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JEL Codes : C30, J28, J31

Keywords : Life satisfaction, unemployment, unemployment duration, habituation

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ABSTRACT

Although it is now widely-accepted that unemployment is associated with sharply lower levels of individual well-being, relatively little is known about how this effect depends on unemployment duration. Data from three large-scale European panels is used to shed light on this issue; these data allow us to distinguish habituation to unemployment from sample selection. The panel results show little evidence of habituation to unemployment in Europe in the 1990's.

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A NOTE ON UNHAPPINESS AND UNEMPLOYMENT DURATION

Andrew E. Clark*

1. Introduction

The interest taken by Economists in the statistical analysis of various kinds of subjective well-being measures has grown sharply over the past ten years. While the range of issues addressed in this literature is now very wide,[1] a great deal of attention has been paid to two specific relationships: that between well-being and income, and that between well-being and labour market status, and particularly unemployment. This paper contributes to the second of these literatures.

One standard result is that the unemployed report significantly lower well-being scores than other labour force groups. The social psychology literature provides a number of useful summaries: Argyle (1989), Burchell (1992), Feather (1990), Fryer and Payne (1986), Murphy and Athanasou (1999) and Warr *et al*. (1988). Recent work in economics has used large-scale datasets to address this question. Single country studies include Clark and Oswald (1994), using the current paper's British Household Panel Survey (BHPS) data, Winkelmann and Winkelmann (1998) using German Socio-Economic Panel (GSOEP) data, and Woittiez and Theeuwes (1998), Korpi (1997) and Frey and Stutzer (2000) using Dutch, Swedish and Swiss data respectively. Cross-country studies include Di Tella *et al*. (2001), who examine eleven European countries, Blanchflower (1996) with data on twenty three different countries, and Blanchflower (2001) who uses data on 23 transition countries from Eastern and Central Europe.

Rather less attention has been paid to the question of whether unemployment is worse for some groups than for others. While it is simple to imagine any number of different demographic groups (by age, sex, education, for example) for which this analysis can be carried out, the growing recent literature on comparisons highlights two specific research questions.

First, considering comparisons to others, we can ask whether unemployment hurts less when the unemployment rate in the individual's reference group is higher. Second, with respect to comparison to oneself in the past, we would like to know if individuals adapt to unemployment, so that longer-duration unemployment has a smaller effect on subjective well-being than does shorter-duration unemployment.[2]

A small recent literature has found some evidence that, broadly speaking, unemployment hurts less the more there is of it around. Clark (2003) uses seven waves of panel data from the BHPS to show that the well-being of the unemployed is greater in high-unemployment regions. This is not a shift-share phenomenon (whereby the relatively happy become unemployed when the unemployment rises), and is interpreted in terms of a social norm. This finding has been replicated in Russian data by Eggers *et al*. (2006) and in South African data by Powdthavee (2006). It is worth underlining that this positive correlation is found despite the presumably negative information effect that others' unemployment provides about the individual's future labour market prospects.

Regarding the role of unemployment duration, a perhaps common premise is that long-term unemployment is worse, and indeed government intervention often explicitly targets this group. However, there are several reasons why the psychological impact of unemployment may diminish over time.

The first is that individuals learn how to live while unemployed. As time goes by, their reported well-being may rise for reasons such as better budgeting, finding new friends who are also unemployed, cutting back on inefficient job search strategies, and so on. The second reason refers to adaptation or habituation: judgements of current situations depend on the experience of similar situations in the past. Frederick and Loewenstein (1999) define adaptation as 'a reduction in the affective intensity of favourable and unfavourable circumstances'. *A priori* then,

the effect of unemployment on psychological well-being could either rise or fall with unemployment duration.

The existing literature reports mixed findings. Some small-scale surveys have found evidence of a small increase in wellbeing after the first 3/6 months of unemployment: see Warr and Jackson (1987) and Warr (1989), for example.[3] Goldsmith *et al*. (1996), use National Longitudinal Survey of Youth (NLSY) data to relate self-esteem to both current and past experiences of unemployment and inactivity. Goldsmith *et al*. find that both past unemployment and past inactivity reduce current self-esteem. Their econometric results suggest that current unemployment duration has a positive and statistically significant (at the ten per cent level) effect on self-esteem. This finding, which the authors describe as puzzling, is consistent with habituation to the current state of unemployment.

Two more recent papers consider habituation using GSOEP data. Winkelmann and Winkelmann (1998) find no relation between life satisfaction and the duration of the current unemployment spell. Clark *et al.* (2001) also use the GSOEP. They calculate the individual's total exposure to unemployment over the past three years (the percentage of the time active in the labour market which was spent unemployed). Using this broader measure, they show that there is in fact strong evidence that the psychological impact of current unemployment is lower for those who have experienced more unemployment in the past. In a similar vein, Clark (1996) shows that, in the BHPS, the well-being effect of current unemployment on the GHQ12 (a measure of mental stress) is smaller the higher is the "lifetime unemployment rate" (the percentage of time spent unemployed since entering the labour force).

This paper uses data from three large-scale panel surveys to address the question of well-being and unemployment duration in Europe in the 1990s. Both cross-section and panel evidence will be presented. The paper is organised as follows. Section 2 briefly presents the data, and

Section 3 presents pooled regression results. Section 4 contains the panel results and Section 5 concludes.

2. Data

This paper uses three panel datasets, two single-country and one multi-country. All statistical work in this paper refers to adults between the ages of 16 and 65.

