the assumption that "time" like money can be considered as a quantitative resource. For this reason people are asked to collect time budgets in the same manner they may collect financial budgets; the latter can be identified as the earliest form of time budget studies (e.g., Converse).

Traditionally, in many countries, time budget data are used to analyze the extent of a population's daily activities. On a national basis, time use surveys have been carried out in the United States in 1954 (The Mutual Broadcasting Study), in 1965 and 1975 (The Survey Research Center, University of Michigan study) and in 1985 (Americans' Use of Time Project,

conducted by the Survey Research Center, University of Maryland, cited in Robinson & Godbey, 1999). In Japan, national time use studies of the Nippon Hoso Kyokai have been carried out regularly every five years since 1960. In Europe, time use research has a long tradition as well, especially in the UK, the Netherlands, and Norway (see, e.g., Harvey & Pentland, 1999).

In Germany, the importance of time use research has been verified by the time budget studies carried out by the Federal Statistical Office of Germany in 1991/1992 and 2001/2002. The latter study is part of the Eurostat Time Use Project capturing time use data from 13 European countries following standardized guidelines (European Commission, 2003, 2004). Our analyses are based on data obtained during the most recent study in 2001/2002. The entire spectrum of daily activities was collected on three days (two weekdays and one weekend day) from members of German households aged 10 years or older. The original quota sample consisted of about 34,000 diaries completed by approximately 12,000 individuals.

The diary method allows the collection of activities a person attends to during a 24-hour day by the individuals themselves. The participants of the German Time Use Survey were asked to fill out a paper-and-pencil diary structured by 10-minute intervals. The diary provided the opportunity to differentiate between primary and secondary activities, and the participant was able to provide information about the social and local context. Consequently, the researcher is able to find out *how long* (duration), *how often* (frequency), with *whom* (social context or family context), and *where* the activity took place. The diary method enables the participants to write down the activities in their own words, which are later recoded into a standardized activity scheme (of about 220 categories). Moreover, the frequent problem of socially desirable response tendencies (characteristic for conventional survey studies) can be reduced because this strategy requires participants to document their activities chronologically, practically at the time of the activity (e.g., Ehling, 1991). There are some disadvantages of diaries as well. This method requires the capacity of individuals to write down their daily activity spectrum in their own words correctly. Discipline and time to fill out the diary are therefore needed. Finally, this kind of method depends on the participants' motivation (e.g., Lawton, 1999; Weber, 1970) and is rather expensive (Ehling, 1991). Summing up, the diary method can be considered as the main method utilized for data collection of time budgets. Robinson (1985) concluded that "[. . .] [t]he burden of evidence clearly points to the strong likelihood that time diaries are the only viable method of obtaining valid and reliable data on activities" (p. 60).

Participants

In our analyses, we examine full-time and part-time workers. The leisure time budget is operationalized as a categorical variable indicating the amount of time per day the average person spends on his or her leisure in minutes (*average value: 274 minutes*). Three categories are defined: low (*up*

to 150 minutes), medium (150 to 300 minutes), and high (more than 300 minutes) leisure budget. The variable "income" (monthly) includes the three categories low (up to 1,000 €), medium (1,000 to 2,250 €), and high (more than 2,250 €) income.

The owner of average time and income is not our main interest. In this study, we examine the "poor" and the "rich" concerning their "income" and "leisure". Therefore, our sample is reduced to 5,123 cases.⁵ The unit of analysis is the entries of a diary for one single day which is conventionally used for analysis in time budget research (e.g., Von Rosenbladt, 1968).

Educational status was measured by three categories. Low educational status was operationalized by the qualification *Hauptschulabschluss*, described as an extended primary education (consisting of nine years of schooling). Medium education was operationalized by *Realschulabschluss*, a form of secondary education which prepares pupils for vocational training. High education was operationalized by *Abitur/Fachabitur*, a form of secondary education which prepares pupils for attending a university.

The data set was weighted by the factor *individual time use* as has been recommended by the Federal Statistical Office of Germany to ensure that the results are representational. Table 1 presents the distribution of sex, age, educational status, family status, employment, and professional status in the sample as well as the results of the χ^2 tests. Women are strongly overrepresented in the income-poor groups, whereas men are overrepresented in the income-rich groups. The effect of sex is statistically significant (χ^2 (3; $N = 3,935$) = 1,086.391, $p < .01$) and is strongest compared to the other values (*Cramer's V* = .525). The effect of employment status is relatively strong (*Cramer's V* = .405) and statistically significant (χ^2 (6; $N = 3,935$) = 1,280.747, $p < .01$). Full-time workers are strongly overrepresented in the income-rich groups, whereas part-time workers and trainees are overrepresented in the income-poor groups. Additionally, officials are strongly overrepresented in the income-rich groups. Blue-collar workers and trainees, however, are overrepresented in the income-poor groups. The effect of professional status is statistically significant (χ^2 (12; $N = 3,935$) = 956.065, $p < .01$ with *Cramer's V* = .285).

