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Dissatisfied with life, but having a good day: time-use and well-being of the unemployed

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Abstract

We apply the Day Reconstruction Method to compare unemployed and employed people with respect to their subjective assessment of emotional affects, differences in the composition and duration of activities during the course of a day, and their self-reported life satisfaction. Employed persons are more satisfied with their life than the unemployed and report more positive feelings when engaged in similar activities. Weighting these activities with their duration shows, however, that average experienced utility does not differ between the two groups. Although the unemployed feel sadder when engaged in similar activities, they can compensate this by using the time the employed are at work in more enjoyable ways. Our finding that unemployment affects life satisfaction and experienced utility differently may be explained by the fact that people do not adjust their aspirations when becoming unemployed but face hedonic adaptation to changing life circumstances, triggered by the opportunity to use the time in a way that yields higher levels of satisfaction than working.

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Unemployment makes people unhappy. When asked “All things considered, how satisfied are you with your life as a whole these days?”, unemployed report lower life satisfaction than employed people. This holds even after controlling for a large number of other influences, including the respondents’ income, social contacts or health.¹ These answers represent a respondent’s personal assessment of general life satisfaction, but give only limited insights into what makes people unhappy when they are unemployed or what makes them happy when they are employed.

Instead of asking about their life satisfaction in general one could also ask people about the strength of various emotions experienced in specific situations. This yields an alternative measure of subjective well-being that assesses the emotional, affective components of happiness. The Day Reconstruction Method (DRM) provides an appropriate new tool to measure this type of well-being by combining features of time-budget measurement and experience sampling (Kahneman et al. 2004a,b). The DRM asks respondents to construct a diary of the previous day consisting of all activities the person engages in during that day. The respondents describe each episode, what they did, with whom they interacted, and what feelings and emotions they experienced during that activity. Abstract issues, such as a transcendental purpose of life or social comparisons, play a much smaller role for such momentary hedonic well-being, i.e. *experienced utility*, than for life satisfaction (Kahneman et al. 2006).

In this paper, we examine whether the loss in life satisfaction experienced by the unemployed is also mirrored by lower experienced utility on a day-to-day basis, or whether the unemployed are able to adjust their daily routines to their changed life circumstances and report feelings that are not much different from those of employed people. For this purpose, we conducted a DRM study in Germany. We collected data on how employed and unemployed people use their time on a specific day, their affect levels during all activities they were engaged in during the course of that day, their general life satisfaction, and their general life circumstances. This enables us to compare unemployed and employed people with respect to i) differences in the assessment of general life satisfaction, ii) differences in

¹ See, for example, Clark and Oswald (1994), Winkelmann and Winkelmann (1998), Di Tella et al. (2001), Clark (2003), Knabe and Rätzl (2009), and Blanchflower and Oswald (2004) for income, Helliwell and Putnam (2005) and Winkelmann (2009) for social contact, and Deaton (2008) and Böckerman and Ilmakunnas (2009) for health.

the assessment of emotional affects, iii) differences in the composition of activities during the whole course of the day, and iv) the difference in the duration of these activities.

We decompose the well-being effect of unemployment into two components. First, there is a *saddening effect* of being unemployed. When engaged in similar activities, the unemployed feel worse than the employed. This finding is in line with Krueger and Mueller (2008) who compare the emotional well-being of employed and unemployed persons during similar activities and find that the unemployed report feeling more sadness, stress and pain than the employed. Second, there is a *time-composition effect*, i.e. the unemployed and the employed differ in how they spend their time. In a DRM study with employed women, Kahneman et al. (2004a,b) find that positive feelings are strongest during leisure activities and when interacting with friends and family, while negative feelings prevail mostly during episodes of work and work-related activities. Becoming unemployed thus implies that people can substitute more enjoyable leisure activities for less enjoyable working time. This time-composition effect works against the saddening effect so that it is *a priori* unclear which of the two groups feels better over the course of the day.

Our results show that unemployed persons report substantially lower levels of satisfaction with their lives in general. We also find that employed people rank working and work-related activities among the least enjoyable activities but experience more positive feelings than the unemployed when engaged in similar activities. These results are in line with previous research.

However, when measuring a person's experienced utility with the integral over the instant (or momentary) utility over the course of the day (Kahneman et al. 1997, Kahneman 1999), we find that an unemployed person's experienced utility does not differ from that of an employed person. The unemployed are able to compensate the utility gap from the time spent in similar activities by using the time during which the employed have to work for more enjoyable activities. The two distinct effects – the saddening effect and the time-composition effect – become particularly transparent when we consider Sunday and working days separately. On Sunday, when the time-composition effect is not at work, the employed people report higher experienced utility than the unemployed while on weekdays these differences are almost wiped out. These results show up for three different measures of the momentary experienced utility that take the duration of the activities into account: the *net affect*

(Bradburn 1969), the *U-index* (Kahneman and Thaler 2006), and a duration-weighted measure of *episode satisfaction* (White and Dolan 2009).

The apparent paradox that people are unhappy because they are unemployed but happy to spend their time in other ways than working might be explained by differences in the determinants of these two concepts of well-being. Life satisfaction is a cognitive, judgmental construct of happiness. When asked to assess their satisfaction with life, respondents have to create a reference framework of what constitutes a satisfied life (Diener et al. 1985). To do so, people compare their own life circumstances with those of other people at the same time and with their own life at other points in time (Dolan and Kahneman 2008). They also ask about purpose and meaning in life, something that certainly transcends day-to-day experiences (Loewenstein 2009). Employment plays a crucial role in judging one's life satisfaction. People usually see "being employed" as a desirable aspect of life because it gives their lives meaning and helps them to obey a cultural work ethic.² If people become unemployed, they deviate from this reference framework. They are hardly able to adapt to the new situation because unemployment does not cause people to adjust their aspirations (cf. Lucas et al. 2004). The unemployed continue to consider "being in employment" as a desirable and meaningful part of their life. However, unemployed people face hedonic adaptation in so far as they become used to changing life circumstances in their day-to-day experiences. The driving force for hedonic adaptation is the opportunity to use the time in a way that yields higher levels of satisfaction than working and work-related activities.

We will proceed as follows. The next section describes the Day Reconstruction Method. Section 2 documents our survey and presents descriptive statistics. Section 3 contains the empirical results that compare global life satisfaction with experienced utility. The last section discusses the main implications and concludes.

1. Methodology

If we want to measure people's happiness on a moment-to-moment basis, we have to know how they spend their time and how they feel during any activity they engage in. The most direct way to do this would be to collect information on people's reported feelings in real time in natural settings at selected moments of the day. The Experience Sampling Method (ESM)

² For evidence on the social norm of employment, see Clark (2003) for Great Britain, Shields et al. (2009) for Australia, and Clark et al. (2008) for Germany.

provides such a method (Csikszentmihalyi and Larson 1987; Csikszentmihalyi 1990; Stone and Shiffman 1994). Participants in ESM studies carry a handheld computer which asks them several times a day about the activity they are engaged in, their location, the time, and the people with whom they are interacting. They are also asked to what extent they experienced a number of subjective feelings, such as anger, happiness, tiredness, or impatience immediately before being prompted by the machine. The advantage of ESM is that it allows the measurement of experienced utility without any distortions caused by aspirations, retrospective evaluations, or memory effects. Only few studies, however, have been carried out due to the high costs of the survey design, the burden ESM places on participants, and difficulties in conducting such a study on a large scale. Moreover, data collected through ESM could suffer from biases that interrupt the flow of an experience due to the invasive nature of the questioning method and from the high prevalence of missing values, which could be non-random (Csikszentmihalyi and Hunter 2003).