The first dataset, the British Household Panel Survey (BHPS), is a general survey covering a random sample of approximately 10 000 individuals in 5 500 British households per year. This data set includes a wide range of information about individual and household demographics, labour force status (chosen by the individual from a showcard of 10 possible replies) and income. There is both entry into and exit from the panel, leading to unbalanced data. The wave 1 data were collected in late 1991 - early 1992, the wave 2 data were collected in late 1992 - early 1993, and so on. The analysis will refer to individuals of working age (16 to 65) in waves six to nine of the BHPS. From wave 6 onwards, a question on overall life satisfaction, measured on a scale of one (not satisfied at all) to seven (completely satisfied) was introduced.[4] The distribution of this variable is given below.

Life Satisfaction Overall

	Value	*Frequency*	*Percentage*
Not Satisfied at All	1	576	1.6
	2	890	2.4
	3	2321	6.3
	4	5370	14.5
	5	11066	29.9
	6	12180	32.9
Completely Satisfied	7	4616	12.5
		------	--------
Total		37019	100.0

The second dataset is the German Socio-Economic Panel (GSOEP). Here I use data from

the first fifteen waves, spanning the period 1984-1998, and consider only respondents from the old West Germany. The well-being measure in the GSOEP is satisfaction with life today, measured on a scale from zero to ten, which is distributed as follows.

Satisfaction with life today

Value	*Frequency*	*Percentage*
0	640	0.6
1	462	0.4
2	1175	1.0
3	2505	2.2
4	3504	3.1
5	12827	11.2
6	11581	10.1
7	23044	20.2
8	34126	29.9
9	14478	12.7
10	9854	8.6
	---	---
Total	114196	100.0

Last, the European Community Household Panel (ECHP) covers all countries in the European Union. I use four waves of ECHP data, covering the period from 1994 to 1997. The measure of subjective well-being used here, asked of all respondents (except in Sweden), is the level of satisfaction with work or main activity, measured on a one to six scale. As the ECHP data from Germany does not include information on the date of interview, it is not possible to calculate unemployment duration with any degree of accuracy for this country. Germany has therefore been dropped from the ECHP sample. The distribution of satisfaction in the remaining thirteen ECHP countries is as follows.

Satisfaction with Work or Main Activity

	Value	*Frequency*	*Percentage*
Not satisfied	1	27657	7.4
Not very satisfied	2	27057	7.2
Not fairly satisfied	3	54146	14.5
Fairly satisfied	4	93230	25.1
Satisfied	5	111733	30.0
Fully satisfied	6	58420	15.7
		--------	-------
Total		372243	100.0

Although the scale is not the same in the three surveys, the distributions are not dissimilar. As is usual, there is bunching towards the top of the scale; the median is consistently two points less than the scale maximum. Expressing the mean as a percentage of scale maximum (with the scales recoded to start at zero) yields a figure of 70 per cent for the BHPS and the GSOEP, and a lower figure of 62 per cent for the ECHP.[5]

Figure 1 presents mean life satisfaction scores in the three surveys by labour force status. It is immediately obvious that the unemployed report particularly low life satisfaction scores. The last four columns in each figure split unemployment up by its duration. Here there is some evidence in the raw BHPS data that the well-being of those unemployed for more than two years is higher than that of the more recent unemployed. In the GSOEP, no such relationship is observed. In the ECHP, however, life satisfaction scores decline a little with the duration of unemployment.

3. Pooled Data Results

It is obviously important to control for a variety of variables in order to isolate the effect of unemployment on life satisfaction. Table 1 presents basic life satisfaction regressions, using BHPS, GSOEP and ECHP data in columns one to three respectively. These ordered probit regressions, on pooled data, essentially present in a multivariate fashion the same information

as the bar charts in Figure 1: Does life satisfaction differ by labour force status? The answer is yes: the coefficient on unemployment is large, negative and very significant in all three regressions, even after controlling for a number of different right-hand side variables.

The results for the other control variables are qualitatively similar across the regressions. Satisfaction is higher for those with higher incomes, for women (see Clark, 1997), the healthier, and the married. Satisfaction is lower for those inactive in the labour force, those whose marriage has ended, and those with more children. Satisfaction is U-shaped in age (see Clark *et al.*, 1996), minimising at ages 41, 40 and 37 in the BHPS, GSOEP and ECHP respectively. The main difference between the regressions concerns the correlation between satisfaction and education, which is positive in the GSOEP and the ECHP, but negative in the BHPS.

Table 2 asks whether long-duration unemployment has a smaller effect on life satisfaction than shorter-duration unemployment. To answer this, an interaction term is introduced into Table 1's regressions: unemployment multiplied by unemployment duration (in thousands of days). This interaction variable thus takes larger values for those who have been unemployed longer. If longer duration unemployment hurts less, then we expect to find a positive estimated coefficient on this interaction variable.

Table 2's pooled regression results tell the same story as the bivariate analysis in Figure 1. There is evidence in the BHPS that unemployment is at its worst at the beginning but that the impact attenuates over time: the interaction variable attracts a positive and significant coefficient (t=5). This effect is stronger for women than for men. No such effect is visible in the other datasets: the interaction term is insignificant in the GSOEP,[6] and negative and significant in the ECHP, suggesting that the negative effect of unemployment on life satisfaction actually worsens with unemployment duration (again, as in Figure 1).