Furthermore, members of the income-rich groups are mostly married and have a high educational status. The effect of family status is statistically significant (χ^2 (6; $N = 3,935$) = 499.561, $p < .01$, with *Cramer's V* = .252). The effect of educational status was significant (χ^2 (6; $N = 3,935$) = 427.535, $p < .01$, with *Cramer's V* = .233). With respect to age, individuals under 25 years of age are overrepresented in the time-rich/income-poor group; individuals between 25 and 45 years of age are overrepresented in the time-poor/income-poor group as well as in the time-poor/income-rich group. Individ-

⁵Looking at the income groups (net income), missing values account for 14% of the sample. We exclude the missing values from our analysis while assuming that missing data are not systematic. With respect to the income variable, we are aware that this might be associated with some problems concerning manipulation of the data. (see, e.g., Dickmann, 2002).

TABLE 1
*Distribution of the Sample by Sex, Age, Family Status, Educational Status,
 Employment Status, and Professional Status*

| Income | Time Poor | | Time Rich | | df | χ^2 | Cramer's V | p |
|---------------------|-----------|------|-----------|-------|----|-----------|------------|-----|
| | poor | rich | poor | rich | | | | |
| Sex | | | | | 3 | 1,086.391 | .525 | .00 |
| Men | 29.5 | 84.1 | 37.4 | 89.3 | | | | |
| Women | 70.5 | 15.9 | 62.6 | 10.7 | | | | |
| Age | | | | | 9 | 740.809 | .251 | .00 |
| < 25 | 19.1 | 0.6 | 35.7 | 0.5 | | | | |
| 25-45 | 53.7 | 54.5 | 39.5 | 46 | | | | |
| 45-65 | 26.0 | 43.9 | 23.9 | 52.5 | | | | |
| 65 > | 1.2 | 1.0 | 0.8 | 1.0 | | | | |
| Family status | | | | | 6 | 499.561 | .252 | .00 |
| married | 55.8 | 78.0 | 41.6 | 76.4 | | | | |
| single | 34.9 | 16.1 | 52.0 | 13.7 | | | | |
| other ^a | 8.2 | 5.8 | 6.3 | 9.7 | | | | |
| Education | | | | | 6 | 427.535 | .233 | .00 |
| low | 26.7 | 17.2 | 30.5 | 16.8 | | | | |
| medium | 44.3 | 19.7 | 41.6 | 23.7 | | | | |
| high | 29.1 | 63.1 | 27.8 | 59.4 | | | | |
| Employment status | | | | | 6 | 1,280.747 | .405 | .00 |
| full-time | 55.4 | 99.4 | 41.1 | 99.2 | | | | |
| part-time | 31.1 | 0.6 | 33.8 | 0.8 | | | | |
| trainee | 13.5 | 0.0 | 25.1 | 0.0 | | | | |
| Professional status | | | | | 12 | 956,065 | .285 | .00 |
| self-employed | 17.4 | 25.5 | 8.7 | 20.1 | | | | |
| officials | 1.9 | 15.8 | 4.1 | 21.0 | | | | |
| employees | 44.9 | 52.1 | 35.0 | 50.3 | | | | |
| blue-collar workers | 22.3 | 6.5 | 27.0 | 8.6 | | | | |
| trainees | 13.5 | 0.0 | 9.3 | 0.0 | | | | |
| n | 1,123 | 823 | 1,911 | 1,266 | | | | |

Note. The values indicate percentages.

^aincludes divorced, separated, and widowed.

uals between 45 and 65 of age are overrepresented in the time-rich/income-rich group with a share of 52.5%. The effect of age was significant (χ^2 (9; $N = 3,935$) = 740.809, $p < .01$) with Cramer's $V = .251$.

Looking at the effect size, the correlations between sex and time-income type as well as between employment status and time-income type are strongest. Especially the latter might influence the individual leisure-time budget directly by working time restrictions, a finding which runs counter to the lifestyle hypothesis.

Results and Discussion

The results will be presented in correspondence to the research questions: (a) To what extent do time-rich and time-poor groups differ in their leisure activities? (b) Are there differences in their temporal patterns? (c) Do time-rich and time-poor differ in their perception of leisure? (d) Do differences exist between time-poor with flexible working hours and those with fixed working hours? (e) Can lifestyle groups be found with respect to time use, perception of time, and sociodemography?

