Happiness, Habits and High Rank: Human and Social Capital

(or - Drinking Alone: Social Capital in Great Britain)

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Preliminary Notes

This note presents some ideas about comparisons and habituation, and social capital. I first talk about the former with respect to both income and life events. I then show that social capital is positively correlated with life satisfaction, but there seem to be comparison effects there too. The last two sections cover some ongoing work on social capital: Is social capital just an instrument (is it church-going or religiosity that matters?); and interactions between human and social capital in well-being (does money matter less if you have a rich social life?).

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One Fundamental Idea: Individual Well-being might depend on the relative level of things of importance, as well as their absolute level.

An example. Two people, A and B, who live next to each other, both like cars.

$$W_A = W(Car_A,.....)$$
$$W_B = W(Car_B,.....)$$

Key question: is A more likely to buy a new car if B buys a new one?

$$P(\text{A buys a new car}) = \alpha + \gamma(\text{B has bought a new car}) + ... \quad (1)$$

- Standard theory: No.
- Comparisons/relative utility: Yes.

If the answer is yes, then we could write A's "happiness function" as

$$W_A = W(Car_A/Car_B,....) \quad (2)$$

My well-being depends on how good my car is relative to my neighbour's.

Economists interested in "social interactions" or social norms very typically estimate equations like (2). I have mostly thought about (1), using proxy measures of utility, such as job or life satisfaction, or the GHQ-12. Well-being measures can be validated in a number of ways. One useful way is to show that they predict observable future behaviours or outcomes. We can therefore appeal to the following, by no way exhaustive, list of research papers that do just this. Measures of subjective well-being predict:

➢ Length of life	Palmore (1969)
➢ Coronary heart disease	Sales and House (1971)
➢ Quitting a job	Freeman (1978), Akerlof, Rose and Yellen (1988), Clark (2001)
➢ Absenteeism	Clegg (1983)
➢ Counter- and non-productive work	Mangione and Quinn (1975)
➢ The duration of unemployment	Clark (2003), Clark, Georgellis and Sanfey (2001)

In some ways looking for the impact of relative arguments is not a particularly radical idea. It is obvious that rank, and not level, matters when there are competitions. Simmons and Forrest (2004) show that **relative** spending by Sports teams helps to determine success: it is not how well your players play, it is whether they play better than their opponents.

1. Standard Well-Being Equations

Here is a "typical" well-being equation: Life satisfaction modelled using Waves 6-10 of the British Household Panel Survey (BHPS: http://www.iser.essex.ac.uk/bhps).

Male	-0.078
	(.010)
Age	-0.063
	(.003)
Age-squared	0.778
	(.037)
Education: High	-0.133
	(.013)
Education: A/O/Nursing	-0.099
	(.013)
Monthly real income (£000)	0.160
	(.058)
Self-employed	0.030
	(.019)
Unemployed	-0.349
	(.024)
Retired	0.126
	(.026)
Family carer	0.349
	(.078)
Other	-0.146
	(.014)
Health: Excellent	0.926
	(.015)
Health: Good	0.576
	(.012)
Married	0.224
	(.016)
Separated	-0.197
	(.034)
Divorced	-0.058
	(.021)
Widowed	-0.058
	(.038)
One Child	-0.079
	(.016)
Two+ Children	-0.109
	(.018)
Household Size: 2	0.185
	(.019)
Household Size: 3	0.139
	(.021)
Household Size: 4	0.156
	(.022)

Household Size: 5	0.180
	(.026)
Household Size: 6+	0.181
	(.032)
Region dummies	Yes
Wave dummies	Yes
N	48471.00
Log Likelihood	-73848.25
Log Likelihood at zero	-77342.39

I shall not comment on most of these. For the purposes of this paper, note that life satisfaction is higher as income rises, but is lower for the unemployed.

There has been a reasonable amount of discussion of the U-shape in age. Is this an aging or a cohort phenomenon? I note in passing that while life satisfaction is U-shaped in age, Putnam (2000, p.94) notes that formal community involvement is hump-shaped in age.

2. Comparisons and Habituation 1: Income

Economists like equations. Here are a couple of simple ones, in terms of well-being (W) and income (y) to help present the idea of comparisons.

Standard model:	$W = W(y, ...)$
Comparisons:	$W = W(y/y^*, ...)$

Here the "...." refers to other, non-income, things that matter for well-being. I'll have more to say about these later. The variable y^* is what is sometimes called "comparison income" or "reference group income". The central implication of comparisons is that your happiness falls as those in your reference group earn more.

Note that I have used a ratio specification in this equation, y/y^*. I could have put a linear term in instead ($y-y^*$: how much more or less do I earn than those I compare to?), or something more complicated, as long as the idea of my happiness falling as comparison income rises remains. This is what economists call a negative externality: my well-being falls as a result of what others do.

Is it possible to show that the level of others' income, y^*, plays a role in determining subjective well-being?
This leads us to a fundamental question: what is y^*? More generally, who is in the reference group, or to whom do we compare? Here are a number of ideas:

- Peer group/people like me (same sex, age, education etc.), as in the Leyden school (see van Praag and Kapteyn, 1973, and Hagenaars, 1986, amongst very many others).
- Others in the same household.
- Myself in the past.
- Friends.
- Others who work for the same firm.

- "Expectations" – about which we typically know next to nothing.

I will be able to say something definite about the first three of these. Note that in 99% of surveys, we know nothing about individuals' friends or work colleagues.

My work on subjective well-being and income uses the British Household Panel Survey. I look at job satisfaction, because labour income exhibits the most variability. Job satisfaction levels are recorded on a one to seven scale, where one corresponds to "not satisfied at all", seven corresponds to "completely satisfied", and the integers from two to six represent intermediate levels of satisfaction. Three papers look for evidence of comparison effects, whereby job satisfaction depends not only on y, but on y* as well.

I use multivariate regression techniques, that allow me to isolate as precisely as possible the effects of y and y* on job satisfaction, while taking into account all of the other possible factors that could lead different individuals to report different levels of job satisfaction.

1) **The pay of "others like you"** (Clark and Oswald, 1996).

	Overall job satisfaction	**Satisfaction with pay**
Log income (y)	0.12	0.77
	(0.051)	(0.051)
Log comparison income (y*)	-0.26	-0.31
	(0.061)	(0.062)

Job satisfaction is lower when others like you earn more. I cannot reject the hypothesis that a pay raise (of ten per cent, say) for everyone would leave no-one better off.

2) **Partner's pay, and the pay of all other adults in the same household** (Clark, 1996).