So as to avoid any interruptions in the experience flow while keeping the advantage of a short recall period to measure experienced utility, Kahneman et al. (2004b) developed the Day Reconstruction Method (DRM). The DRM is a combination of a time-use study and the measurement of affective experiences. The respondents are asked to produce a diary of all activities they engaged in the preceding day, beginning with the first one after waking up and concluding with the last one before going to bed. Once the preceding day has been structured in the diary, respondents describe each activity by answering questions concerning what they exactly did during that activity and with whom they interacted. As is the case in experience sampling, they are then given a list of positive and negative feelings and are asked to evaluate how strongly they felt each of these emotions during this particular episode. The advantages of DRM over ESM are that it imposes a considerably smaller burden on respondents, does not disrupt normal activities, assesses all episodes over the entire day and not just particular moments, and provides time-budget information. Kahneman et al. (2004a) also show that DRM and ESM lead to similar results. Hence, DRM provides an efficient approximation to the results of the ESM (Kahneman and Krueger 2006).

One way to conduct comparisons of the experienced utility between different individuals is to aggregate the respondents' assessments of the various emotions into a unique index number. For each activity, respondents evaluate a range of feelings, which are either positive (e.g., "happy", "enjoy myself", "friendly") or negative (e.g., "depressed", "angry",

“frustrated”), on a scale from, for example, 0 to 10. One common measure of mood that aggregates these answers is *net affect*. Net affect A is defined as the difference between the average score the respondent gives to all positive attributes and the average score of all negative attributes. Defining A_{ij} as person i 's net affect during activity j , we have

$$A_{ij} = \frac{\sum_{l=1}^L PA_{ij}^l}{L} - \frac{\sum_{k=1}^K NA_{ij}^k}{K}, \quad (1)$$

where PA_{ij}^l represents the affect score of the l -th (out of L) positive emotion person i reports for activity j , and NA_{ij}^k represents the affect score of the k -th (out of K) negative emotion. Kahneman et al. (2004b) propose calculating a person's experienced utility as the integral of the stream of pleasures and pains associated with events over time so that

$$A_i = \sum_j h_{ij} A_{ij}, \quad (2)$$

where h_{ij} is the fraction of total waking time person i spends on activity j . To aggregate emotional affects according to (2), one has to assume that net affect is a cardinal measure, that utility is time-separable, and that the measure of net affect is a meaningful representation of the utility derived from an experience. Kahneman et al. (2004b) provide evidence of the correlation between net affect and objective circumstances that suggests that the use and interpersonal comparisons of affect measures are meaningful and add useful information to our understanding of well-being.

The net affect measure preserves much of the original information even after aggregation (in particular, the strength of positive and negative emotions), but suffers from the disadvantage any cardinal measure possesses: it is unclear what the scale of measurement really refers to and whether different people interpret the scale in the same way. These issues are addressed by the *U-index* (for “unpleasant” or “undesirable”) that does not require a cardinal conception of individuals' feelings. Kahneman and Krueger (2006) define the U-index as the proportion of time in which the highest-rated feeling was a negative one. The U-index can be computed for each individual, i.e. the fraction of a person's waking time that is spent in an unpleasant state, or for each activity, i.e. the fraction of the time people spend on a specific activity that is experienced as unpleasant (Krueger et al. 2009). The U-index for person i engaged in activity j is defined by

$$U_{ij} = \begin{cases} 1 & \text{if } \max \{ NA_{ij}^1, \dots, NA_{ij}^k, \dots, NA_{ij}^K \} > \max \{ PA_{ij}^1, \dots, PA_{ij}^l, \dots, PA_{ij}^L \} \\ 0 & \text{otherwise} \end{cases}. \quad (3)$$

The U-index for individual i is calculated by weighting the U-index for each activity, U_{ij} , by the fraction of time the individual was engaged in that activity, h_{ij} :

$$U_i = \sum_j h_{ij} U_{ij}. \quad (4)$$

The U-index for activity j is then given by

$$U_j = \sum_i h_{ij} U_{ij} / \sum_i h_{ij}. \quad (5)$$

According to Kahneman and Krueger (2006), the U-index has the favourable property that it relies only on an ordinal ranking of feelings. In particular, the U-index is independent of scale effects. If one person uses only values between 2 and 4 to characterize his feelings, while another person uses the full scale from 0 to 6 but ranks his feelings in the same order, both people will have the same U-index (whereas the same does not necessarily hold for net affect).

Other authors have questioned the validity of the U-index as an ordinal measure. Layard (2009) claims that if the assessment of feelings is truly ordinal, the U-index does not overcome the problem that the reported strength of feelings cannot be aggregated in a meaningful way. Suppose, for example, that two people have the same “true”, but unobservable strengths of feelings. Both people use the 11-point-scale in different ways. Person A tends to use the upper part of the scale for positive feelings and the lower part for negative feelings, while person B uses the upper part for negative feelings and the lower part for the positive ones. The ordinal ranking of activities according to each feeling is unaffected by this difference in the use of the scale. The U-index, however, will be much lower for person A than for person B. Layard’s (2009) critique of the U-index is that it does not overcome the ordinality problem, but loses a lot of information compared to other directly cardinal measures. Loewenstein (2009) argues that the U-index depends substantially on what emotions are included in the questionnaire. Even if people are able to assess the strength of the various emotions they experienced, it is not clear how these emotions should be weighed against each other. “Ecstatic” is a stronger feeling than “happy”. If the emotion “happy” on the questionnaire were replaced by “ecstatic”, respondents’ assessment of the strength of this emotion on the scale from 0 to 10 would certainly go down. If people simultaneously reported

some negative feelings too, more episodes would turn from positive into negative experiences, although the “true” emotional state would remain unchanged.

Since no truly ordinal aggregation of emotions appears feasible, and any weighting of the various emotions is arbitrary, we also rely on a measure of a person’s emotional state that assumes cardinality, but leaves the aggregation of emotions and thoughts within a certain episode to the respondent himself. In the style of the standard life satisfaction question, we ask respondents to answer the question “How satisfied were you during this activity?” on a scale from 0 to 10 before we ask them about any specific emotions. White and Dolan (2009) show that such a measure of *episode satisfaction* can give a more comprehensive picture of a person’s subjective well-being than arbitrarily aggregated affect measures. By answering the question, the respondent himself has to weight which of his emotions and thoughts was most important with regard to his overall satisfaction during some activity. A person’s assessments of the satisfaction experienced during each episode is aggregated over the entire day in the following way, where E_{ij} denotes the episode satisfaction measure of person i during activity j .

$$E_i = \sum_j h_{ij} E_{ij} \quad (5)$$

Taking account of the fact that all three measures have their advantages and disadvantages, in what follows we present results for all three measures throughout.