Activity Spectrum of Time-Poor and Time-Rich Workers in Relation to Income

With regard to leisure activities the following results were generated using a one-way analysis of variance (ANOVA). An alpha level of .05 was used for all statistical tests. Looking at the time-poor in relation to income, there were only statistically significant differences in the time spent relaxing ($F(1, 1,510) = 5.232, p < .01$), and mass media use ($F(1, 1,510) = 6.987, p < .01$) (see Table 2). On average, the time-poor/income-rich spent six minutes more per day using media than the time-poor/income-poor (60 minutes). The difference in the activity patterns of the leisure-poor with respect to different income budgets was rather minimal.

Overall, the time-rich/income-rich spent 21 minutes more per day on their leisure activities than the time-rich/income-poor do (see Table 3). The effect of leisure time was statistically significant ($F(1, 2,197) = 17.221, p < .01$). Yet in actuality, there were only two categories in which the income-rich spent more leisure time than the income-poor: media use (211 minutes vs. 193 minutes, respectively) and sporting activities (59 vs. 39 minutes, respectively). The effect of media use was statistically significant ($F(1, 2,197)$

TABLE 2
*Comparison of the Leisure Budgets and the Activity Patterns of the Time-Poor/
Income-Poor and the Time-Poor/Income-Rich*

| | Time-poor/ income-poor | Time-poor/ income-rich | η^2 |
|-----------------------|---------------------------|---------------------------|----------|
| Leisure Activities | 92 | 96 | .002 |
| Media | 54** | 60** | .005 |
| Social activity | 24 | 23 | .000 |
| Sports | 5 | 6 | .000 |
| Hobbies/Games | 3 | 3 | .000 |
| Relaxing | 5** | 4** | .003 |
| <i>n</i> | 1,123 | 823 | |

Note. Value indicate arithmetic means in minutes.

** $p < .01$

TABLE 3
*Comparison of Leisure Budgets and Activity Patterns of the Time-Rich/Income-Poor
 and Time-Rich/Income-Rich*

| | Time-rich/ income-poor | Time-rich/ income-rich | η^2 |
|-----------------|---------------------------|---------------------------|----------|
| Leisure | 438** | 459** | .008 |
| Activities | | | |
| Media | 193** | 211** | .004 |
| Social activity | 148 | 136 | .002 |
| Sports | 39** | 59** | .015 |
| Hobbies/Games | 34 | 34 | .000 |
| Relaxing | 22 | 18 | .002 |
| <i>n</i> | 1,911 | 1,266 | |

Note. Value indicate arithmetic means in minutes.

** $p < .01$

= 8.515, $p < .01$) as well as the effect of sporting activities ($F(1, 2,197) = 33.287$, $p < .01$). The effect size of sporting activities was the greatest ($\eta^2 = .015$).

Temporal Leisure Patterns of Time-Poor and Time-Rich in Relation to Income

Going beyond simple time budgets, current researchers consider more specific dimensions as well. They have been analyzing the social context of time based on the questions of "when, where, with whom, and how long have the activities taken place?" Assuming that the groups differ in their daily leisure pattern, we analyzed the following time intervals: 6 a.m. to 12 p.m. (morning), 12 p.m. to 6 p.m. (afternoon), 6 p.m. to 12 a.m. (evening).

Table 4 shows that the two time-poor groups differed in their leisure distribution throughout the day. There were statistically significant differences in the amount of time spent on afternoon ($F(1, 1,510) = 15.236$, $p < .01$) and evening leisure ($F(1, 1,510) = 13.093$, $p < .01$). Whereas the time-poor/income-poor spent six more minutes on leisure activities during the afternoon than the time-poor/income-rich do (20 vs. 14 minutes, respectively), the latter spent eight minutes more time on leisure in the evening (71 minutes). This finding points to the fact that the time-poor/income-rich are largely involved in gainful work, whereas the time-poor/income-poor are, in part, either part-time workers or low income workers (trainees). Time-poor/income-poor are predominantly female and might be more involved in housework and childcare in the evening than the time-poor/income-rich who are mainly male full-time workers (see Table 1).

Significant differences were found between the morning leisure of the time-rich groups ($F(1, 2,197) = 80.135$, $p < .01$) (see Table 5). The leisure time budget of the income-rich exceeded the leisure time budget of the

TABLE 4
*Comparison of Leisure Time Usage throughout the Day by the Time-Poor/
 Income-Poor and Time-Poor/Income-Rich*

| | Time-poor/ income-poor | Time-poor/ income-rich | η^2 |
|-----------|---------------------------|---------------------------|----------|
| Leisure | | | |
| Morning | 7 | 8 | .001 |
| Afternoon | 20** | 14** | .010 |
| Evening | 63** | 71** | .009 |
| <i>n</i> | 1,123 | 823 | |

Note. Value indicate arithmetic means in minutes.