The pooled ECHP results need to be interpreted carefully. The labour force status start

date is not recorded. However, individuals are asked about their labour force status in each of the twelve months preceding the interview. There is therefore a problem of "top-coding" in unemployment duration. In Wave 1, we cannot identify durations of over 12 months; in Wave 2 we cannot identify durations of over 24 months; and so on. The statistical analysis of ECHP data drops all such top-coded observations. This approach does not entirely circumvent the problem however. Observations on longer duration unemployment then come exclusively from later waves of the ECHP. Although the regressions include wave dummies, it is possible that there was some general evolution in Europe which specifically increased, for example, the well-being of the unemployed at the time of the Wave 3 and 4 interviews: this would bias the coefficient on unemployment duration upwards. To check the robustness of the ECHP results, Table 2's regressions were re-run using Wave 4 data only. This made no qualitative difference to the results.[7]

4. Panel Regression Results

One interpretation of some of Section 3's results is that there is evidence of habituation to unemployment in the BHPS and, more weakly, for women in the GSOEP: the life satisfaction of the longer-duration unemployed, while still lower than that of the employed, is statistically higher than that of the shorter-duration unemployed. Unfortunately, these kind of results drawn from pooled cross-section analysis are likely to be biased. If, as seems plausible, those who suffer the most from unemployment are more likely to exit[8] (either to employment or inactivity), then the average life satisfaction of the longer-duration unemployed will be higher than that of the shorter-duration unemployed. This is a shift-share phenomenon. It does not imply that the effect of unemployment for a particular individual diminishes, but rather that, as time goes on, only those who are less affected by unemployment remain unemployed.

Happily, the existence of panel data allows us to go some way towards distinguishing between these rival interpretations: we can examine the change in life satisfaction of individuals who stay unemployed from one wave to the next. Table 3 presents the simple means of the change in life satisfaction as a function of labour force status at both wave *t-1* and wave *t*. In general, as in Table 1, employment is associated with higher life satisfaction: those moving out of employment suffer a sharp fall in life satisfaction, with a rise being observed for those moving into employment.

Of most interest in Table 3 are the diagonal elements, which represents individuals who stay in the same labour force status at both waves *t-1* and *t*. The majority of these elements are small and negative, and none are positive and significant. In particular, we note that *the change in life satisfaction of those who remain unemployed is not statistically different from zero in the BHPS and GSOEP data*. There is some bivariate evidence that life satisfaction actually falls with unemployment duration in the ECHP data, but this change in life satisfaction for the unemployed is actually not different from that for the employed, suggesting some kind of general fall in well-being over time for those active in the labour market in this dataset.

As in Figure 1, bivariate correlations are suggestive but do not furnish rigorous proof: many other variables are correlated with life satisfaction. Table 4 shows the results from panel regressions of life satisfaction. The broad principle here is that changes in life satisfaction are being regressed on changes in the explanatory variables. As such, we are able to ask whether an individual has higher life satisfaction with a longer duration of unemployment, as compared to the same individual with a shorter duration of unemployment. As the dependent variable is ordinal, not cardinal, fixed effects logits are used to estimate these regressions.

These regression techniques help us to distinguish habituation from sample selection, as they are based on the comparison of the different life satisfaction scores that the same individual

reports while in different labour force statuses. Life satisfaction is recoded into a (1,0) variable for these fixed effect logits, with this recoding being chosen to split the sample roughly 50:50.[9] Unemployment is entered as three right-hand side dummies: unemployed for less than one year, one to two years, or two years or more. The estimated coefficients on these variables refer to the effect of different durations of unemployment on life satisfaction, as compared to that of employment (the omitted labour force category).

The BHPS results in Table 4 provide no evidence that the life satisfaction impact of unemployment diminishes with its duration: the estimated coefficients on unemployment of different durations are not statistically different from each other. This conclusion holds both over the whole sample, and for women and men separately. The story is different in the GSOEP. Here there is evidence of a "blip" in life satisfaction, whereby the second year of unemployment is not as bad as the first. However, by the third year of unemployment life satisfaction drops back down roughly to the level associated with the first year of unemployment.

The ECHP results overall and for women are similar to those from the BHPS: there is no evidence that the life satisfaction impact of unemployment depends on its duration. However, the results for men show some evidence that unemployment of over two years' duration does have a smaller life satisfaction impact than unemployment of shorter duration. This reduction is not particularly large, however, and unemployment even of long duration continues to have a large and very significant negative effect on life satisfaction.

Overall, the panel results show that unemployment has a strong, well-defined negative effect on life satisfaction, and that the size of this negative effect is mostly independent of the length of the unemployment spell. The only exception is found in German GSOEP data, where there is a significant jump in life satisfaction during the second year of unemployment. There is an issue of potentially small cell sizes in panel data analysis (as individuals have to be observed

at least twice, and they have to be observed in different labour force statuses). It may be that with larger samples, some habituation effects may be identified. However, the estimated coefficients in Table 4 provide little evidence that such a process was at work in Europe over the 1990s.[10]

5. Conclusion

This paper has used data from three European panels to consider the relationship between self-reported happiness and unemployment duration. Pooled cross-section analysis shows that the effect of unemployment on life satisfaction falls with unemployment duration in the BHPS, but rises with unemployment duration in the ECHP. One problem that clouds the interpretation of such findings is sample selection, whereby individuals observed in long-run unemployment differ in unobservable ways (but in ways that are correlated with life satisfaction) from those observed in unemployment of shorter duration.

Panel analysis helps to bypass this problem. The results, both bivariate and multivariate, show that longer duration unemployment is mostly just as bad as shorter duration unemployment. The panel results reveal a "blip" in life satisfaction for unemployment durations of one to two years in the GSOEP data, but this does not persist. There is also a small fall in the life satisfaction effect of unemployment after two years in the ECHP data. In general, however, habituation to unemployment does not seem to have been a widespread phenomenon in Europe in the 1990's.

One caveat, suggested by the panel regression results, is that there may be a more complex shape to the evolution of life satisfaction during an unemployment spell than that implied by the linear trend used in Table 2. Re-analysis of Table 2's pooled results allowing for a quadratic duration effect did not reveal any particularly strong evidence of non-linear habituation. For the reasons explained in the text, a clean test of habituation versus sample

selection requires large-scale panel data. The increasing availability of panel data will undoubtedly permit the finer analysis of habituation to unemployment, or indeed to other states which have large cross-section impacts on life satisfaction, such as marriage, divorce and ill-health.