2. Data

2.1. Survey design

In order to design our DRM study in a way that yields results comparable to previous studies, but also to allow us to specifically analyze how experienced utility depends on a person’s employment status, we used a questionnaire and an interview setup similar to that presented in Kahneman et al. (2004a). However, we modified the questionnaire to obtain information on the respondents’ current employment status, their employment history, and their job search behaviour as well.³ We are aware that the DRM only provides a cross-sectional snapshot, which does not allow controlling for individual heterogeneity. To take this problem into

³ A translated version of the questionnaire is provided in a Supplementary Appendix, available on the RES website.

account, we conduct several tests, presented below, that suggest that our results are not driven by any selection bias.

We conducted pre-tests of the questionnaire with 24 randomly chosen employed and unemployed respondents in January 2008. Between March and July 2008, we interviewed a total of 1,080 persons. From these, we had to drop 25 interviews due to lack of understanding and missing answers. Of the remaining 1,055 interviews, 714 respondents were either employed full-time (366) or unemployed without being engaged in any type of welfare measure (348). 195 employed and 171 unemployed were interviewed in the Magdeburg region, and 171 employed and 177 unemployed were interviewed in Berlin. Interviews lasted between 30 and 60 minutes.

The unemployed were approached directly by the interviewers in the local employment offices and asked whether they would like to participate in a survey. They could then choose whether the interview would take place directly on site, at their home, or at the local university. We only interviewed long-term unemployed persons eligible for the means-tested “Unemployment benefit II”. Unemployed interviewees received a compensation of 10 euro. About 15 percent of the unemployed we approached participated in the interview. To recruit employed respondents, we randomly selected, from the telephone directory, addresses within the district of the employment offices and sent a letter in which we briefly explained the purpose of our study (without yet mentioning that we would ask respondents to provide information about their time-use and feelings) to these households and told them that we had selected them to participate in the study. Within three days, we gave all these households a telephone call to make an appointment for the face-to-face interview, which then took place either at the university or at the interviewee’s home. Of all the persons contacted and willing to talk to us on the phone, 55 percent were in the target group, i.e. full-time employed. Among these, about 20 percent were willing to participate in our survey. Employed respondents did not receive a compensation payment.⁴

The questionnaire consisted of three parts. In the first part, respondents were asked to assess how their mental and physical well-being the previous day compared to a typical day in their life, to list all activities they were engaged in during the course of that day, and to note

⁴ Our pre-tests showed that the response rate was in fact lower when we offered a compensation of 10 Euros to the employed than when we did not offer any compensation. This surprising effect suggests that people have an intrinsic motivation to participate in scientific studies which could be crowded out if a monetary compensation is paid. The unemployed, on the other hand, were more willing to participate if given compensation.

the start and end time of each activity. The diary had to be constructed without gaps before starting with the second part.⁵ In the second part, respondents gave a detailed account of what they did, with whom they interacted, and how they felt during each activity listed in their diary. We specifically asked respondents to assess how strongly they experienced various affect dimensions on a scale from 0 (“not at all”) to 10 (“completely”). Positive affect was measured using the attributes “relaxed”, “happy”, “comfortable/at ease”, and “enjoying myself”. Negative affects comprised “lethargic/dull”, “insecure/anxious”, “stressed”, and “frustrated/annoyed”. Respondents also rated their general satisfaction during each episode on a scale from 0 to 10. In the third part, respondents answered questions about themselves and their life circumstances, e.g. their general life satisfaction, job satisfaction (where applicable), health status, education, income, number of children, social contacts, employment, and marital status. Instead of these questions being asked at the beginning, they were asked at the end of the interview to avoid that drawing attention to these issues would influence the responses to earlier questions.

2.2. Descriptive Statistics

Table 1 summarizes some descriptive statistics, separated into subsamples of the employed and the unemployed. The two groups are very similar with respect to personal characteristics but differ both with respect to household income, family status, and level of education. Employed people enjoy a substantially higher net household income, are more often married or cohabiting, and have had better vocational training.

⁵ We followed the recommendation by Kahneman et al. (2004c) that the diary should be completed before respondents become aware of the specific contents of later questions. Otherwise their construction of the diary might suffer from selection bias.

Table 1: Descriptive statistics

	Employed		Unemployed	
	DRM sample	SOEP	DRM sample	SOEP
Age	44.2	42.0	38.2	40.9
Male	50.3%	66.6%	50.3%	41.8%
Income				
Gross Labour Income	€3,014	€3,055	-	-
Net Labour Income	€1,891	€1,947	-	-
Net Household Income	€2,974	€2,752	€890	€1,156
Qualification				
No formal training	2.7%	8.8%	22.1%	27.7%
Vocational training	42.6%	64.2%	63.8%	63.7%
College or university degree	54.7%	27.0%	14.0%	8.6%
Married/cohabiting	72.4%	79.3%	44.0%	58.1%
Number of children in the household	0.58	0.50	0.45	0.77
Persons in the household	2.24	2.55	1.88	2.66
Working Hours / Week	41.5h	43.8h	-	-
Unemployment duration (months)	-	-	46.3	27.1
Wake up Time	6:39am	-	7:41 am	-
Go to Sleep Time	11:08pm	-	11:24pm	-
Time Slept during the Day	4min	-	15min	-
Time Awake / Day	16h 24min	-	15h 27min	-
Number of distinct activities	12.7	-	12.0	-
Day of the week				
Weekdays	85.0%	-	81.9%	-
Weekend	15.0%	-	18.1%	-
Observations	366	7,527	348	689

Note: Observations from the SOEP are weighted by the cross-sectional surveys weights provided by the SOEP group to make them representative for Germany.

Table 1 also presents nationally representative data from the 2007 wave of the German Socio-Economic Panel (SOEP).⁶ We compare our DRM data to a comparable SOEP-subsample of fulltime employed persons and of unemployed persons who receive unemployment benefits II and do not engage in any kind of market work. For the employed, we find that our sample and the observations from the SOEP are very similar with respect to age, income, and family size. The comparison suggests, however, that our sample underrepresents men and overrepresents people with college or university degrees. With respect to the unemployed, men, singles, and people with higher education and longer unemployment duration appear to be overrepresented

⁶ The data were made available by the German Socio-Economic Panel Study (SOEP) at the German Institute for Economic Research (DIW), Berlin. The data were extracted using the Add-On-package PanelWhiz for Stata; see Haisken-DeNew and Hahn (2006) for details.

in our sample. To make the sample representative for the entire German population, we calculate survey weights based on sex, age, vocational training, family status, unemployment duration, and day of the week. In all the following analyses, we will make use of the weighted data unless noted otherwise.