	Overall Job Satisfaction		**Satisfaction with pay**	
Partner Results				
Own hourly pay	0.111	0.039	0.570	0.508
	(0.060)	(0.068)	(0.059)	(0.057)
Partner's hourly pay	-0.121	-0.056	-0.140	-0.084
	(0.044)	(0.052)	(0.042)	(0.050)
Dummy: Earn more than Partner	---	0.171	---	0.147
		(0.074)		(0.073)
Household Results				
Own hourly pay	0.072	-0.009	0.525	0.495
	(0.050)	(0.058)	(0.049)	(0.057)
Average pay of other HH Workers	-0.095	-0.037	-0.116	-0.084
	(0.042)	(0.053)	(0.041)	(0.051)
Dummy: Earn more than average of other HH workers	---	0.130	---	0.065
		(0.064)		(0.063)

3) **The pay that the individual received in the same job one year ago** (Clark, 1999).

Just as humans are apparently very sensitive to left-right comparisons (asymmetries), might they also be sensitive to vertical comparisons (changes)?

Log current monthly pay	0.486
	(0.166)
Log monthly pay one year ago	-0.442
	(0.163)

Those who earned more in the past are less satisfied with their jobs now. To this extent, income itself is addictive: the more of it that you have had in the past, the more you need to today to feel just as happy. This is often referred to as *habituation*.

Although I am have concentrated on statistical results from large scale survey data, there is a burgeoning experimental literature looking at the broad consideration of fairness, usually in terms of income distribution. I will mention just one finding: individuals will pay to have higher rank. Specifically, they will pay part of their own (real) earnings to destroy other participants' earnings (Zizzo and Oswald, 2001).

Why do we all still try to earn more? Because we fail to anticipate adaptation, or because we reason in partial equilibrium (i.e. holding y* constant).

Related work has considered habituation and comparisons in terms of **states**, like unemployment and marriage.

3. Comparisons and Habituation 2: Unemployment and Marriage

Do we compare our own unemployment to the situation of others in the same household? Do we get used to marriage?

[An aside. I have often thought that George Michael, ex-of Wham!, is an under-rated social commentator. Consider the following lyrics from Wham Rap, which was released in 1981, as I remember:

Hey everybody take a look at me,
I've got street credibility,
I may not have a job,
But I have a good time,
With the boys that I meet "down on the line"

If that isn't evidence of social norms in unemployment, I don't know what is.]

Evidence consistent with comparisons with respect to unemployment, from Clark (2003). The dataset is again the BHPS. The dependent variable is the GHQ-12, a measure of psychological stress or well-being.

	All	*Women*	*Men*
Region			
Unemployed	-0.711	-0.705	-1.036
	(.075)	(.183)	(.120)
Regional unemployment	0.030	0.041	0.055
rate *x* Respondent unemployed	(.008)	(.025)	(.011)
Partner			
Unemployed	-0.610	-0.445	-0.698
	(.043)	(.070)	(.055)
Partner Unemployed and	0.259	0.109	0.305
Respondent Unemployed	(.104)	(.147)	(.151)
Household			
Unemployed	-0.512	-0.425	-0.552
	(.032)	(.053)	(.040)
Others' household unemployment	0.287	0.104	0.378
rate *x* Respondent unemployed	(.075)	(.116)	(.101)

The psychological effect of unemployment is negative, but it is less negative in high unemployment regions and households. Related work includes Lalive and Stutzer (2000), looking at social norms in job-search intensity by the unemployed. On a related note, Steve Platt (1990, 1992) has shown that suicides by the unemployed are lower in high-unemployment regions (despite their assuredly worse prospects there).

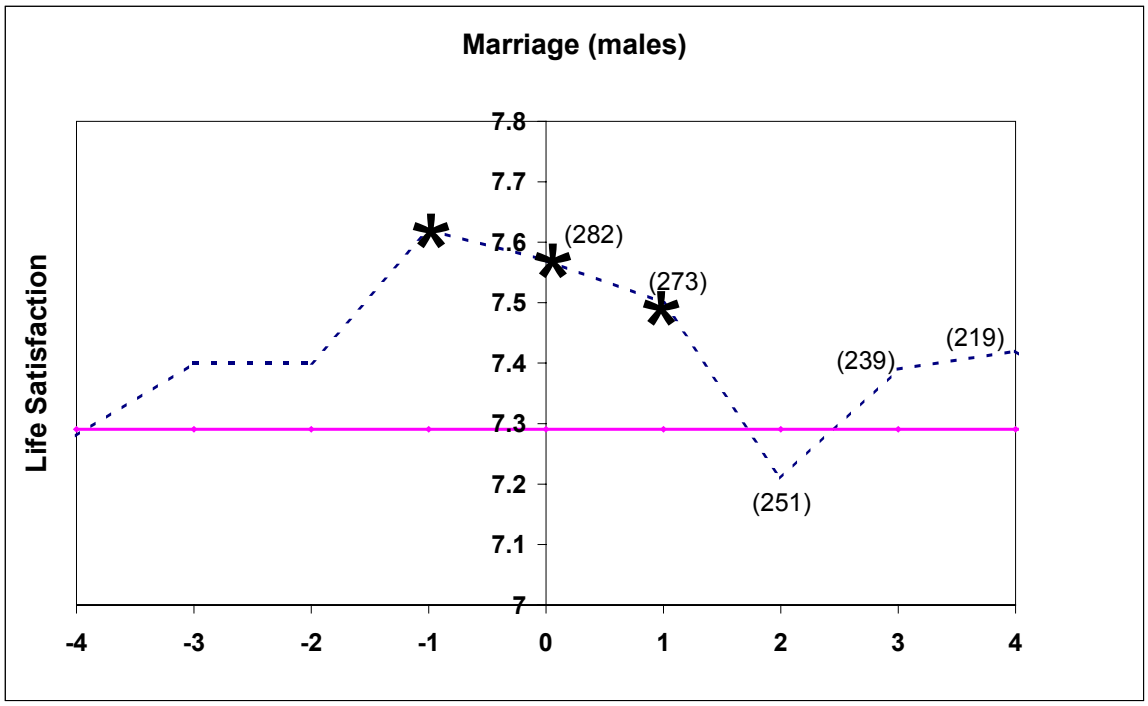
A corollary: it is reasonably well-known that unemployment predicts marital separations in duration equations. Is this effect weaker when regional unemployment is higher (lower stigma)? I have been looking at this recently (Clark and Solaz, 2003).

With respect to habituation to life events, here are some indicative graphs using GSOEP data (Clark *et al.*, 2003).