Footnotes

* I am grateful to Brendan Burchell, David Grubb and Peter Warr for useful discussions. The BHPS data were made available through the ESRC Data Archive. The data were originally collected by the ESRC Research Centre on Micro-social Change at the University of Essex. Neither the original collectors of the data nor the Archive bear any responsibility for the analyses or interpretations presented here. The German data used in this paper were made available by the German Socio-Economic Panel Study (SOEP) at the German Institute for Economic Research (DIW), Berlin. Paris-Jourdan Sciences Economiques (PSE) is a Joint Research Unit CNRS-EHESS-ENPC-ENS.

1. Recent reviews of some of this literature are found in Clark *et al.* (2006) and Di Tella and MacCulloch (2006).

2. Jürges (2006) does not define specific groups in this way, but rather appeals to the concept of unemployment salience developed in Akerlof and Yellen (1985). Salience is measured as the ratio of the remembered unemployment rate when interviewed in the future and the current reported unemployment rate. He uses 19 years of German SOEP data to show that the salience of unemployment is related to the life satisfaction differential between unemployed and non-unemployed respondents.

3. Unfortunately, most of the large-scale panels that economists use consist of yearly interviews, making it impossible to track such month-on-month changes in well-being for the same person.

4. All waves of the BHPS contain the GHQ-12 measure of mental well-being (see Goldberg, 1972), constructed on a zero to twelve scale from responses to questions covering feelings of strain, depression, inability to cope, anxiety-based insomnia, and lack of confidence, amongst others. Responses are made on a four-point scale of frequency of a feeling in relation to a person's **usual** state. Although the GHQ-12 has been widely used, measurement with respect to the usual state poses problems when habituation is considered. To the extent that any long duration experience becomes usual, there is a risk of finding habituation in the GHQ measure simply by construction. To this extent, the initial numbers presented in Clark and Oswald (1994), showing that the GHQ effect of unemployment diminished with unemployment duration, are open to a number of competing interpretations.

5. Relatively low satisfaction scores are found in Italy, Greece, Spain and Portugal.

6. The unemployment duration term is positive for women in the GSOEP, but only significant at the ten per cent level.

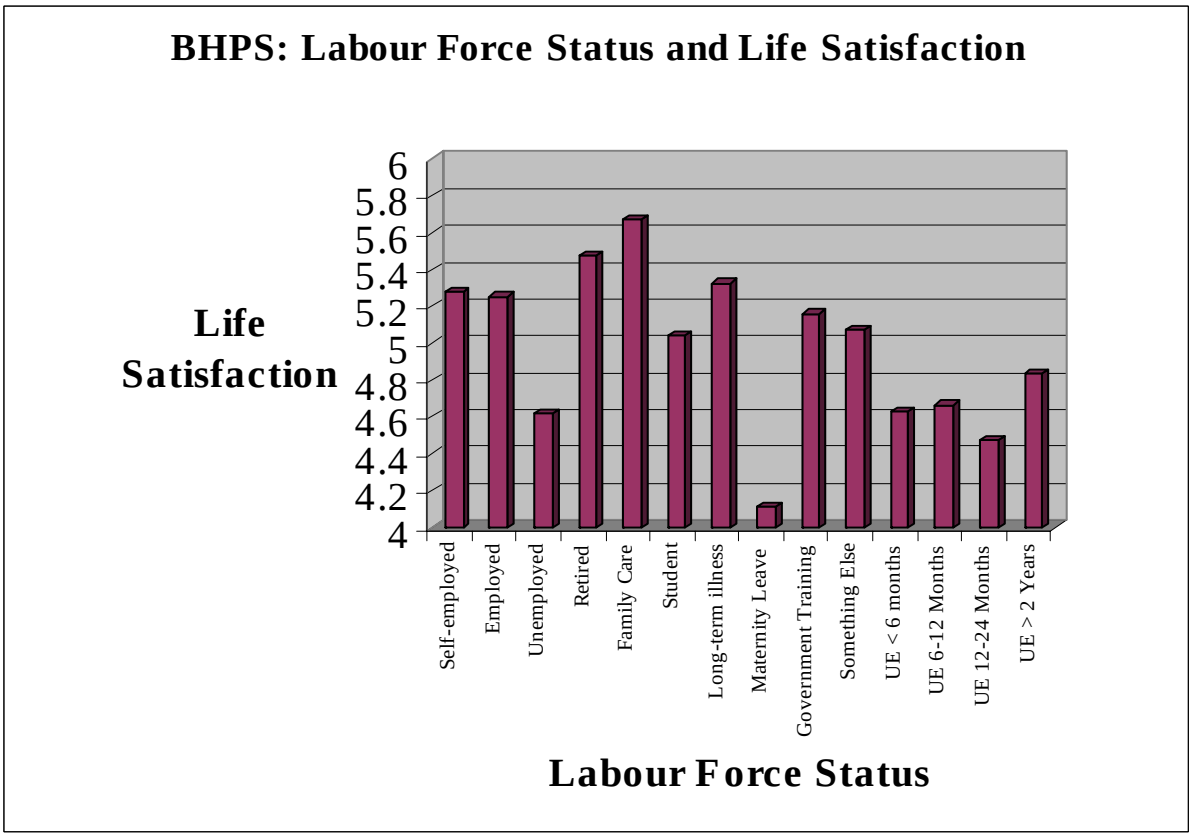
7. It is also of interest to consider the results for individual countries in the ECHP. The Appendix summarises the results on unemployment and unemployment duration using ECHP Wave 4 data. Note that there is no Wave 4 data for either Luxembourg or the United Kingdom. The size of the estimated coefficients cannot be compared across countries. Only one of the eleven countries exhibits a positive estimate on unemployment duration, and this is insignificant. However, there are negative significant interaction terms in Greece, Italy and Portugal.