3. Results

3.1. Well-being during specific activities

Table 2 presents the net affect, the U-index, and the episode satisfaction for different activities, broken down by employment status.⁷ Activities are sorted by their mean net affect for the employed. Leisure activities generate the highest emotional well-being for both groups. Employed persons report the highest satisfaction scores while pursuing their hobbies, exercising, playing parlour or computer games, and meeting with friends. Respondents rate their satisfaction during these activities at average values of between 6.71 and 7.25 on a scale from -10 to 10. Watching TV, taking care of one's children, and making short trips are considered less satisfying leisure activities; the net affect is between 3.79 and 5.09. Of all non-work activities, doing household chores and going shopping score worst with values of 3.58 and 3.00, respectively.

⁷ Results for each individual affect measure are presented in the appendix.

Table 2: Well-being and time-use by activity and employment status

Activity	Net Affect		U-Index		Episode Satisfaction		Mean hours per day (h:min)		Share of Sample Reporting	
	E	UE	E	UE	E	UE	E	UE	E	UE
Hobby /Sport	7.25 (0.011)	6.15	0.03 (0.479)	0.05	8.93 (0.118)	8.50	2:32	2:57	20%	23%
Parlor / Computer Game	6.73 (0.002)	4.36	0.00 (0.001)	0.21	7.83 (0.286)	7.26	5:05	2:15	7%	11%
Socializing	6.71 (0.550)	6.54	0.05 (0.302)	0.07	8.58 (0.147)	8.34	2:16	2:50	48%	58%
Eating	6.51 (0.000)	4.92	0.04 (0.000)	0.11	8.22 (0.000)	7.19	1:39	2:06	92%	98%
Reading / Radio / Music	6.34 (0.000)	4.91	0.01 (0.003)	0.09	8.50 (0.000)	7.60	1:47	1:52	36%	28%
Relaxing / Walk	5.98 (0.912)	6.04	0.08 (0.943)	0.08	8.21 (0.494)	7.99	1:45	1:26	21%	22%
Break during Work	5.30		0.06		7.85		0:33		37%	
Watching TV	5.09 (0.687)	5.18	0.11 (0.616)	0.12	7.33 (0.501)	7.43	2:54	3:41	73%	79%
Childcare	4.42 (0.000)	6.96	0.16 (0.015)	0.08	7.47 (0.000)	8.53	1:48	3:28	21%	31%
Travel	3.79 (0.452)	3.54	0.11 (0.001)	0.23	6.89 (0.685)	6.81	1:17	1:14	23%	36%
Housework	3.58 (0.000)	2.42	0.17 (0.016)	0.23	6.36 (0.395)	6.22	2:12	3:12	60%	78%
Commuting	3.22		0.25		6.77		0:48		47%	
Shopping	3.00 (0.112)	2.17	0.27 (0.773)	0.25	6.81 (0.010)	5.93	0:59	0:54	21%	31%
Working	2.68		0.21		6.72		6:32		68%	
Job Seeking	-1.37 (0.709)	-0.13	0.78 (0.365)	0.52	3.14 (0.719)	4.02	1:16	1:50	1%	25%

Note: E – Employed, UE – Unemployed, *p*-values for the *t*-test of whether the scores for the employed and unemployed are equal are given in parentheses. Mean hours per day are conditional on engaging in that activity. We report only activities in which at least 10% of either group engaged in.

Employed respondents report very low satisfaction scores during all employment-related activities. With a net affect of 2.68, working belongs to the least satisfying times of the day. Only job search activities score worse (-1.37). Breaks during working hours seem to be enjoyable compared to actual working time and their net affect score of 5.30 is of the same magnitude as the values of many leisure activities. The low value of work corresponds perfectly with the findings by Kahneman et al. (2004a), who also report that working, commuting, and housework are the worst-rated activities among the employed.

Unemployed persons exhibit roughly the same ranking of activities as that found for employed persons, but show lower net affect scores in almost all activities (only when spending time with their children do the unemployed report significantly higher net affect scores than the employed). This corresponds to Krueger and Mueller (2008), who also find that the unemployed are sadder and less happy than the employed while engaged in the same type of activity. This illustrates what we call the saddening effect. Being unemployed reduces the well-being experienced during specific activities.

As we laid out in Section 1, the net affect measure calculates the difference between the average intensity of all positive and negative emotions. Thus, this measure implicitly allows one strong negative feeling to be compensated by two, perhaps relatively weak, positive emotions, even though one strong negative feeling might dominate all other emotions. The U-index avoids this problem by indicating only whether the strongest of all emotions was a negative one. Ranking the activities according to their U-index produces a similar ordering as for the net affect.⁸ Finally, sorting the activities by their episode satisfaction also gives a very similar picture.⁹

Table 3: Correlation between well-being measures

	Net Affect	U-index	Episode Satisfaction	Life Satisfaction
Net Affect	1	---	---	---
U-index	-0.73	1	---	---
Episode Satisfaction	0.76	-0.53	1	---
Life Satisfaction	0.36	-0.37	0.36	1

Note: The correlations are calculated at the individual level.

Indeed, the three measures of experienced utility are strongly correlated (Table 3). The correlation of self-reported general life satisfaction with the three measures of experienced utility, however, is much weaker than that between the measures of experienced utility. This suggests that the three measures of experienced utility, although not identical, are similar representations of the same underlying psychological states, but that these measures also

⁸ Spearman's rank correlation coefficient between the U-index and net affect gives rank correlations of -0.95 for the employed and -0.92 for the unemployed.

⁹ Spearman's rank correlation coefficient between episode satisfaction and net affect is 0.91 for the employed and 0.96 for the unemployed. Comparing the U-index and episode satisfaction is -0.86 for the employed and -0.94 for the unemployed.

capture something very different from that which drives people's self-reported life satisfaction.

Turning to how the employed and unemployed use their time during the day, we see that work demands the largest share of time for the employed. The employed in our sample spend about 6.5 hours per day at work. Commuting time is, on average, 48 minutes per day. The employed spend about one and a half hours per day on meals, almost three hours watching TV and more than two hours doing housework (if they engage in these activities during the day). Since the unemployed do not spend their time working, they have to allocate the available time to other activities. As we have seen in Table 1 already, the unemployed sleep almost one hour longer than the employed. They also spend more time and engage more often in relatively positive leisure activities (especially hobbies, socializing, childcare, and watching TV). However, they also spend more time doing household chores and are more often engaged in job search. Both activities typically receive the lowest experienced utility scores.

3.2. Comparing general life satisfaction with experienced utility

The most-commonly used indicator of subjective well-being is an assessment of general life satisfaction. Studies that examined how unemployment affects how a person assesses his life satisfaction have produced overwhelming evidence that the unemployed suffer from lower life satisfaction than the employed (e.g., Clark and Oswald (1994), Winkelmann and Winkelmann (1998), Di Tella et al. (2001), Clark (2003), and Blanchflower and Oswald (2004)). The results of our survey are in line with these findings. We also asked respondents to assess their life satisfaction on a scale from 0 to 10. The employed reported an average value of 7.074, the unemployed stated an average value of only 4.385 (Table 4). The corresponding values from the nationally representative SOEP are 7.04 for the employed and 5.59 for the unemployed. Both differences are statistically significant at any reasonable level.