** $p < .01$

TABLE 5
*Comparison of the Leisure Time Usage throughout the Day by the Time-Rich/
 Income-Poor and the Time-Rich/Income-Rich*

| | Time-rich/ income-poor | Time-rich/ income-rich | η^2 |
|-----------|---------------------------|---------------------------|----------|
| Leisure | | | |
| Morning | 40** | 60** | .035 |
| Afternoon | 154 | 160 | .002 |
| Evening | 219 | 218 | .000 |
| <i>n</i> | 1,911 | 1,266 | |

Note. Value indicate arithmetic means in minutes.

** $p < .01$

income-poor by 20 minutes. As the most privileged group, the time-rich/income-rich might prefer leisure activities in the morning more than the time-rich/income-poor do. It can be presumed that this group is time privileged in two ways. Firstly, they can be flexible when to spend time, and secondly, they are those with the most extensive leisure time budget.

Among the different kinds of leisure activities, media use is one of the most "time binding". Looking at the different time intervals led us to focus on mass media use. The differences in the mass media budgets of the time-poor subgroups was significant only in the evening ($F(1, 1,510) = 10.033$, $p < .01$). As Table 6 shows, the time-poor/income-poor spent seven minutes less time using mass media than the time-poor/income-rich. Looking at the time-rich subgroups, the only statistically significant differences were found

TABLE 6
Comparison of Mass Media Use throughout the Day by the Time-Poor/Income-Poor and Time-Poor/IncomeRich

| | Time-poor/ income-poor | Time-poor/ income-rich | η^2 |
|-----------|---------------------------|---------------------------|----------|
| Media | | | |
| Morning | 3 | 3 | .001 |
| Afternoon | 5 | 4 | .002 |
| Evening | 45** | 52** | .007 |
| <i>n</i> | 1,123 | 823 | |

Note. Value indicate arithmetic means in minutes.

** $p < .01$

in the morning interval ($F(1, 2,197) = 33.527, p < .01$) (Table 7). The time-rich/income-rich spent eight more minutes on mass media use than the time-rich/income-poor do (23 minutes and 15 minutes, respectively).

Preferences cannot be measured directly by looking at the time budget in general (e.g., Von Rosenblatt, 1968). If an individual is spending a lot of time watching television, for example, this does not necessarily imply that this person has a high preference for watching television. In our data set the time budgets may only provide some hints for interpretation.

Conventionally, people are less time-restricted on Saturdays and Sundays than on working days. As Table 8 shows, significant differences were found between the leisure budget of the time-rich/income-poor and the time-rich/income-rich on working days ($F(1, 1,031) = 5.288, p < .05$) and on Sun-

TABLE 7
Comparison of Mass Media Use by the Time-Rich/Income-Poor and Time-Rich/Income-Rich

| | Time-rich/ income-poor | Time-rich/ income-rich | η^2 |
|-----------|---------------------------|---------------------------|----------|
| Media | | | |
| Morning | 15** | 23** | .015 |
| Afternoon | 50 | 52 | .000 |
| Evening | 121 | 126 | .001 |
| <i>n</i> | 1,911 | 1,266 | |

Note. Value indicate arithmetic means in minutes.

** $p < .01$

TABLE 8
Comparison of Time Spent on Leisure Activities on Working Days (Weekdays) and Weekend Days of the Time-Rich/Income-Poor and the Time-Rich/Income-Rich

| | Time-rich/ income-poor | Time-rich/ income-rich | η^2 |
|--------------|---------------------------|---------------------------|----------|
| Leisure | | | |
| Working days | 413* | 429* | .0 |
| Saturday | 477 | 473 | .0 |
| Sunday | 450** | 477** | .0 |
| <i>n</i> | 1,911 | 1,266 | |

Note. Value indicate arithmetic means in minutes.

* $p < .05$, ** $p < .01$

days ($F(1, 748) = 12.259, p < .01$). On Sundays, the leisure budget of the time-rich/income-rich exceeded that of the time-rich/income-poor by 10 minutes.

No significant differences were found between the time-poor subgroup and the time-rich/income-rich group, however. This might lead to the conclusion that the separation of working time and leisure time with respect to the week cycle is on the decline. In particular, people with a high educational status have to be flexible in their working time. Furthermore, there are time-poor/income-poor who differ on two dimensions. The group with a lower educational level might have more than one low-paid job (with unusual working hours) as well as other obligations like housework and family duties.