FIGURES

Notes to all Figures: * indicates significance at the 5% level; Number of observations in parentheses; Number of pre-event observations same as number of observations at t=0 (time event occurred)

Figure 1. Marriage and life satisfaction.



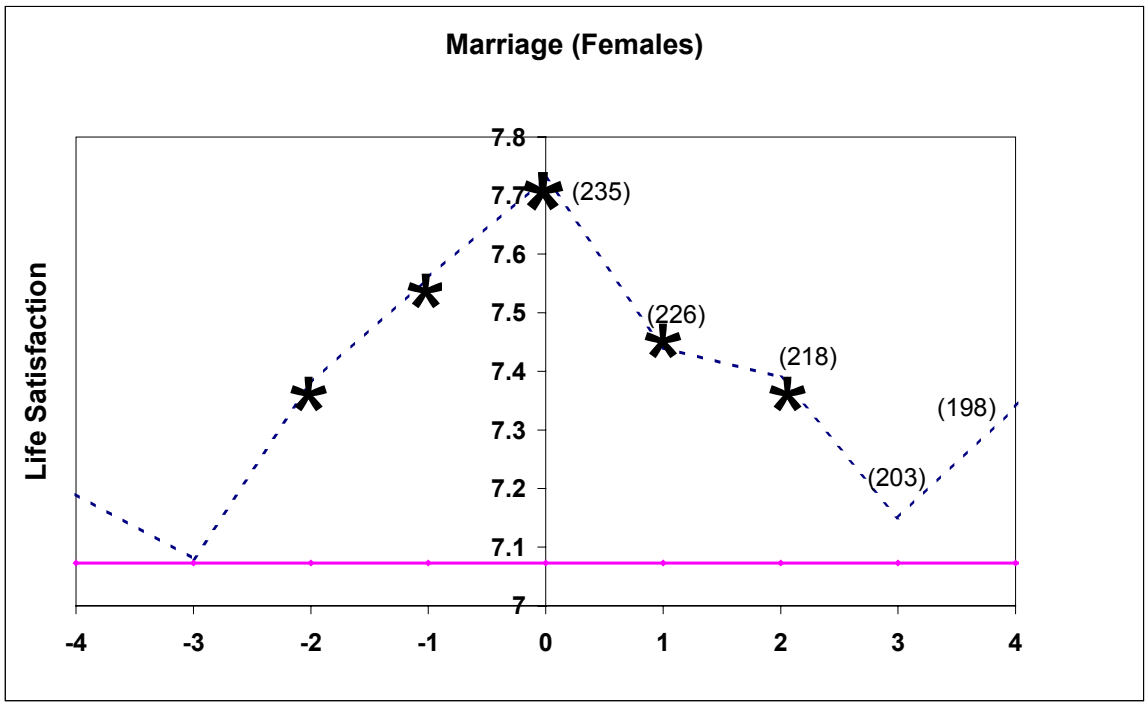
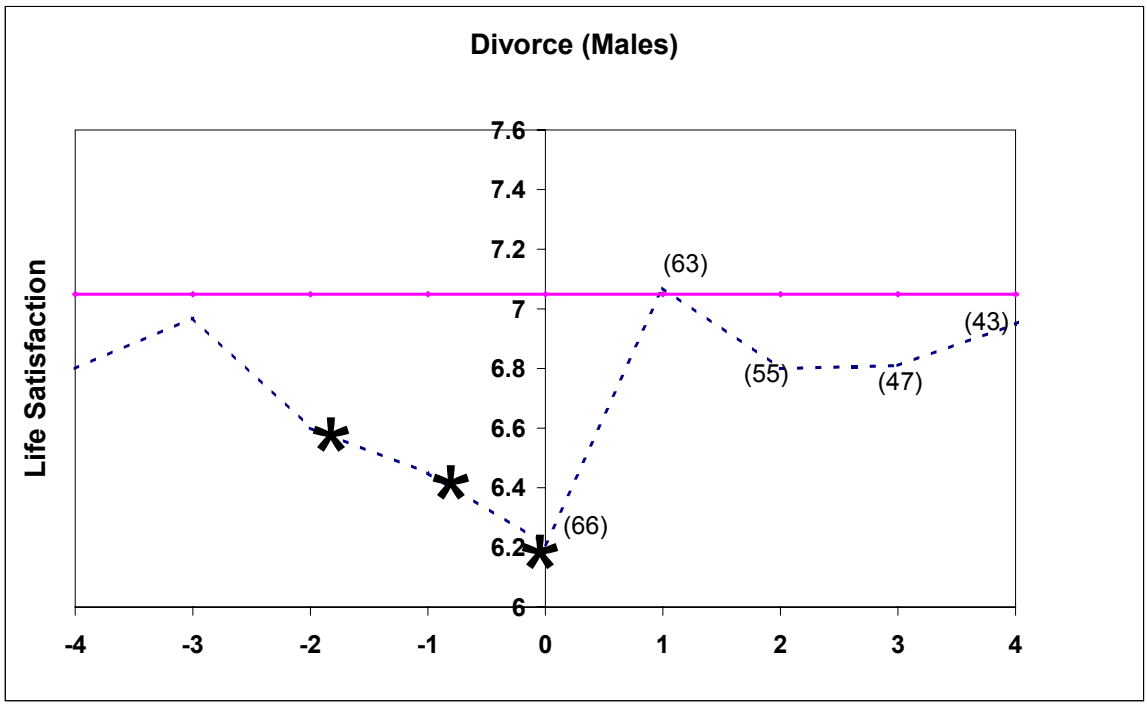


Figure 2. Divorce and life satisfaction.


Divorce (Males)
Life Satisfaction
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
-4
-3
-2
-1
0
1
2
3
4
(63)
(43)
(55)
(47)
(66)