Does such a difference also show up in the day-to-day experiences of employed and unemployed people? The measures of momentary experienced utility we derived in Section 1 show striking differences compared to the reported general life satisfaction. The results are listed in Table 4, which shows the duration-weighted averages for the net affect, the U-index, and episode satisfaction. An employed person's average net affect is 4.404. This value is far below the net affect score reported for most activities (see Table 2), but seems to be driven by

the large share of time allocated to working and related activities. The unemployed report a score of 4.572. Measured by the duration-weighted net affect, the unemployed do not feel unhappy, but are in fact as happy as the employed.¹⁰ If we look at the U-index, the employed have an index value of 0.142, and the unemployed of 0.153. On average, the unemployed report that their strongest feeling is a negative one for only 1.1 percent more of their time than the employed. The null hypothesis that the two values are equal cannot be rejected. Our measure of episode satisfaction also shows no significant difference between the two groups. The duration-weighted average episode satisfaction is 7.282 for the employed and 7.181 for the unemployed. The difference of 0.101 points is not statistically significant either.¹¹

The differences in momentary experienced utility between the employed and the unemployed depend on two effects. The first (saddening) effect is the difference in experienced utility during each activity. As we know already from the results in Table 2, the unemployed report lower well-being scores in almost all activities. The second (time-composition) effect concerns how much time a person allocates to each activity. As reported in Table 2, the unemployed do not spend any time on the relatively undesirable activity work, but allocate more time to other, perhaps more enjoyable, activities. Indeed, unemployed persons spend more time socializing, which is one of the highest-values activities. Even though they also spend more time in less-liked tasks, such as job seeking or housework, the overall time-composition effect gives a larger weight to activities with good emotions.

¹⁰ Duration-weighted averages of single emotions are presented in the appendix (Table A.1). For seven of the eight emotions asked about in our questionnaire, the differences between employed and unemployed respondents are not statistically significant. The only significant differences are found for “insecure” and “lethargic”: while unemployed persons feel more often insecure than employed persons, they less often report to feel lethargic.

¹¹ As shown above, the unemployed in our DRM sample are less happy than those in the SOEP. This is a first indication that there is no selection bias in the sense that those who participate in the voluntary interview are inherently in a better baseline mood, which would lead to overly positive measures of subjective well-being. Instead, participants in our survey appear to be in a worse mood than the representative SOEP sample suggests. A downward bias in the life satisfaction of our sample, however, would not constitute a problem for the validity of our results. The fact that – despite this potential downward bias – we find no significant difference in experienced utility between the employed and the unemployed, our conclusion is strengthened that there is no evidence of a *negative* effect of unemployment on experienced utility.

Table 4: Average episode satisfaction, net affect, and U-index, by employment group

	Life Satisfaction	Net Affect	U-Index	Episode Satisfaction
Employed	7.074	4.404	0.142	7.282
Saddening effect	---	-0.328 / -0.336	+0.022 / +0.015	-0.153 / -0.172
Time composition effect	---	+0.496 / +0.504	-0.010 / -0.003	+0.051 / +0.070
Unemployed	4.385	4.572	0.153	7.181
Difference between unemployed and employed	-2.689 (0.000)	+0.168 (0.371)	+0.011 (0.397)	-0.101 (0.334)

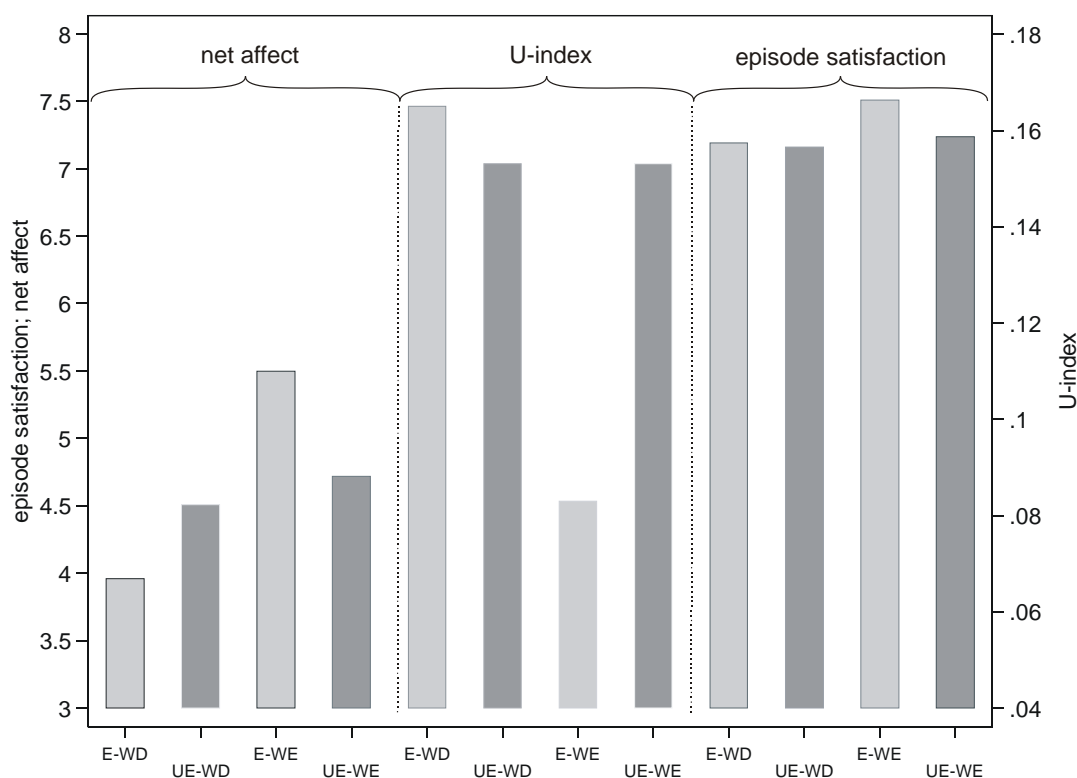
Note: p -values for H_0 : difference=0 in parentheses.

The impact of the time-composition effect can be illustrated by decomposing the difference in our three measures of momentary experienced utility between the employed and the unemployed into the saddening and the time-composition effect by a thought experiment. First, we calculate how the average momentary experienced utility of all employed persons would change if they became unemployed under the assumption that they experience the average utility of an unemployed person in all activities, but maintain the time schedule they had when they were still employed. Since we do not observe experienced utility ratings for work and work-related activities for the unemployed, we assume that the employed maintain their original values during these activities. The difference between the experienced utility before becoming unemployed and its value after this hypothetical drop in well-being levels corresponds to the *saddening effect*; the remaining difference to the actual experienced utility after becoming unemployed can then be assigned to the time-composition effect. Alternatively, we assign the average experienced utility scores of all employed persons in specific activities to the unemployed. The difference between the actual well-being of the unemployed and their hypothetical well-being after assigning the values of the employed can also be interpreted as the saddening effect, while the remaining difference corresponds to the time-composition effect.