Perception of Leisure Time Allocation between the Income-Rich and Income-Poor

Subjective dimensions of time that cannot be analyzed by using time intervals are becoming increasingly popular in recent time use research (see e.g., Michelson, 1999; Robinson & Godbey, 1999). Assuming that the time-poor and time-rich subgroups differ in their perception of leisure time allocation, we examined their satisfaction with time use for leisure. To do this we utilized the arithmetic mean of the 7-point scale as a measure ranging from 1 (*very satisfied*) to 7 (*very dissatisfied*). The four groups differed significantly in their perceived satisfaction with their time use for leisure ($F(3, 3,904) = 47.822, p < .01$) with an effect of $\eta^2 = .035$. Surprisingly, the time-rich/income-poor seemed to be the most satisfied with their time allocation of leisure ($M = 3.80$). In contrast, the time-poor/income-rich tended to be the least satisfied ($M = 4.61$), followed by the time-poor/income-poor ($M = 4.44$) and the time-rich/income-rich ($M = 4.21$). Too many (monetary) opportunities for leisure in relation to the limited time budget might lead to the higher dissatisfaction scores of the time-poor/income-rich compared to the other groups. Although there are strategies to accelerate consumption

it must be mentioned that stress and efficiency in leisure are not generally accompanied by satisfaction. Enjoying leisure activities takes time!

Furthermore, we tested the hypothesis that the four groups differ with respect to their perceived time pressure operationalized by the question: *Do you spend enough, too little, or too much time on leisure?* We assume that the time-poor feel greater pressure with respect to their leisure time allocation. Taking into account the income differences as well, the following results were found (see Table 9). These findings, which were significant ($\chi^2(6, N = 3,920) = 169.141, p < .01$), correspond with our hypothesis that "money needs time." Especially the so-called harried leisure class (time-poor/income-rich) perceives a lack of leisure time (77.9 %). In contrast to this, the time-rich/income-poor seemed to feel the least time pressure with 51.6% thinking they had enough time for leisure, and 3.6% thought that they spent too much time on leisure. This result might be partly due to the different number of opportunities that these two groups are confronted with for their leisure. Whereas the income-rich suffer a lack of leisure time to be able to spend their income, the income-poor might seem to feel rather bored, confronted with too much time for leisure.

Leisure Activities, Leisure Patterns, and Perception of Leisure between Time Pioneers and Nontime Pioneers

The following results focus on the group of time-poor/income-rich who have been further subdivided into time pioneers and nontime pioneers. We hypothesized that time pioneers and nontime pioneers differ in their activity patterns, distribution of leisure time, and perception of leisure time use. Recall time pioneers were defined as workers with flexible working hours and, contrastingly, nontime pioneers are defined as workers with fixed working hours. Looking at the activity patterns of the subgroups, no statistically significant differences were found with the exception of relaxation time ($F(1, 392) = 5.221, p < .05$): With an average of four minutes per day, the

TABLE 9
Perceived Leisure between the Time-poor and Time-rich Groups

| | Time-poor/ income-poor | Time-poor/ income-rich | Time-rich/ income-poor | Time-rich/ income-rich |
|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Perceived leisure | | | | |
| not enough time for leisure | 69.4 | 77.9 | 51.6 | 65.5 |
| enough time for leisure | 28.2 | 21.6 | 44.3 | 33.2 |
| too much time for leisure | 2.3 | 0.5 | 3.6 | 1.3 |
| <i>n</i> | 1,123 | 823 | 1,911 | 1,266 |

Note. The values indicate percentages.

$\chi^2(6, N = 3,920) = 169.141, p < .01, \text{Cramer's } V = .147.$

nontime pioneers spent twice as much time relaxing than the time pioneers do (2 minutes) (see Table 10).

Regarding the distribution of leisure time, statistically significant differences are found for morning leisure ($F(1, 392) = 5.581, p < .05$), and for afternoon leisure ($F(1, 392) = 3.820, p < .05$). Time pioneers spent less time on leisure activities in the morning (7 minutes) than their counterparts (10 minutes) and less time on leisure activities in the afternoon as well than the nontime pioneers did (15 vs. 20 minutes). Thus, our hypothesis that time pioneers are more flexible in their choice of leisure throughout the day was not confirmed (see Table 11).

Finally, we tested the hypothesis that time pioneers and nontime pioneers differ in their satisfaction with leisure time allocation. Surprisingly, but in line with the results above, the nontime pioneers with fixed working hours seemed to be more satisfied with their leisure time allocation than the so-called time pioneers with flexible working hours. By measuring satisfaction with leisure time allocation on a 7-point scale from 1 (*very satisfied*) to 7 (*very dissatisfied*), the time pioneers had a mean score of 4.68 and the nontime pioneers mean score was 4.39. This result was statistically significant ($F(1, 405) = 3,899, p < .05$). The effect size, however, was relatively low ($\eta^2 = .01$).

The convergence of work and leisure might not be perceived as an advantage in general. In the case of convergence, flexibility in leisure is connected to flexibility in the working field which is not always perceived as satisfying. At this time, we must point out that the analyses of time pioneers using this data is only the tip of the iceberg: More specific analyses are in order but cannot be performed with this data set.