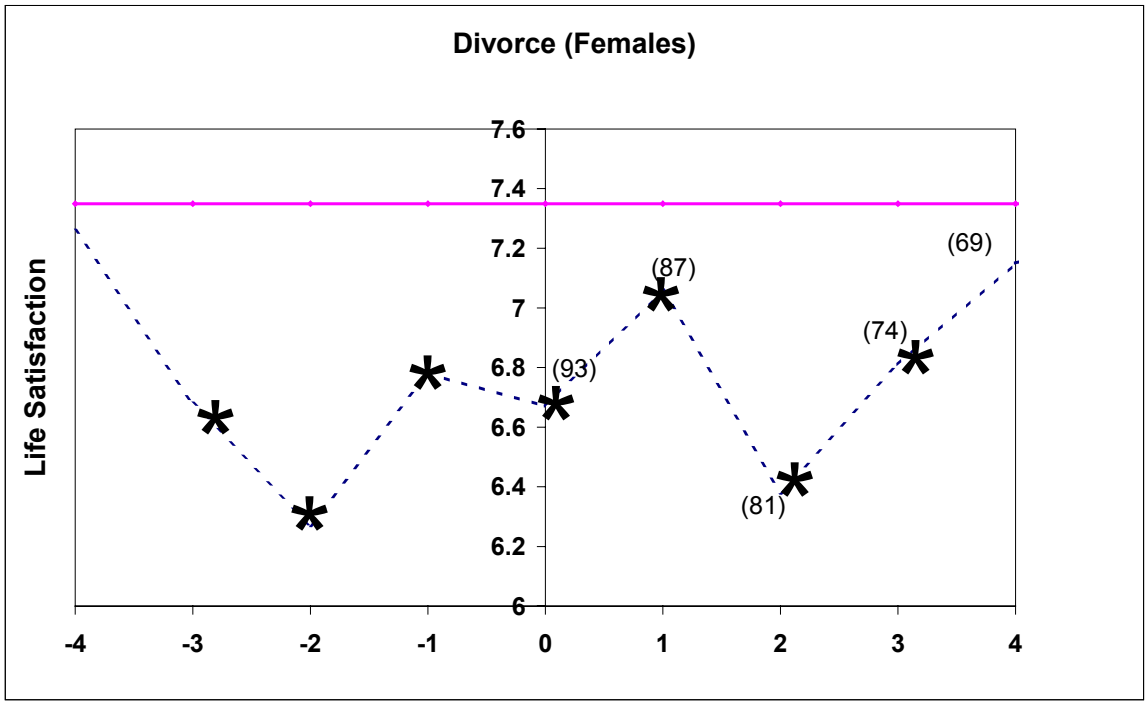
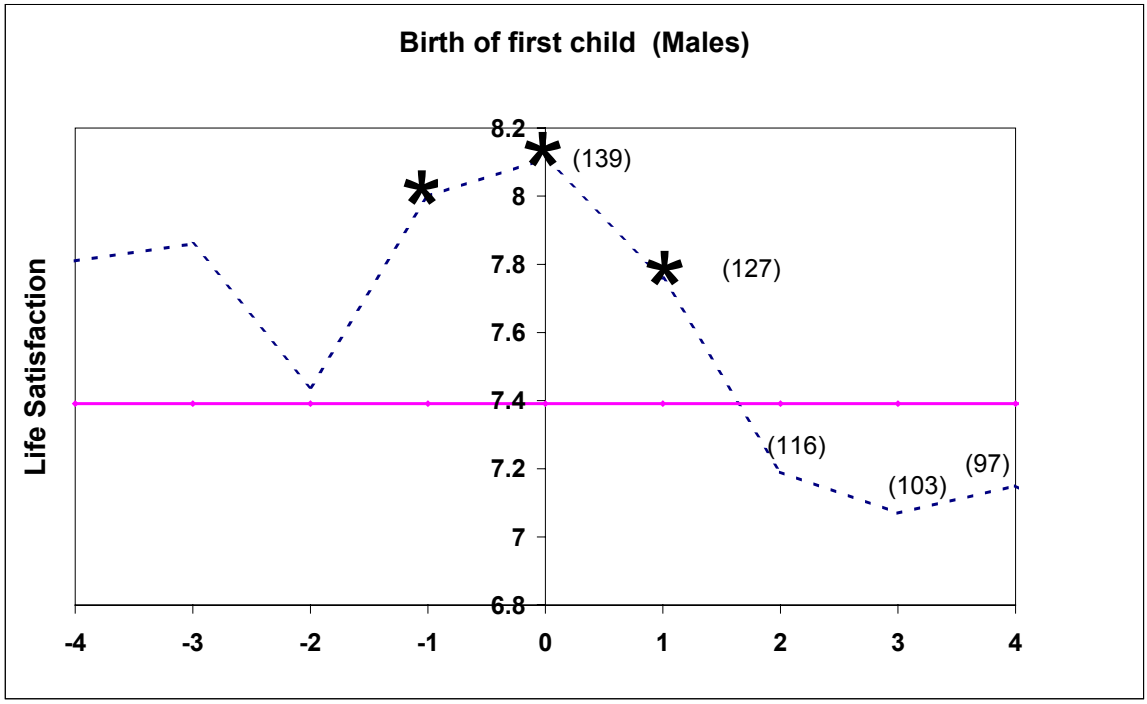

Divorce (Females)
Life Satisfaction
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
-4
-3
-2
-1
0
1
2
3
4
(69)
(87)
(74)
(93)
(81)

Figure 3. Birth of first child and life satisfaction.