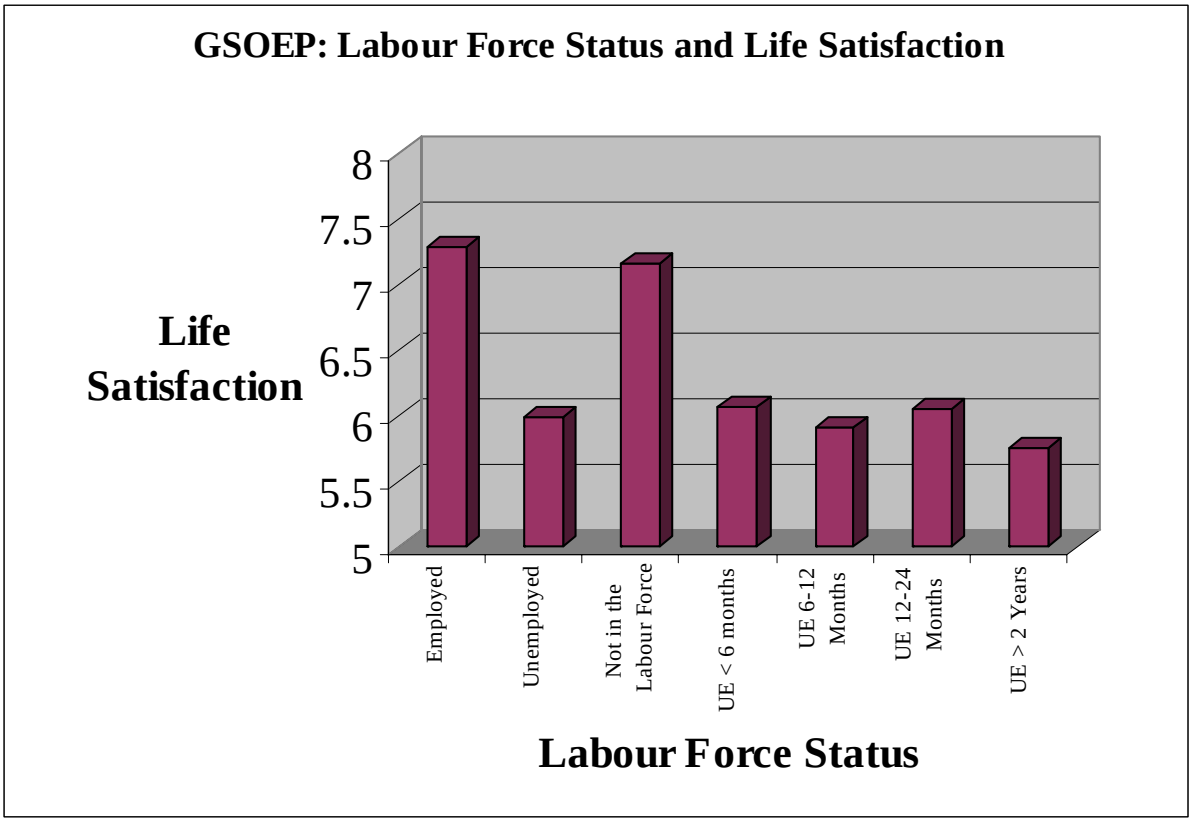
8. Clark (2003) presents some evidence for this phenomenon using the BHPS.

9. The recoding is as follows. BHPS: 1-5=0; 6-7=1. GSOEP: 0-7=0;8-10=1. ECHP: 1-4=0; 5-6=1.

10. Clark *et al.* (2001) do find habituation in the GSOEP, but with respect to the percentage of time spent unemployed over the past three years, which avoided the need to observe individuals in the same unemployment spell. See also Clark (1996). Can these papers' conclusions be right in light of this paper's results? One way of squaring the circle is to conclude that *there is little evidence of habituation within the same unemployment spell* (this paper's results). However, greater exposure to unemployment in the past reduces the psychological effect of moving into unemployment now.