TABLE 10
Comparison of Leisure Activities of Time Pioneers and Nontime Pioneers

| | Time pioneers ^a | Nontime pioneers ^b | η^2 |
|-----------------|----------------------------|-------------------------------|----------|
| Leisure | 93 | 94 | .000 |
| Activities | | | |
| Media | 56 | 60 | .004 |
| Social activity | 25 | 21 | .005 |
| Sports | 7 | 4 | .003 |
| Hobbies/Games | 3 | 4 | .000 |
| Relaxing | 2* | 4* | .013 |
| <i>n</i> | 275 | 237 | |

Note. Value indicate arithmetic means in minutes.

^aworkers with flexible working hours.

^bworkers with fixed working hours.

* $p < .05$

TABLE 11
Distribution of Leisure Time throughout the Day of Time Pioneers and Nontime Pioneers

| | Time pioneers ^a | Nontime pioneers ^b | η^2 |
|-----------|-------------------------------|----------------------------------|----------|
| Leisure | | | |
| Morning | 7* | 10* | .014 |
| Afternoon | 15* | 20* | .010 |
| Evening | 71 | 63 | .008 |
| <i>n</i> | 275 | 237 | |

Note. Values indicate arithmetic means in minutes.

^aworkers with flexible working hours.

^bworkers with fixed working hours.

* $p < .05$

Finding a Typology of Leisure Patterns—A Three-Cluster Solution

In addition to the defined groups and their typical patterns of time use, we utilized a more complex method which gives us the opportunity to generate some types of leisure and income consumers. The unit of analysis is (unconventionally) the diary day and not the individual person.

Cluster analysis allows us to look at a bundle of variables simultaneously. The application of cluster analysis serves to generate homogeneous groups (Backhaus, Erichson, Plinke, & Weiber, 2000). For practical reasons we utilized a two-step cluster analysis which enables us to cope with our large sample size. Furthermore, this method is capable of handling categorical and continuous variables simultaneously.⁶

Referring to the results above, we assume that the four groups differ with regard to gender, income, age, educational status, family status, employment and professional status, and leisure budget, with the latter further differentiated into activities, into morning, afternoon, and evening leisure, and into perception of leisure allocation. Perception of leisure allocation was operationalized by these responses: *enough time for leisure*, *not enough time for leisure*, and *too much time for leisure*.

As we have demonstrated in the analyses reported above, there were significant differences in leisure time use on weekdays (i.e., working days)

⁶In the first step, a quick sequential cluster method is applied to the large sample to form subclusters. In the second step, the subclusters resulting from the first step are taken as input and are grouped into a smaller number of clusters. The statistical program SPSS primarily uses the agglomerative hierarchical clustering method because it works well with the auto-cluster procedure. In order to handle continuous and categorical variables, we used the log-likelihood distance measure.

and Sundays between the leisure-rich subgroups (see Table 8). Based on this finding, we reduced the sample to working days of the four groups ($n = 3,776$).

Starting the analysis with the 15 subclusters found in the first step, three clusters were ultimately generated (automatically). We used discriminant analysis to test the validity of the cluster solution. Two significant discriminant functions were generated whereas the first explains 83.6% of the variance. Furthermore, 96.6% of the predicted grouped cases were classified correctly. Additionally, ANOVA and χ^2 tests were calculated with the number of clusters as the independent variable. By looking at the effect sizes, a statement of the importance of single variables to describe the clusters is possible. Although the results of the discriminant analyses, the ANOVA, and the χ^2 tests all point to the high validity of the cluster solution, methods other than formal strategies to test validity of clusters should be used simultaneously. Furthermore, the generated clusters are to be confronted with the underlying theoretical assumptions.

Two of the three clusters can be characterized as income-poor, (i.e., Cluster 1 and Cluster 2); the third cluster can be described as income-rich. Men were strongly overrepresented in the third cluster (86.8%) were slightly overrepresented in the first cluster (59%). In contrast, women were strongly overrepresented in Cluster 2 (81.2%). Subjects assigned to the first cluster were predominantly young, aged 24 years and younger (95.3%), single (98.6%), and working as trainees (98.4%). Fifty percent of the individuals belonged to this cluster have a medium educational status.

In Cluster 2, married women (aged 25 to 45 years) were overrepresented. Moreover, they had a medium educational status (44%) and were employees (61.7%) working part-time (70.2%). Married men (between 45 and 65 years of age) with high educational status and high income were overrepresented in Cluster 3. Ninety-eight percent worked full-time. The self-employed and officials were overrepresented in this cluster (see Table 12). Using ANOVA as a means of validation, the effect size of income (*Cramer's V* = .951) and employment status (*Cramer's V* = .836) were strongest whereas the effect of educational status was rather low (*Cramer's V* = .252).