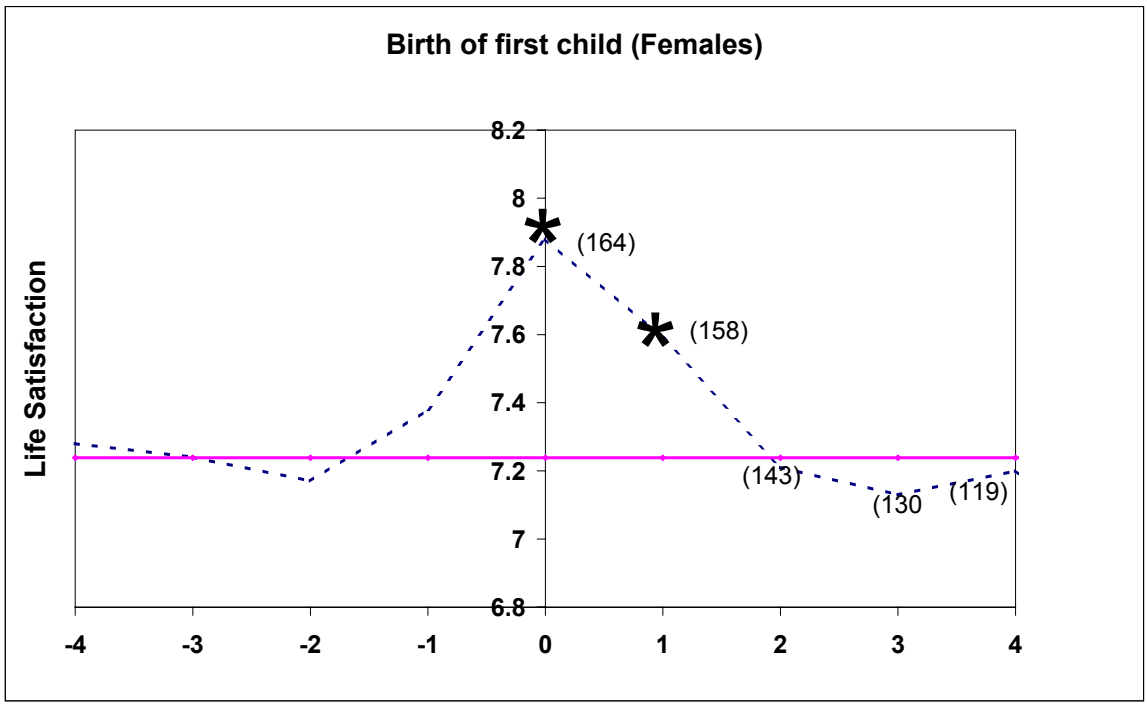
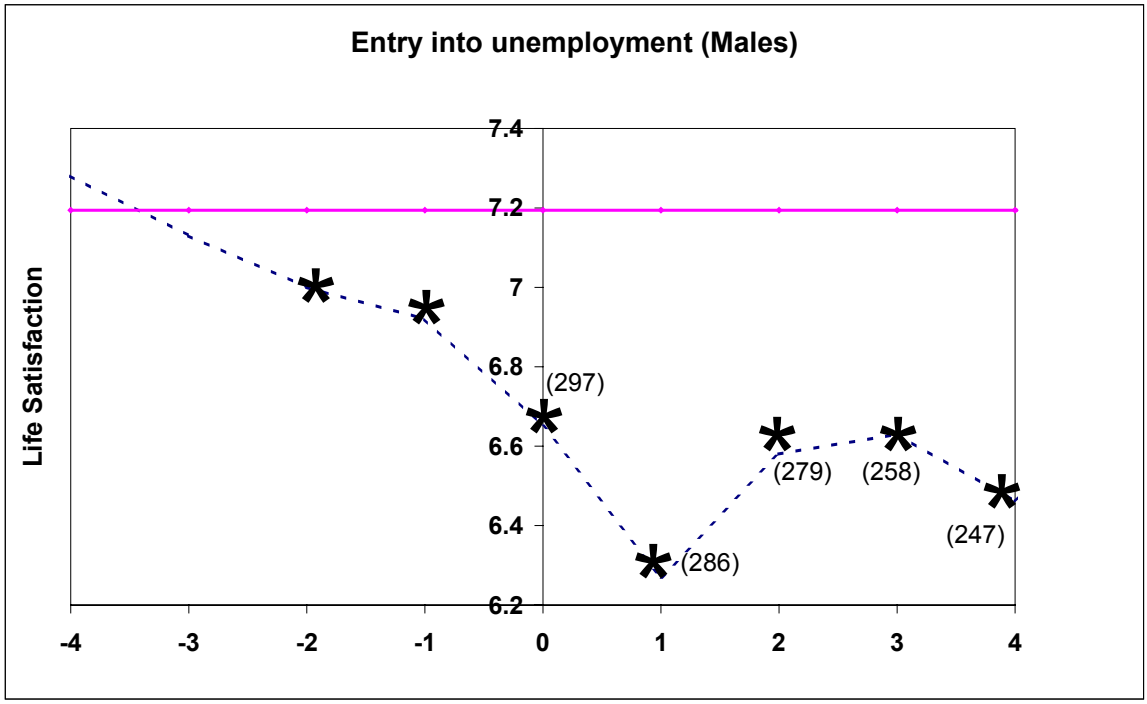


Figure 4. Unemployment and life satisfaction.



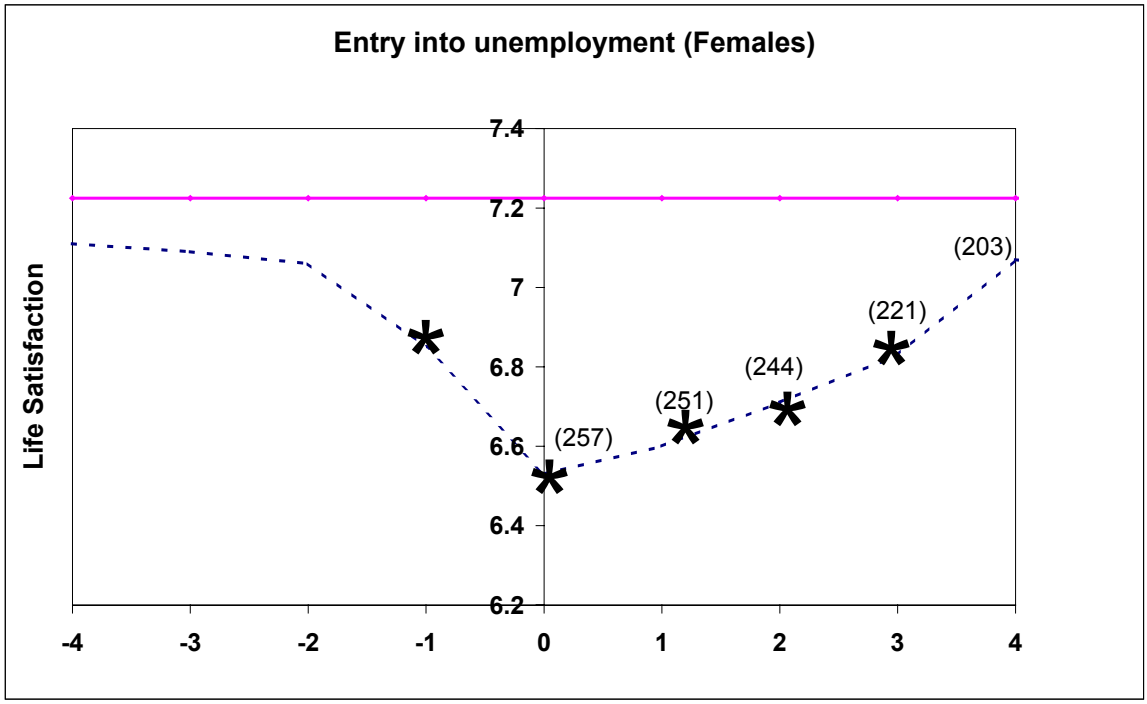
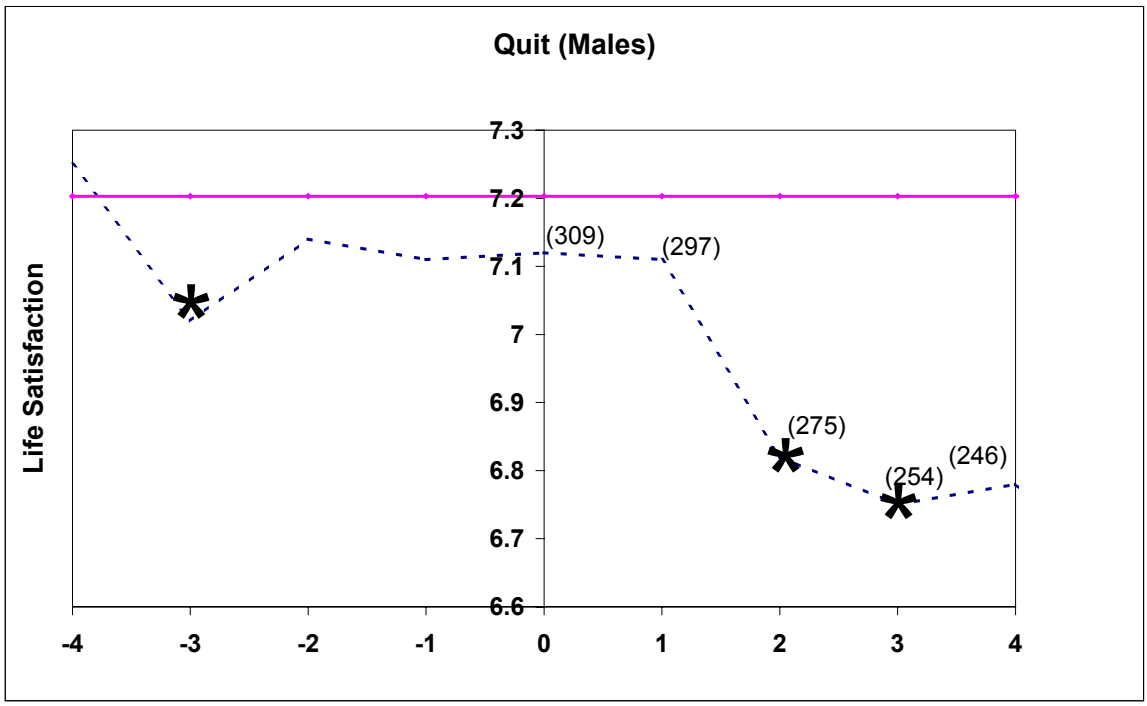