Figure 1. Labour Force Status and Life Satisfaction





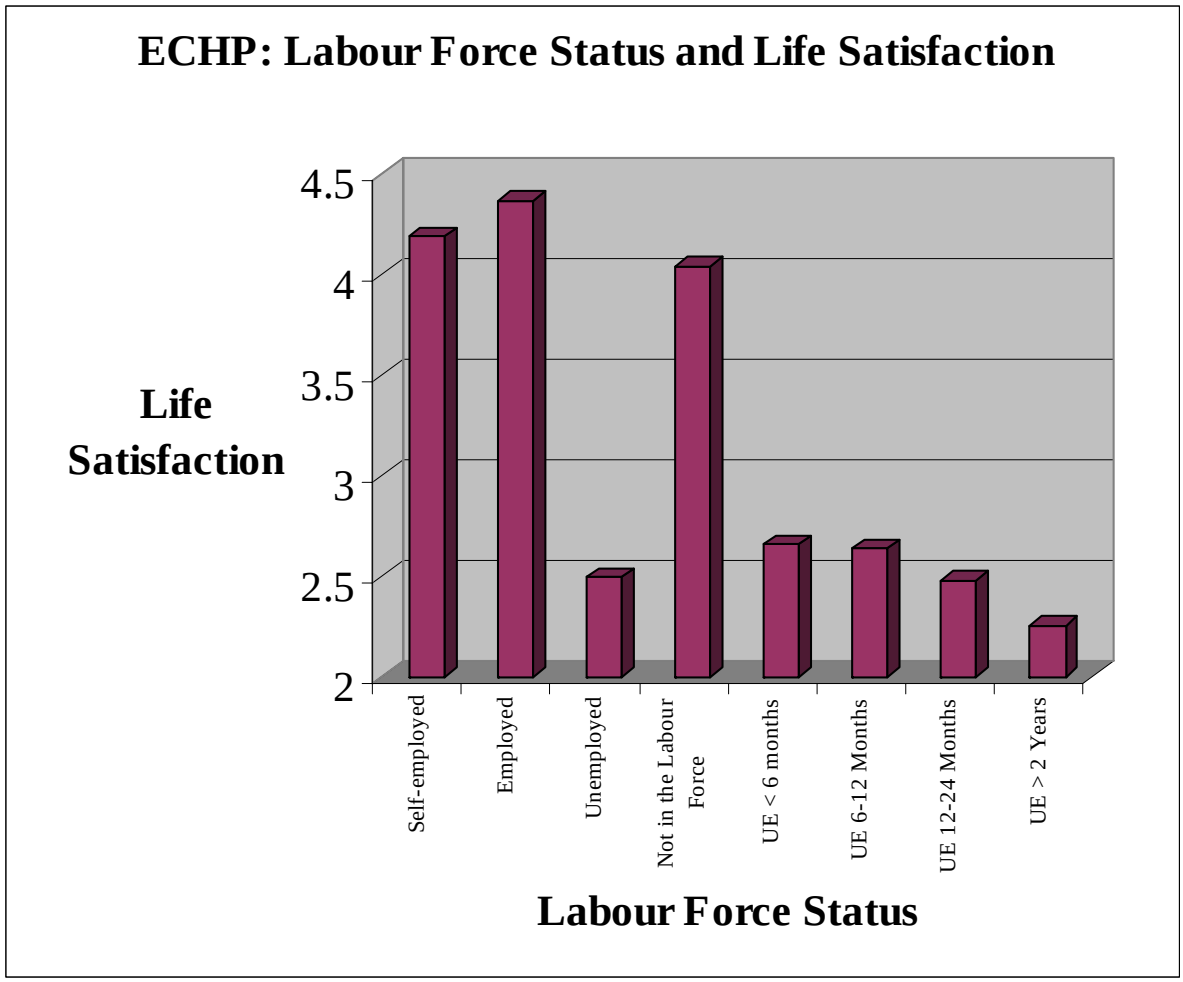

ECHP: Labour Force Status and Life Satisfaction
Life Satisfaction
4.5
4
3.5
3
2.5
2
Self-employed
Employed
Unemployed
Not in the Labour Force
UE < 6 months
UE 6-12 Months
UE 12-24 Months
UE > 2 Years
Labour Force Status

Table 1. Pooled Life Satisfaction Regressions. Ordered Probit

	BHPS		***GSOEP***		***ECHP***
Unemployed	-0.345	Unemployed	-0.524	Unemployed	-1.258
	(.027)		(.015)		(.008)
Self-employed	0.031			Self-employed	0.062
	(.021)				(.006)
Retired	0.119				
	(.03)				
Inactive	-0.132	Inactive	-0.015	Inactive	-0.111
	(.015)		(.008)		(.005)
Monthly income	0.096	Monthly income	0.173	Yearly income	0.083
	(.052)		(.014)		(.002)
Male	-0.082	Male	-0.076	Male	-0.106
	(.012)		(.007)		(.004)
Age	-0.067	Age	-0.050	Age	-0.043
	(.003)		(.002)		(.001)
Age-squared/1000	0.814	Age-squared/1000	0.623	Age-squared/1000	0.587
	(.042)		(.023)		(.013)
Education: High	-0.132	Years of education	0.011	Education: Tertiary	0.161
	(.015)		(.001)		(.006)
Education:	-0.100			Education:	0.132
A/O/Nursing	(.015)			Upper Secondary	(.004)
Health: Excellent	0.932	Health: Excellent	0.835	Health: Excellent	0.564
	(.017)		(.013)		(.006)
Health:	0.577	Health:	0.438	Health:	0.322
Very good/good	(.014)	Very good/good	(.013)	Very good/good	(.005)
Married	0.266	Married	0.138	Married	0.117
	(.018)		(.011)		(.006)
Separated	-0.214	Separated	-0.320	Separated	-0.054
	(.039)		(.027)		(.017)
Divorced	-0.067	Divorced	-0.169	Divorced	-0.037
	(.024)		(.017)		(.011)
Widowed	-0.093	Widowed	-0.118	Widowed	0.022
	(.043)		(.023)		(.013)
One Child	-0.079	One Child	-0.020	One Child	0.013
	(.017)		(.008)		(.005)
Two children	-0.094	Two children	-0.043	Two children	0.006
	(.018)		(.01)		(.006)
Three+ Children	-0.157	Three+ Children	-0.111	Three+ Children	-0.023
	(.025)		(.014)		(.008)

Region Dummies	Yes	Region Dummies	Yes	Denmark	0.884
Wave Dummies	Yes	Wave Dummies	Yes		(.01)
				The Netherlands	0.664
					(.008)
				Belgium	0.361
					(.01)
				Luxembourg	0.680
					(.016)
				France	0.418
					(.007)
				United Kingdom	0.283
					(.01)
				Ireland	0.469
					(.009)
				Greece	-0.343
					(.007)
				Spain	0.279
					(.006)
				Portugal	0.030
					(.007)
				Austria	0.769
					(.009)
				Finland	0.559
					(.011)
				Wave Dummies	Yes
N	36569		114139		353927
Log Likelihood	-55747.7		-214026.2		-542495.9
Log Likelihood at zero	-58302.9		-219596.5		-588683.7