Looking at leisure time allocation, the following differences were found between the three clusters (see Table 13). Most leisure time was spent on mass media by individuals of all three clusters and, furthermore, a great part of their time was spent on social activity. Especially individuals belonging to Cluster 1 seemed to prefer social activities to a greater extent compared to the other clusters. With $\eta^2 = .04$ the effect size was highest on a relatively low level compared to the other activities. No significant differences were found between the three clusters concerning sports activities.

Regarding leisure time distribution, individuals belonging to Clusters 2 and 3 seem to spend a higher percentage of their whole leisure time budget in the morning as compared to individuals in the first cluster. For members of the second cluster, this might be due to the fact that most individuals are

TABLE 12
Description of the Three Clusters by Sociodemographic, and Socioeconomic Information

| | Cluster | | | <i>df</i> | χ^2 | <i>Cramer's V</i> | <i>p</i> |
|---------------------|---------|-------|-------|-----------|-----------|-------------------|----------|
| | 1 | 2 | 3 | | | | |
| Sex | | | | 2 | 1,435.478 | .616 | .00 |
| Men | 59.0 | 18.8 | 86.8 | | | | |
| Women | 41.0 | 81.2 | 13.2 | | | | |
| Age | | | | 6 | 2,765.192 | .605 | .00 |
| < 25 | 95.3 | 8.6 | 0.1 | | | | |
| 25-45 | 3.8 | 54.8 | 44.5 | | | | |
| 45-65 | 0.9 | 35.8 | 54.2 | | | | |
| 65 > | 0.0 | 0.8 | 1.2 | | | | |
| Family status | | | | 4 | 1,883.062 | .499 | .00 |
| married | 1.1 | 69.6 | 84.8 | | | | |
| single | 98.6 | 18.6 | 8.5 | | | | |
| other ^a | 0.3 | 11.5 | 6.7 | | | | |
| Education | | | | 4 | 480.430 | .252 | .00 |
| low | 22.5 | 26.6 | 13.5 | | | | |
| medium | 50.2 | 44.0 | 20.8 | | | | |
| high | 27.4 | 29.4 | 65.7 | | | | |
| Income ^b | | | | 2 | 3,417.305 | .951 | .00 |
| low (< 1,000 €) | 100 | 99.6 | 5.9 | | | | |
| high (> 2,250 €) | 0.0 | 0.4 | 94.1 | | | | |
| Employment | | | | 4 | 5,278.967 | .836 | .00 |
| full-time | 1.6 | 28.4 | 97.9 | | | | |
| part-time | 0.0 | 70.2 | 2.1 | | | | |
| trainee | 98.4 | 1.4 | 0.0 | | | | |
| Professional status | | | | 8 | 4,452.071 | .767 | .00 |
| self-employed | 0.0 | 12.0 | 25.1 | | | | |
| officials | 0.9 | 4.7 | 37.4 | | | | |
| employees | 0.3 | 61.7 | 31.9 | | | | |
| blue collar workers | 0.3 | 20.2 | 5.5 | | | | |
| trainees | 98.4 | 1.4 | 0.0 | | | | |
| <i>n</i> | 632 | 1,882 | 1,262 | | | | |

Note. Values indicate percentages.

^aincludes divorced, separated, and widowed

^bmonthly income

part-time workers. Thus the three clusters can be characterized as a time-rich cluster (Cluster 1), a time-poor cluster (Cluster 3), and a cluster with medium leisure time (Cluster 2). High income earners are overrepresented only in the time-poor cluster. With respect to perceived leisure time, individ-

TABLE 13
Leisure Activities and Distribution of Leisure Time of the three Clusters

| | Cluster | | | | | | η^2 |
|----------------------|---------|------------|-------|------------|-------|------------|----------|
| | 1 | | 2 | | 3 | | |
| Leisure | 349** | <i>166</i> | 284** | <i>174</i> | 221** | <i>174</i> | .061 |
| Leisure Activities | | | | | | | |
| Media | 143** | <i>128</i> | 135** | <i>117</i> | 112** | <i>109</i> | .011 |
| Social activity | 140** | <i>142</i> | 92** | <i>124</i> | 65** | <i>108</i> | .040 |
| Sports | 24 | <i>53</i> | 25 | <i>57</i> | 22 | <i>58</i> | .000 |
| Hobbies/Games | 27** | <i>65</i> | 16** | <i>43</i> | 13** | <i>42</i> | .010 |
| Relaxing | 15** | <i>45</i> | 17** | <i>41</i> | 9** | <i>27</i> | .009 |
| Leisure Distribution | | | | | | | |
| Morning | 24** | <i>44</i> | 31** | <i>47</i> | 25** | <i>44</i> | .005 |
| Afternoon | 97** | <i>84</i> | 88** | <i>84</i> | 57** | <i>77</i> | .038 |
| Evening | 199** | <i>93</i> | 155** | <i>93</i> | 132** | <i>93</i> | .055 |
| <i>n</i> | 632 | | 1,882 | | 1,262 | | |

Note. Values indicate arithmetic mean in minutes. Standard deviations are written in italics.