These two decompositions are reported in the second and third line of Table 4 for all three measures. The first value results from assigning the experienced utility scores of the unemployed to the employed and the second value reports the outcome of the reverse

assignment. The average net affect after assigning the affect levels of the unemployed to the employed without any adjustments in time use would be 4.076. This is 0.328 points below the value reported by the employed. The reverse decomposition suggests that the difference in affect levels between the employed and the unemployed explains 0.336 points of the actual affect gap. This is quite a large drop and illustrates that unemployment has an effect not only on life satisfaction, but also on a person's mental well-being in specific activities. As we have seen in Table 4, however, there is no net affect difference between the employed and the unemployed if time schedules are adjusted. This means that unemployed persons shift their time to more favourable activities, and that this time-composition effect is sufficiently large to offset the saddening effect almost completely. For the U-index, the decomposition suggests that the time spent in unpleasant episodes would rise by 2.2 (1.5) percentage points if an employed person became unemployed, but that the ability to shift one's available time to more pleasurable activities reduces this effect by 1 (0.3) percentage points. Looking at episode satisfaction, the saddening effect is the smallest relative to its initial value. Also for the latter two measures, the time-composition effect counteracts the saddening effect sufficiently to turn the overall effect statistically insignificant.

Figure 1: Experienced utility, separated by weekdays and weekends



Note: E – Employed, UE – Unemployed, WD – Weekday, WE – Weekend

The time-composition effect becomes transparent when we compare the experienced utility of the two groups on weekdays and weekends. On weekdays, employed typically have to work and are not free to allocate their time any way they like. Instead, they spend a large share of their time on tasks which yield relatively low experienced utility. The unemployed, on the other hand, are less bound by external restrictions and can shift their time to more favourable activities. On the weekend, however, the employed can freely decide how to use their time. Hence, one would expect that the interaction of the time-composition and the saddening effect causes a negative difference in experienced utility between the employed and the unemployed on weekdays, but a positive difference on weekends.¹² Indeed, this is what Figure 1 shows for all three measures of experienced utility. The subjective well-being of the employed is lower on weekdays. On weekends, the ranking is turned around. The weekday-weekend comparison

¹² While this procedure is suggestive of a decomposition in a saddening and a time-composition effect, it cannot provide a full decomposition. While the well-being difference on weekends can be attributed to the saddening effect alone, differences on weekdays still consist of saddening and time-composition effects.

thus supports the conjecture that the time-composition effect plays a crucial role in explaining the vanishing difference in experienced utility between the employed and the unemployed.

Since our data is a cross-sectional “snapshot”, one might be concerned about potential sample selection issues. If it was the case that those persons who experience the largest drop in their subjective well-being when becoming unemployed are also the ones who then look for a job most intensively, it could be that our sample of long-term unemployed persons is biased towards those unemployed who do not really dislike being without a job. While we cannot rule out such an effect, we think that it is of minor quantitative importance. First, if there was such a selection effect with respect to experienced utility, one would expect to find it also in our measure of general life satisfaction. Our findings show, however, that the long-term unemployed are strongly dissatisfied with their life. Second, when we run a probit regression on the unemployed’s response to whether they had been actively looking for a job in the past four weeks, we find that people with higher experienced utility are significantly more active in job search (while life satisfaction bears no significant relation to search behaviour). Correcting for a potential sample selection bias should lead to an even larger estimate of the unemployed’s experienced utility, which strengthens our case. Third, regression analyses show that unemployment duration (which goes up to 20 years in our sample) does not have any relation to life satisfaction or experienced utility. This finding is also in line with the literature on life satisfaction, which has proclaimed that “unemployment starts out bad and stays bad” (Clark et al. 2008). This is another indication that sample selection is not the main driving force behind our findings.

3.3. Regression analysis

The differences in experienced utility (or the absence thereof) between the employed and the unemployed could have various causes. Besides a genuine relationship between employment status and experienced utility, it could be that other factors that are correlated both with experienced utility and employment status are the true causes of any correlation between the two variables. To control for such factors, we conduct a regression analysis to estimate the impact of employment on experienced utility and to compare it to its impact on life satisfaction.

Table 5 contains the results of regressing both life satisfaction and the net affect on a set of socio-economic characteristics, including the respondent’s own employment status,

income, age, family status, and number of children.¹³ The determinants of general life satisfaction (columns 1 to 3) are in line with the literature. This shows that respondents in our sample behave in a similar way to people observed in large-scale social surveys. Specifically, the first column, with unemployment as the only explanatory variable, shows that the unemployed have a significantly lower life satisfaction than the employed (corresponding to Table 4).

In the second column, we add demographic variables to the regression. Women report significantly higher life satisfaction scores than men. Life satisfaction is U-shaped in age. People that report to be more satisfied with their health also report a significantly higher satisfaction with their life in general. This could be because health is an important determinant of quality of life in and of itself, but since our data is cross-sectional and not a panel, we cannot preclude the possibility that this correlation captures differences between general degrees of optimism between people that simultaneously affect both satisfaction measures. Hence, the use of “health satisfaction” in such regressions could also be interpreted as capturing fixed personality traits. Having achieved a higher level of education and having more children appears to make people more satisfied with their life. The impact of being married/having a partner is statistically insignificant and quantitatively negligible.

In the third column, we regress life satisfaction on the same regressors plus household income. The results show that income is positively correlated with life satisfaction and highly significant. Adding income to the regression significantly reduces the size of the unemployment coefficient. This is indicative of the pecuniary cost of unemployment (cf. Blanchflower and Oswald 2004). Nevertheless, unemployment is associated with lower life satisfaction scores even if income is held constant. A major part of the loss in life satisfaction caused by unemployment thus appears to be attributable to non-pecuniary factors.

The same explanatory variables have a quite different impact on a person’s duration-weighted net affect. Column 2 contains a regression of the net affect on unemployment only. As can be seen, the effect of unemployment is slightly positive, but statistically insignificant (the results correspond to Table 4). In column 3, the same demographic controls as in column 2 are added. After controlling for these other factors, the unemployment coefficient becomes even larger, but stays insignificant. Hence, while we find that a person’s life satisfaction is

¹³ Regression results for episode satisfaction and the U-index yield similar findings as for net affect and are presented in the appendix (Table A.2).

harmful by unemployment, we do not find evidence of a similar effect for the net affect. People with vocational training show a significantly higher net affect than people without any vocational degree. Respondents who are more satisfied with their health also report feeling better across the day. Women report a higher net affect than men. Age has a U-shaped impact on the net affect. In the last column, we show that adding income to the regression does not affect any of these results. In contrast to the findings for the determinants of life satisfaction, we do not find any significant effect of income on a person's net affect during the course of the day. This result is in line with Kahneman et al. (2004).