Figure 5. Quits and life satisfaction.



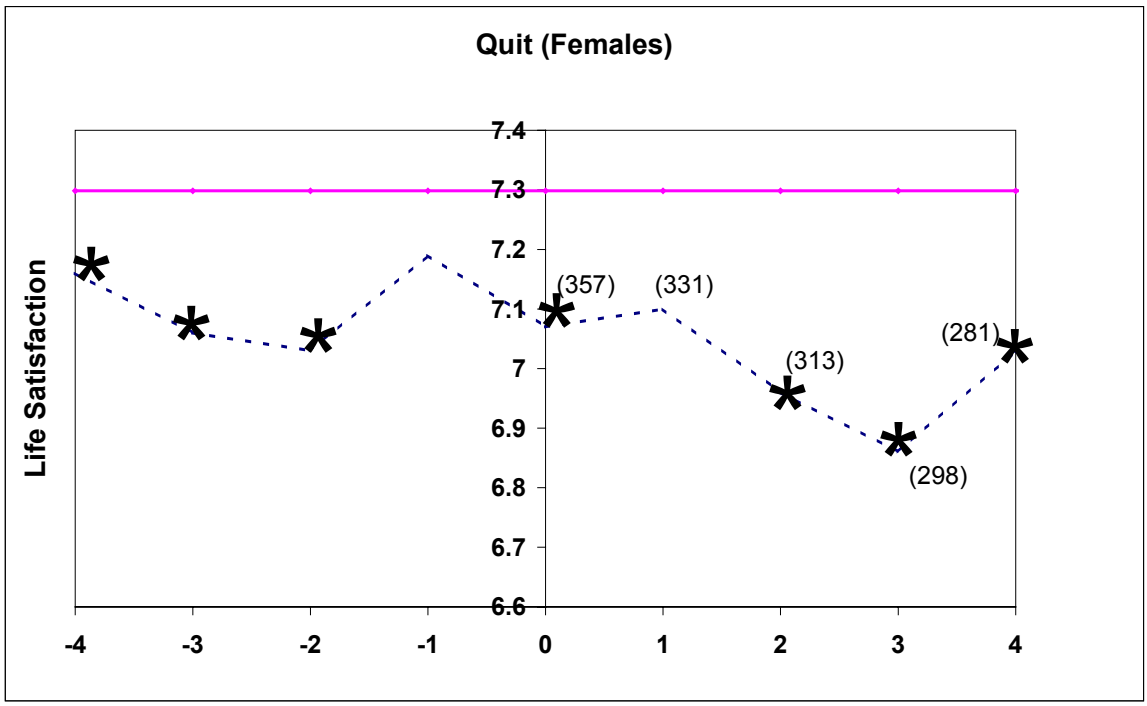
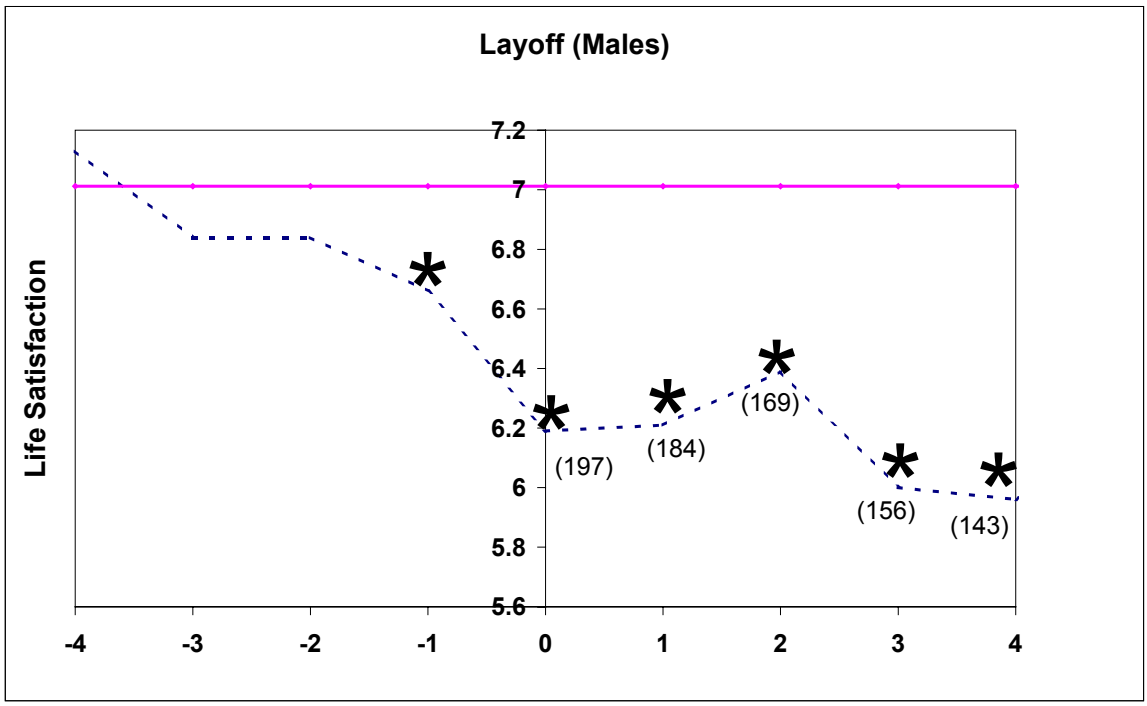
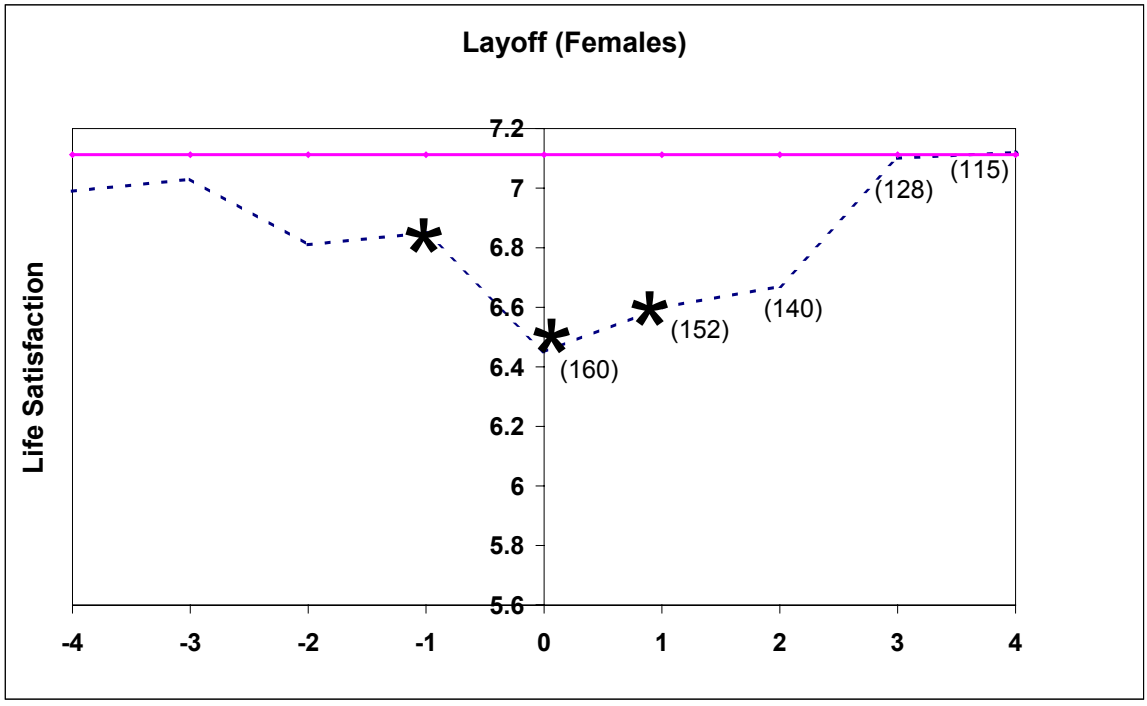