Table 2. Pooled Life Satisfaction Regressions: Unemployment Duration. Ordered Probit

BHPS

	All	**Women**	**Men**
Unemployed	-0.423	-0.422	-0.449
	(.033)	(.053)	(.043)
Unemployed *x*	0.111	0.137	0.079
unemployment duration	(.022)	(.030)	(.032)

GSOEP

	All	**Women**	**Men**
Unemployed	-0.527	-0.373	-0.661
	(.020)	(.030)	(.027)
Unemployed *x*	-0.155	1.413	-0.811
unemployment duration	(.472)	(.753)	(.608)

ECHP

	All	**Women**	**Men**
Unemployed	-1.109	-0.937	-1.271
	(.015)	(.021)	(.022)
Unemployed *x*	-0.285	-0.200	-0.516
unemployment duration	(.033)	(.045)	(.051)

Note: All regressions include all of Table 1's other control variables; unemployment duration is measured in thousands of days.

Table 3. Transition Matrices: Change In Labour Force Status And Change In Life Satisfaction

	Labour Force Status at *t*		
	Employed	*Unemployed*	*Inactive*
Labour Force Status at *t*-1			
BHPS			
Employed			
Mean	-0.008	-0.281**	-0.102*
Standard error	(0.009)	(0.090)	(0.047)
N	14536	274	753
Unemployed			
Mean	0.388	-0.121	0.219*
Standard error	(0.069)	(0.082)	(0.107)
N	376	339	224
Inactive			
Mean	0.048	-0.220*	-0.041*
Standard error	(0.043)	(0.098)	(0.020)
N	883	214	4618
GSOEP			
Employed			
Mean	-0.063	-0.763**	-0.161**
Standard error	(0.068)	(0.054)	(0.034)
N	60363	1909	3279
Unemployed			
Mean	0.903**	0.013	0.224**
Standard error	(0.065)	(0.050)	(0.067)
N	1419	2151	981
Inactive			
Mean	0.034	-0.336**	-0.076**
Standard error	(0.031)	(0.086)	(0.012)
N	3908	749	22213
ECHP			
Employed			
Mean	-0.046**	-1.271**	-0.138**
Standard error	(0.0033)	(0.029)	(0.019)
N	133999	4322	7885
Unemployed			
Mean	1.379**	-0.041*	0.521**
Standard error	(0.025)	(0.018)	(0.026)
N	5837	7573	4799
Inactive			
Mean	0.211**	-0.741**	0.004
Standard error	(0.019)	(0.026)	(0.006)
N	7504	4950	64000

Note: ** = significant at the 1% level; * = significant at the 5% level.

Table 4. Panel Life Satisfaction Regressions: Unemployment Duration. Fixed Effect Logits

BHPS

	All	**Women**	**Men**
Unemployed: <1 year	-0.456	-0.420	-0.512
	(.135)	(.213)	(.178)
Unemployed: 1-2 years	-0.362	0.159	-0.617
	(.266)	(.493)	(.320)
Unemployed: 2+ years	-0.617	-0.490	-0.774
	(.254)	(.357)	(.360)
N	14778	8058	6720
Log Likelihood	-5441.8	-2974.6	-2460.5
Log Likelihood at zero	-5544.0	-3034.1	-2509.9

GSOEP

	All	**Women**	**Men**
Unemployed: <1 year	-0.755	-0.504	-0.965
	(.069)	(.099)	(.098)
Unemployed: 1-2 years	-0.471	-0.118	-0.800
	(.111)	(.157)	(.160)
Unemployed: 2+ years	-0.585	-0.420	-0.718
	(.108)	(.160)	(.149)
N	92335	45873	46451
Log Likelihood	-38547.284	-19152.238	-19348.613
Log Likelihood at zero	-39638.92	-19645.95	-19986.64

ECHP

	All	**Women**	**Men**
Unemployed: <1 year	-1.252	-1.076	-1.488
	(.039)	(.050)	(.062)
Unemployed: 1-2 years	-1.324	-1.100	-1.645
	(.060)	(.077)	(.099)
Unemployed: 2+ years	-1.208	-1.126	-1.335
	(.070)	(.086)	(.122)
N	163451	84306	79145
Log Likelihood	-59501.0	-30799.2	-28658.0
Log Likelihood at zero	-60503.9	-31234.3	-29264.4

Note: All equations Include controls for Inactivity, Education, Health, Marital Status, Number of children, and Wave. Additional right-hand side variables are Self-employment and Monthly Income (BHPS), Monthly Income (GSOEP), and Self-employment and Yearly income (ECHP).

Appendix. Life Satisfaction and Unemployment Duration:

Results for Individual Countries in the ECHP (Wave 4).

	Denmark	***The Netherlands***	***Belgium***	***France***	***Ireland***	***Italy***
Unemployed	-0.628	-0.716	-1.423	-1.464	-0.932	-1.044
	(0.157)	(0.146)	(0.200)	(0.104)	(0.126)	(0.068)
Unemployed *x* unemployment duration	0.277	-0.155	-0.065	-0.048	-0.067	-0.251
	(0.339)	(0.280)	(0.380)	(0.158)	(0.255)	(0.114)
N	3703	7249	3708	8534	4574	12778
Log Likelihood	-4901.69	-9255.26	-5616.66	-11489.98	-6842.22	-20727.33
Log Likelihood at zero	-5043.69	-9538.79	-5906.60	-12281.49	-7146.23	-22088.55

	Greece	***Spain***	***Portugal***	***Austria***	***Finland***
Unemployed	-0.966	-0.958	-1.460	-0.900	-0.846
	(0.083)	(0.053)	(0.107)	(0.145)	(0.108)
Unemployed *x* unemployment duration	-0.612	-0.140	-0.550	-0.423	-0.123
	(0.146)	(0.092)	(0.225)	(0.320)	(0.304)
N	8126	11485	8805	5608	6226
Log Likelihood	-12422.87	-18490.27	-12082.68	-7617.38	-8754.66
Log Likelihood at zero	-13268.59	-19347.53	-12791.46	-7945.91	-9128.12

Note: Including controls for all of Table 1, column 3's other control variables (other than country and wave).