Table 5: Regression results

	Life Satisfaction			Net Affect		
	unemployment only	with demographics	with demographics and income	unemployment only	with demographics	with demographics and income
Unemployed	-2.689*** (0.167)	-2.303*** (0.175)	-1.763*** (0.233)	0.168 (0.188)	0.326 (0.204)	0.357 (0.273)
Female		0.457*** (0.162)	0.467*** (0.161)		0.508*** (0.189)	0.456** (0.189)
Age		-0.145*** (0.052)	-0.151*** (0.052)		-0.118* (0.061)	-0.127** (0.060)
Age_squared		0.002*** (0.001)	0.002*** (0.001)		0.002** (0.001)	0.002** (0.001)
Married/ cohabiting		-0.050 (0.175)	-0.348* (0.193)		-0.289 (0.205)	-0.325 (0.226)
Health satisfaction		0.340*** (0.033)	0.324*** (0.033)		0.305*** (0.038)	0.306*** (0.038)
Vocational training		0.705*** (0.222)	0.665*** (0.221)		0.660** (0.259)	0.648** (0.259)
University education		0.983*** (0.284)	0.825*** (0.287)		0.084 (0.332)	0.109 (0.335)
Number of children		0.135* (0.076)	0.091 (0.077)		0.016 (0.089)	0.037 (0.090)
ln(household income)			0.587*** (0.172)			-0.005 (0.201)
Constant	7.074*** (0.117)	6.467*** (1.100)	2.522 (1.602)	4.404*** (0.131)	3.752*** (1.284)	3.978** (1.872)
Observations	712	711	707	712	711	707
R-squared	0.267	0.403	0.412	0.001	0.119	0.121

Note: OLS estimation. Standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

4. Discussion

The literature on life satisfaction has provided strong empirical evidence that unemployed people are strictly unhappier than employed people, even when controlling for income (see Lucas et al. 2004 for a comprehensive survey). This result has challenged the traditional neoclassical notion of unemployment according to which people who become involuntarily unemployed lose access to resources for consumption – which makes them worse off – but are partially compensated by an increase in leisure time. To see the striking difference, consider the consequences of a complete compensation of the income loss of people who become unemployed. While the evidence from life satisfaction research suggests that the unemployed would still be unhappier, using a standard utility function would imply that they would be strictly better off as they have the same amount of resources at their disposal but more leisure.

Our paper may be a first attempt to reconcile the two views. Life satisfaction is a cognitive, judgmental construct of happiness. When asked to assess their satisfaction with life, respondents have to create a reference framework of what constitutes a satisfied life. While income and thus one's own availability of resources is one of the main determinants in such a reference framework, the availability of more leisure does not seem to play any significant role. One possible explanation for this phenomenon is duration neglect: while an experience's intensity affects how people remember the utility derived from it, its duration has little or no independent effect on "remembered utility" (cf. Kahneman et al. 1997, p. 381) and thus also to any reference framework. By applying the DRM and taking time-use data into account, more weight is given to the rather negative feelings experienced during working hours (because more time is spent on work than leisure) in an employed person's personal assessment of subjective well-being. This is perfectly in line with what the standard neoclassical utility function suggests: since individuals report a higher net affect of leisure activities compared to working and work-related activities, the time-composition effect implies that (experienced) utility is increasing in leisure. Hence, a time-weighted measure of well-being does not contradict, but instead supports the assumptions behind a standard utility functions. Nevertheless, the DRM data also show a saddening effect indicating that the value of leisure depends on the fact of being employed or not. If duration neglect plays a role in determining the impact of the daily experience on the assessment of general life satisfaction, it does not matter that the unemployed have more leisure time available, only the saddening

effect is relevant for their subjective well-being. This is in line with the empirical results derived from the life satisfaction literature.

Another possible explanation for the difference in the personal judgments of life satisfaction may be the way in which people adapt to new life circumstances. While we observe adaptation after an increase in income (Frey and Stutzer 2002), after becoming moderately disabled (Oswald and Powdthavee 2008), or within a few years after marriage (Clark et al. 2008), this is not the case with unemployment (Clark 2006). The latter result is confirmed by our data: unemployed people who have been unemployed for at least one year report significantly lower levels of life satisfaction than employed people.

In principle, there are two distinct ways to adapt to new life circumstances. First, there might be *hedonic adaptation*. Hedonic adaptation mainly affects our emotional experiences and affects during specific situations in life. Over time, the intensity of positive feelings experienced after a rise in income will diminish, and so will the suffering after becoming paraplegic (Frederick and Loewenstein 1999). Second, there might be *aspiration adaptation*. What people consider to be “satisfactory” changes over time, depending on their past achievements relative to what they consider the purpose and meaning of life or social comparisons. Aspirations adapt when life circumstances change (van Praag and Ferrer-i-Carbonell 2004). For instance, Frey and Stutzer (2002) report that aspiration adaptation offsets two-thirds of the initial benefits of an increase in income.

The two types of adaptation are hard to separate empirically. As Kahneman et al. (2004) point out: “Findings of adaptation are robust, but open to multiple interpretations. ... The ambiguity can only be resolved by measuring the hedonic quality of experience separately from expectations” (Kahneman et al. 2004, 429f). Using both the standard measure of general life satisfaction and the measures of instantaneous utility, we may provide such a separation and identify the extent to which hedonic adaptation and aspiration adaptation are at work when people become unemployed and stay unemployed for a long time. Our results show that long-term unemployed experience their day-to-day lives as more or less equally satisfying as employed people. This suggests that we found a specific type of hedonic adaptation. While we do not observe (complete) hedonic adaptation when we look at similar activities, people adapt their hedonic experiences by adjusting their time use. What makes the unemployed better off is that they use much more of their available time for activities that are more satisfying than working and work-related activities.

The general judgment of life satisfaction can be used to assess the extent to which aspirations adapt because it is obtained “by combining an imperfect assessment of the balance of affect ... in one’s life with an assessment of how well one’s life measures up to aspirations and goals” (Kahneman and Krueger 2006, p. 9). We find that the affect balance does not differ between the employed and the unemployed but that the unemployed nevertheless report a lower life satisfaction. This suggests that the unemployed have not adjusted their aspirations to the new circumstances. Employment still sets the benchmark to which one compares one’s own achievements in life: being in employment is better than being unemployed – despite the fact that being at work gives more unpleasant feelings than not working. What determines aspirations, whether it is the pursuit of valuable activities (Raez 1994), the search for a meaningful life, or a quest to have control over one’s life, is an open question for further research (see Frederick and Loewenstein (1999) for a discussion).

So far, however, time use data from the Day Reconstruction Method only provides a snapshot. To further investigate the common ground as well as the distinct differences from the standard neoclassical measure of utility and the subjective assessment of life satisfaction and also to validate our hypothesis that long-term unemployment causes hedonic adaptation but not a lowering of aspirations, it would be ideal to collect panel data that follows individuals through the entire adaptation process – from still being in employment, via their short-term unemployment experience, up to their long-term well-being. Alternatively, it would also be useful to extend existing cross-section time-use surveys by adding well-being questions and to apply the Day Reconstruction Method to people who have just received their notice of dismissal, to people just being laid off, and to people with an unemployment spell of up to six months. Adding just one question (to obtain the episode satisfaction) or a small number of questions (to construct net affect and U-index measures) would turn already existing time-use surveys into invaluable data sources for well-being research.