Figure 6. Layoffs and life satisfaction.





We can reproduce these data shapes in multivariate analysis (i.e. controlling for many other confounding influences).

Debate rages as to whether these graphs actually show habituation or not.

Note that there is a shift-share interpretation in terms of sample selection: those who suffer most from unemployment tend to leave it quickest. The long-term unemployed are therefore (psychologically) different from the short-term unemployed, rather than there being habituation. Work that considers this carefully does find some habituation to marital status, but far less with respect to unemployment (Lucas *et al.* 2003, 2004; Clark, 2002). Easterlin (2003) notes that habituation is likely to be weaker for life events than it is for income or commodities.

Also, adaptation could just show a better match over time between demands and competence – like learning how to use a wheelchair. This is different from "getting used to it", which supposes no change in objective conditions or abilities.

One question, which I won't linger on: Are comparisons the same for everyone? Some evidence that they are stronger for men than for women.

4. Social Capital in Well-Being Equations: British Evidence.

I consider social capital as activity in organisations (social engagement), rather than some measure of trust. In this respect I follow Glaeser et al. (2002). The BHPS does ask about trust (in waves eight and ten: "*Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people*?"). This might be problematic when considering correlations with life satisfaction: might people feel good both about themselves and about others because they are in good health, or because they dated last night?

I am interested in the contemporaneous correlation between social activity and life satisfaction. This latter only exists from waves six to ten in the BHPS.

In waves seven and nine of the BHPS, I know whether respondents are active in different kinds of organisations:

- Political party
- Trade union
- Environmental group
- Parents association
- Tenants group
- Religious group
- Voluntary group
- Other community group
- Social group
- Sports club
- Women's institute
- Women's group
- Other organisation

Simply adding these thirteen answers up gives a social capital activity score that runs from zero to thirteen.

I also know, in waves eight and ten, how often respondents engage in the following activities:

- Walk/swim/play sport
- Watch live sport
- Go to the cinema
- Go to theatre/concert
- Eat out
- Go out for a drink
- Work in garden
- Do DIY, car maintenance
- Attend evening classes
- Attend local groups
- Do voluntary work

It is of course arguable how many of these are social activities. This is just a first stab, so I haven't dropped any of these activities.

The possible answers to the level of activity questions are:

- At least once a week
- At least once a month
- Several times a year
- Once a year or less
- Never/almost never

I create (1,0) dummies by coding the first two answers as "1" and the rest as "0". Summing produces an activity index running from one to eleven.

I now consider the relationship between life satisfaction, on the one hand, and *a*) social capital activity, and *b*) the intensity of this activity on the other.

Estimated coefficients in a life satisfaction equation, as on page 15 above. All of the other right-hand side variables there are included.

SK activity 0.048
(.009)

****

Intensity of SK activity 0.062
(.004)

Both are extremely significant. The well-being effect of intense activity looks larger than the well-being effect of activity (without knowing its intensity), which makes intuitive sense. I cannot put both variables in a regression together, as they are not asked at the same waves.