** $p < .01$

uals in the third cluster felt the most time pressure: 69% stated that they did not have enough leisure. In contrast, only 47% in the first cluster stated this (see Table 14).

Looking at the income and leisure patterns found in these clusters there seems to be evidence supporting our hypothesis that the "time dimension," in addition to the material dimension, has to be taken into account when exploring inequalities in lifestyles. As these results show, time has to be re-

TABLE 14
Perceived Leisure of Individuals belonging to the Three Clusters

| | Cluster | | |
|-----------------------------|---------|-------|-------|
| | 1 | 2 | 3 |
| Perceived leisure | | | |
| not enough time for leisure | 47 | 61 | 69 |
| enough time for leisure | 51 | 36 | 30 |
| too much time for leisure | 2 | 3 | 1 |
| <i>n</i> | 632 | 1,882 | 1,262 |

Note. The values indicate percentages.

$\chi^2 (4, N = 3,920) = 97.919, p < .01, Cramer's V = .144.$

garded as a multidimensional construct with objective and subjective dimensions. Time is more than money, seen as quantities merging objective and subjective dimensions, whereas the latter are difficult to measure. The following solution can be considered the first step in the exploration of different lifestyles and, at this initial stage, is definitely a broad classification. Further analyses are necessary for more specified results, but this will require different methods of analysis. For instance, in this study, motives and interests (which are of great interest in lifestyle research) were not explicitly collected in the German Time Use Survey and can, therefore, only be taken into consideration implicitly. Additional analyses could explore this aspect more thoroughly.

Conclusion

Considering time as a multidimensional construct that is more than simply an economic resource is often neglected in the social research of inequalities, but is of extreme interest in modern times. This was expressed early on by Linder (1970), who stressed that time is necessary to enjoy one's material wealth. People who are rich in a material sense are sometimes poor when it comes down to their personal leisure budget and, therefore, may be dissatisfied with life. Furthermore, there are "time wealthy" people who may be so involuntarily. They might have lost their job in times of high unemployment and cannot enjoy their leisure time at all because it is of no worth to them. By concentrating on time in our study, we are able to conclude that leisure is more than a "counting unit." Temporal wealth also includes the ability to decide over one's time use and the perception of timing.

By concentrating on income and leisure it was our intention to identify temporal and monetary inequalities with respect to leisure budgets, the corresponding activity spectrum, perception, and temporal flexibility. We showed that while the "old" inequalities (between men and women, old and young, income-rich and income-poor, well-educated and low-educated) persist, "new" inequalities emerged when looking at leisure activity budgets, leisure time distribution over the day, satisfaction with leisure time allocation, and perceived stress.

When comparing the time-rich and time-poor subgroups separately, no major differences were found with regards to leisure activities. Considering the social context of leisure (e.g., temporal intervals), however, the differences gain in importance. In particular, we found differences between the time-rich/income-poor and the time-rich/income-rich with respect to the distribution of their leisure time. The time-rich/income-rich seem to be more flexible in the timing of their leisure throughout the day than the time-rich/income-poor.

The analyses concentrating on the subjective dimension of leisure revealed, surprisingly, that the time-rich/income-poor seem to be more satisfied with their leisure time allocation and feel less under pressure with respect to their leisure time. The findings indicate that the so-called "harried

leisure class” feels most under temporal pressure and is least satisfied with leisure time allocation. Further research is needed to find out what the concepts “satisfaction with leisure time allocation” and “perceived temporal stress” really mean for this group. Interviewing subgroups focusing on the subjective dimension of leisure is an additional research method that might lead to more detailed findings.

The time-budget analysis method used here has proven itself adequate to concentrate primarily on the temporal aspects. Time budget studies are often criticized because of their descriptive or univariate character (e.g., Merz, 1990). We therefore tried to go one step further by using cluster analysis as a tool of multivariate research. We are aware, however, that the cluster solution presented here can only be a first step in a multivariate research process. Whereas the first classification has led to the identification of four groups on the dimensions of “leisure” and “income”, the cluster analysis additionally included leisure activities, time intervals, and perceived stress. Three groups were found with relatively high differences in their time for social activity, afternoon leisure as well as evening leisure. They can be characterised as a time-rich, a time-poor group and one group with medium leisure.

Thus, for the study of leisure, the “old” inequalities can be reinforced by the dimension of time in an objective and subjective sense thus opening up new questions for researchers: When do people use their time for leisure, how much time do they use, and how do they perceive it then?

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