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Appendix

Table A.1: Affect ratings by activity and employment status

Activity	Lethargic		Insecure		Annoyed		Stressed	
	E	UE	E	UE	E	UE	E	UE
Hobby /Sport	0.31 (0.239)	0.53	0.34 (0.981)	0.35	0.60 (0.585)	0.74	0.63 (0.312)	0.90
Parlor / Computer Game	1.43 (0.885)	1.50	0.23 (0.719)	0.30	0.92 (0.003)	2.85	0.19 (0.001)	2.01
Socializing	1.86 (0.000)	0.65	0.46 (0.278)	0.61	0.81 (0.580)	0.91	0.75 (0.795)	0.79
Eating	1.55 (0.000)	1.06	0.11 (0.001)	0.24	0.42 (0.000)	0.96	0.49 (0.000)	1.02
Reading / Radio / Music	2.41 (0.760)	2.52	0.12 (0.000)	0.76	0.36 (0.004)	0.95	0.18 (0.000)	0.97
Relaxing / Walk	3.11 (0.000)	1.05	0.03 (0.008)	0.53	0.46 (0.306)	0.73	0.29 (0.124)	0.69
Break during Work	1.48		0.36		0.78		1.02	
Watching TV	3.61 (0.000)	2.13	0.22 (0.026)	0.40	1.04 (0.350)	0.90	0.59 (0.537)	0.66
Childcare	1.42 (0.000)	0.58	0.22 (0.813)	0.20	1.97 (0.000)	1.05	2.30 (0.000)	1.05
Travel	3.08 (0.000)	1.84	0.24 (0.000)	1.09	1.12 (0.012)	1.71	0.74 (0.000)	2.03
Housework	1.21 (0.773)	1.17	0.14 (0.000)	1.05	1.77 (0.000)	2.63	1.54 (0.088)	1.84
Commuting	2.35		0.44		1.91		2.02	
Shopping	1.03 (0.547)	1.21	0.69 (0.123)	1.08	2.18 (0.368)	2.57	1.79 (0.457)	2.05
Working	1.05		0.61		2.45		2.86	
Job Seeking	1.73 (0.838)	1.35	1.60 (0.968)	1.53	5.99 (0.324)	3.74	5.73 (0.139)	3.12
Duration-wgt. average	1.75 (0.019)	1.30	0.40 (0.039)	0.65	1.49 (0.989)	1.49	1.54 (0.130)	1.25

Table A.1 (continued): Affect ratings by activity and employment status

Activity	Relaxed		Happy		Enjoying		Comfortable	
	E	UE	E	UE	E	UE	E	UE
Hobby /Sport	8.26 (0.000)	6.72	8.46 (0.005)	7.36	5.18 (0.716)	5.39	8.96 (0.000)	7.66
Parlor / Computer Game	7.37 (0.139)	6.54	7.44 (0.001)	5.44	7.11 (0.079)	5.95	7.80 (0.005)	6.16
Socializing	7.62 (0.002)	6.85	7.82 (0.036)	7.32	6.90 (0.527)	7.08	8.40 (0.015)	7.87
Eating	7.48 (0.000)	6.04	7.33 (0.000)	5.88	5.72 (0.000)	4.32	8.07 (0.000)	6.74
Reading / Radio / Music	8.37 (0.000)	7.14	7.21 (0.001)	6.10	4.73 (0.100)	4.07	8.12 (0.003)	7.27
Relaxing / Walk	7.60 (0.761)	7.48	7.28 (0.645)	7.06	5.13 (0.985)	5.14	7.80 (0.435)	7.47
Break during Work	6.74		6.05		5.03		7.02	
Watching TV	7.30 (0.063)	6.95	6.04 (0.830)	5.99	5.20 (0.528)	5.05	7.26 (0.042)	6.85
Childcare	5.38 (0.000)	6.54	6.23 (0.000)	8.06	5.40 (0.000)	7.75	6.57 (0.000)	8.35
Travel	6.33 (0.000)	5.13	4.81 (0.068)	5.37	2.75 (0.000)	4.17	6.43 (0.308)	6.16
Housework	5.32 (0.000)	3.91	5.01 (0.000)	3.92	3.19 (0.959)	3.20	5.48 (0.504)	5.35
Commuting	5.69		4.99		2.96		5.90	
Shopping	4.57 (0.108)	3.87	4.70 (0.041)	3.79	2.89 (0.313)	3.39	5.53 (0.020)	4.55
Working	4.12		4.36		3.48		5.71	
Job Seeking	2.60 (0.946)	2.76	2.65 (0.977)	2.58	1.55 (0.827)	1.19	2.78 (0.975)	2.69
Duration-wgt. average	5.98 (0.654)	5.87	5.74 (0.968)	5.73	4.42 (0.146)	4.82	6.71 (0.524)	6.56

Note: E – Employed, UE – Unemployed, p-values for the t-test of whether the scores for the employed and unemployed are equal are given in parentheses. We report only activities in which at least 10% of either group engaged in.

Table A.2: Regression results for episode satisfaction and U-index

	Episode Satisfaction			U-index		
	unemployment only	with demographics	with demographics and income	unemployment only	with demographics	with demographics and income
Unemployed	-0.102 (0.105)	-0.020 (0.116)	0.034 (0.156)	0.012 (0.014)	-0.004 (0.016)	0.000 (0.021)
Female		0.290*** (0.107)	0.268** (0.108)		-0.025* (0.014)	-0.023 (0.014)
Age		-0.003 (0.034)	-0.007 (0.034)		0.012*** (0.005)	0.013*** (0.005)
Age_squared		0.000 (0.000)	0.000 (0.000)		-0.000*** (0.000)	-0.000*** (0.000)
Married/ cohabiting		-0.248** (0.116)	-0.286** (0.129)		-0.006 (0.016)	-0.008 (0.017)
Health satisfaction		0.142*** (0.022)	0.141*** (0.022)		-0.016*** (0.003)	-0.016*** (0.003)
Vocational training		0.376** (0.147)	0.375** (0.148)		-0.059*** (0.020)	-0.059*** (0.020)
University education		0.084 (0.188)	0.088 (0.191)		-0.026 (0.025)	-0.029 (0.026)
Number of children		-0.016 (0.051)	-0.009 (0.052)		-0.000 (0.007)	-0.001 (0.007)
ln(household income)			0.044 (0.115)			0.006 (0.015)
Constant	7.282*** (0.073)	5.959*** (0.730)	5.746*** (1.068)	0.142*** (0.010)	0.139 (0.098)	0.093 (0.143)
Observations	712	711	707	712	711	707
R-squared	0.001	0.088	0.088	0.001	0.095	0.095

Note: OLS estimation. Standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.