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REFERENCES

Argyle, M. (1989). *The Psychology of Happiness*, Routledge.

Burchell, B. (1992). "Changes in the Labour Market and the Psychological Health of the Nation, in J. Michie (ed.), *The Economic Legacy, 1979-1992*, AP Press.

Blanchflower, D.G. (1996). "Youth Labor Markets in Twenty Three Countries: A Comparison Using Micro Data", in D.Stern (ed.), *School to Work Policies and Practices in Thirteen Countries*, Hampton Press.

Blanchflower, D.G. (2001). "Unemployment, well-being, and wage curves in eastern and central Europe". *Journal of the Japanese and International Economies*, **15**, 364-402.

Clark, A.E. (1996). "Working and Well-Being: Some International Evidence",OECD, mimeo.

Clark, A.E. (1997). "Job Satisfaction and Gender: Why are Women so Happy at Work?", *Labour Economics*, **4**, 341-372.

Clark, A.E. (2003). "Unemployment as a Social Norm: Psychological Evidence from Panel Data". *Journal of Labor Economics*, **21**, 323-351.

Clark, A.E., Frijters, P. and Shields, M. (2006). "Income and Happiness: Evidence, Explanations and Economic Implications". University of Melbourne, mimeo.

Clark, A.E., Georgellis, Y. and Sanfey, P. (2001). "Scarring: The Psychological Impact of Past Unemployment", *Economica*, **68**, 221-241.

Clark, A.E. and Oswald, A.J. (1994). "Unhappiness and Unemployment", *Economic Journal*, **104**, 648-659.

Clark, A.E., Oswald, A.J. and Warr, P.B. (1996). "Is Job Satisfaction U-shaped In Age?", *Journal of Occupational and Organizational Psychology*, **69**, 57-81.

Di Tella, R. and MacCulloch, R. (2006). "Some Uses of Happiness Data in Economics". *Journal of Economic Perspectives*, **20**, 25-46.

Di Tella, R., MacCulloch, R. and Oswald, A. (2001). "Preferences over inflation and unemployment: Evidence from surveys of happiness", *American Economic Review*, **91**, 335-341.

Eggers, A., Gaddy, C. and Graham, C. (2006). "Well-Being and Unemployment in Russia in the 1990s: Can Society's Suffering be Individual's Solace?". *Journal of Socio-Economics*, **35**, 209-242.

Feather, N. (1990). *The Psychological Impact of Unemployment*, New York: Springer-Verlag.

Frederick, S. and Loewenstein, G. (1999). "Hedonic Adaptation". In Diener, E. Kahneman, D. and Schwarz, N. (Eds.). *Well-being: The foundations of hedonic psychology*. Russell Sage Foundation.

Frey, B.S. and Stutzer, A. (2000). "Happiness, Economy and Institutions". *Economic Journal*, **110**, 918-938.

Fryer, D. and Payne, R. (1986). "Being Unemployed: A Review of the Literature on the Psychological Experience of Unemployment", in Cooper, C. and Robertson, I. (eds.). *International Review of Industrial and Organizational Psychology 1986*, John Wiley and Sons.

Gerlach, K. and Stephan, G. (1996). "A Paper on Unhappiness and Unemployment in Germany", *Economics Letters*, **52**, 325-330.

Goldberg, D.P. (1972). *The Detection of Psychiatric Illness by Questionnaire*, Oxford University Press.

Goldsmith, A.H., Veum, J.R. and Darity, W. (1996). "The impact of labor force history on self-esteem and its component parts, anxiety, alienation and depression", *Journal of Economic Psychology*, **17**, 183-220.

Jürges, H. (2006). "Unemployment, life satisfaction, and retrospective error". *Journal of the Royal Statistical Society A*, forthcoming.

Korpi, T. (1997). "Is Well-Being related to Employment Status? Unemployment, Labor Market Policies and Subjective Well-Being among Swedish Youth", *Labour Economics*, **4**, 125-148.

Murphy, G.C. and Athanasou, J.A. (1999). "The effect of unemployment on mental health", *Journal of Occupational and Organizational Psychology*, **72**, 83-99.

Powdthavee, N. (2006). "Are There Regional Variations in the Psychological Cost of Unemployment in South Africa?". *Social Indicators Research*, forthcoming.

Warr, P.B. (1989). "Individual and Community Adaptation to Unemployment", in Starrin, B., Svensson, P-G. and Winlersberger, H. (eds.), *Unemployment, Poverty and Quality of Working Life*, Edition Sigma.

Warr, P.B. and Jackson, P. (1987). "Adapting to the Unemployed Role: A Longitudinal Investigation", *Social Science & Medicine*, **25**, 1219-1224.

Winkelmann, L. and Winkelmann, R. (1998). "Why Are the Unemployed So Unhappy? Evidence from Panel Data", *Economica*, **65** , 1-15.

Woittiez, I. and Theeuwes, J. (1998). "Well-being and Labour Market Status". In Jenkins, S, Kapteyn, A. and Van Praag, B. (Eds.), *The Distribution of Welfare and Household Production: International Perspectives*. Cambridge University Press.