5. Relative Social Capital? (Putnam, 2000, p.325).

Sections two and three above mentioned comparisons and habituation with respect to income and life events: could comparisons and habituation also apply to social capital. One reason why comparisons might matter is that higher social capital rank might translate into greater probability of success in the mating game. Another argument relies on congestion. There is no point being the only member of a tennis club. But neither is there a point in being a member if there are so many people that you have no chance of obtaining a court.

I keep the same two social capital variables as analysed in section four: activity and intensity. As above, I need to think about a reference group. For the moment I have only looked at two: oneself in the past (habituation) and other adults in the same household.

With respect to the first of these, I have not yet found any evidence of habituation to social capital. Today's social activity has the same effect on my well-being **independent** of how active I was two years ago.

For comparisons within the household, I have used two definitions of "reference group social capital". The first is activity by one's spouse or partner, the second is average activity amongst all of the other adults living in the same household. In both cases, those who live on their own are dropped from the analysis.

Results for Partner's Social Capital

Own SK Activity	0.066
	(.017)
Partner's SK Activity	0.003
	(.013)
More Active than Partner	-0.060
	(.035)
**********	**********
Own SK Intensity	0.070
	(.007)
Partner's SK Intensity	0.013
	(.007)
More Intense Activity than Partner	-0.044
	(.027)

No evidence of comparisons here. It is good to be socially active, and life satisfaction is higher if your partner is socially active: see the negative estimated coefficient on "More Active/Intense than Partner".

Results for Other Household Member's (OHHM) Social Capital

Own SK Activity	-0.001
	(.021)
OHHM SK Activity	0.062
	(.025)
More Active than OHHM	0.054
	(.026)

****

Own SK Intensity	0.028
	(.01)
OHHM SK Intensity	0.044
	(.011)
More Intense Activity than OHHM	0.039
	(.021)

Here there is evidence of comparison or relative effects in social capital. It is good to live in a socially active household (see the positive estimate on OHHM activity/intensity), but you get a life satisfaction boost from being above average socially in your household (see the positive estimate on more active/intense than OHHM).

I have yet to look at geographical reference groups (average local social activity).

6. Is Social Capital an Instrument?

What is it exactly about social capital that produces higher life satisfaction (and better economic and social outcomes – see Putnam, 2000, and PIU, 2002)? It could the sociability (and construction of social networks), or it could be the personality traits behind them. In the latter case

- It's not woodwork or cookery club that matters, it's being creative.
- It's not tennis club that matters, it's being sportive.
- It's not church attendance that matters, it's being religious.

Then the decline in social activity that has occurred in some countries only matters because it reveals an underlying decline in creativity, religion, and so on. The social activities don't matter in their own right. The significant effects that they have in statistical analysis come about only because they are instrumenting the real culprits: creativity etc.

In recent work (Clark and Lelkes, 2003), we have carried out one simple test of this using the BHPS. We are particularly interested in religion. We have two measures of this: A belief question ("The Bible is God's word and true"), and a variable measuring whether the respondent is active in a religious organisation. The dependent variable, life satisfaction, exists in waves 6-10. The belief question was asked only in waves 2, 4 and 6; religious activity was measured at waves 1-5, 7, 9 and 11. In order to jointly look at the impact of belief

and religious activity, the belief question is "spread out" from Wave 6 onwards, and the religious activity question is spread forward one wave to fill in information at waves 6, 8 and 10.

15 per cent of the sample agree with the belief question, and 48 per cent disagree; the rest are ambivalent. Just over ten per cent of the sample are active in a religious group.

Life Satisfaction and Religion: Basic Regression Results

Active in religious group	0.107	0.050
	(.018)	(.023)
Bible true: Strongly agree	---	0.319
		(.036)
Bible true: Agree	---	0.171
		(.026)
Bible true: Neither agree nor disagree	---	0.143
		(.017)
Bible true: Disagree	---	0.078
		(.017)

Plus other controls, as on page 3.

Note: All regressions include all of Page 3's other right-hand side variables.

A) Religious activity is significantly positively correlated with life satisfaction (t=6 in column one).
B) Introducing belief cuts the size of the coefficient in half, although it remains significant at the five per cent level (t=2.2)
C) The effect of religious activity on life satisfaction is dwarfed by the effect of belief. Changing opinion about the bible being true from "strongly disagree" to "disagree" outweighs the effect of undertaking religious activity.

7. Interactions between "Human" and Social Capital in Well-Being Equations

Are there interactions between the two types of capital? In terms of the above regressions, we would like to know if those with higher levels of social capital are insulated against negative life events (divorce, unemployment); it would also be of interest to know whether income is less important for those who are socially active.

This section is inspired by Lelkes (2002), who finds, in Hungarian data, that the life satisfaction of the religious is less sensitive to income. Subsequently in Clark and Lelkes (2003), we reproduce this finding on BHPS data.

Table 3. Life Satisfaction and Religion: Interactions

Variable:	*Income*	*Unemployed*	*Widowed*
Bible true: Strongly agree	**0.439**	**0.305**	**0.305**
	(.056)	(.037)	(.037)
Bible true: Agree	**0.191**	**0.155**	**0.172**
	(.037)	(.026)	(.026)
Bible true: Neither agree nor disagree	**0.144**	**0.127**	**0.139**
	(.023)	(.017)	(.017)
Bible true: Disagree	**0.088**	**0.068**	**0.082**
	(.024)	(.018)	(.017)
Active in religious group	**0.064**	**0.053**	**0.047**
	(.032)	(.023)	(.023)
Variable * Bible true: Strongly agree	**-1.617**	**0.358**	**0.450**
	(.556)	(.173)	(.222)
Variable * Bible true: Agree	-0.232	**0.436**	0.017
	(.322)	(.132)	(.164)
Variable * Bible true: Neither agree nor disagree	0.020	**0.419**	**0.285**
	(.170)	(.086)	(.146)
Variable * Bible true: Disagree	-0.094	**0.265**	-0.140
	(.157)	(.090)	(.143)
Variable * Active in religious group	-0.143	-0.107	0.103
	(.225)	(.174)	(.116)

Note: All regressions include all of Page 3's other right-hand side variables.

Believers are less affected by income (their marginal utility of income is lower), as in Lelkes (2002). In addition, believers are less negatively affected by unemployment and widowhood. Religion protects against bad outcomes, but also reduces the effect of income. In ongoing work, Orsolya Lelkes and I have found the same income result in very recently released data (end of October) from the first round (2002) of the European Social Survey (the ESS: http://www.europeansocialsurvey.org).

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