MEASURING HAPPINESS: A pilot study

In September 2003 I conducted a pilot 'happiness survey' on first year (newly arrived) Economics students at University of Wales, Swansea. I had hoped to use measured happiness (Subjective Well-Being in the jargon) as a basis for identifying satisfaction with selection mechanisms for university students. Alas! Splendid though the concept was, the measuring rod proved to be very weak.

The particular Questionnaire used was the GHQ-12: General Household Questionnaire, courtesy of the ESRC Archive Essex. This has been widely used, tested and validated, for example by Oswald at Warwick University. The fundamental flaw is that people are just so contrary: Although in huge surveys of 10,000 or more you can say that married people are happier than singles, or religious belief cheers you up, the effect is weak and can just as easily be reversed. (Again, in the jargon, the correlation coefficients are small at around 15%. That means that 85% of the causes of happiness remain to be discovered). From a researcher's point of view a sample of about 80 students subjected to one form of selection is far too small to compare with another. Because of the weakness of the happiness measure, and the probability that huge differences are unlikely, no definitive conclusion can be reached here. (And of course negative conclusions don't lead to published articles!)

What follows is

   --The Questionnaire as applied to 87 students (82 used, 5 unusable) present on Friday afternoon, 26th September 2003.

   --A brief Report, summarising the conclusions from my analysis of their responses.

   --The original data from the completed questionnaires

   --Print-outs from SPSS of the analysis

UNIVERSITY COURSE SELECTION – How was it for you?

You've been selected for this University course — I'm doing research into the selection process, *from the point of view of students* like yourself. Please complete this questionnaire — it should only take two or three minutes. All your answers will be treated as confidential — I won't even be asking your name.

When complete, please hand-in this form to the organiser.

1. About yourself:

1.1 A☐☐   years   <u>Sex</u>:   M   F   (please circle one)

1.2 <u>The Course you are on now:</u> _____

1.3 <u>Your entry qualifications:</u>   *If you did A-levels:*   ☐☐our Points: (no. of points)

     If you have qualifications other than A-levels:
     please specify which qualification, and at what grade
       Qualification: _____ .
           Grades: _____ .

2. Gaining your entry qualifications: Was it easy?

2.1   <u>Did you repeat any subjects to improve your grades?</u>   Yes/No   (please circle one)

If Yes: <u>how many subjects did you re-do?</u>   1   2   3   4   more than 4   (please circle one)

       <u>how much *extra* time did you take?</u>   (tick one)
           - an extra term?   ☐
           - an extra year?   ☐
           - other amount of time   ☐ – please explain _____ .

2.2 <u>Did you spend *extra* time to get the higher grades needed for entry?</u>   Yes/No   (please circle one)
     If Yes: How many *extra* hours per week did you spend?   ☐☐   study hours per week

2.3 <u>How much time did you spend on filling in application forms, visiting universities, interviews etc?</u>

     –Time spent on the application process ☐☐☐   days (approximately)

3. Was it worth it?

Are you on the degree course you *really* wanted, and at the university you wanted?

3.1 <u>Select one of the following statements:</u>   (tick one)

       –I am on the course I wanted, at the university ☐ I wanted
       –I'm on the right course, but I'd prefer to be elsewhere ☐
       –I really wanted to do something else:
              ^ if you ticked this, please say which other course:

More questions overleaf! ———>

4. Are you happy?

 This is a standard 'happiness inventory'. From this I hope to make connections with your previous answers, and maybe make the selection process a bit less stressful for future students!

Here are some questions regarding the way you have been feeling over the last few weeks. For each question please ring the number next to the answer that best suits the way you have felt.

Have you recently....   (please circle one)

a*) been able to concentrate on whatever you're doing ?*
Better than usual............................ 1
Same as usual 2
Less than usual 3
Much less than usual.................... 4

b) *lost much sleep over worry ?*
Not at all 1
No more than usual...................... 2
Rather more than usual.............. 3
Much more than usual.............. 4

c) *felt that you were playing a useful part in things ?*
More than usual...............................   1
Same as usual.............................. 2
Less so than usual....................... 3
Much less than usual................... 4

d) *felt capable of making decisions about things ?*
More so than usual....................... 1
Same as usual.............................. 2
Less so than usual....................... 3
Much less capable....................... 4

e) *felt constantly under strain ?*
Not at all..   1
No more than usual........................   2
Rather more than usual.................. 3
Much more than usual................... 4

f) *felt you couldn't overcome your difficulties?*
Not at all..   1
No more than usual........................   2
Rather more than usual............... ...3
Much more than usual.................. 4

g) *been able to enjoy your normal day-to-day activities ?*
More so than usual....................... 1
Same as usual............................... 2
Less so than usual....................... 3   Much less than usual..................   4

h) *been able to face up to problems ?*
More so than usual....................... 1
Same as usual............................... 2
Less able than usual..................... 3
Much less able............................. 4

i) *been feeling unhappy or depressed ?*
Not at all....................................... 1
No more than usual....................... 2
Rather more than usual................. 3
Much more than usual.................. 4

j) *been losing confidence in yourself ?*
Not at all.......................................1
Not more than usual....................2
Rather more than usual................. 3
Much more than usual 4

k) *been thinking of yourself as a worthless person ?*
Not at all....................................... 1
No more than usual.................... 2
Rather more than usual............. 3
Much more than usual............... 4

1) *been feeling reasonably happy, all things considered ?*
More so than usual....................... 1
About same as usual.................... 2
Less so than usual 3
Much less than usual................... 4

Many thanks for your help. Please return this to the organiser supervisor, or if you miss that, send it direct to me at

Conall Boyle, Research Student,
Department of Economics, University of Wales, Swansea, Singleton Park,
Swansea SA2 8PP

Comment on the questionnaire: First year Economics students at Swansea

Date: Monday, 29th September 2003 (First day of lecture programme for these students)
Time: 4:00 p.m. at the start of Learning Skills lecture. Took about 10 minutes to complete

Data quality:

No of responses: 82: 2 failed to complete second page GHQ12 questions, otherwise complete

Responses to questions: generally OK — questions understood, although

- Q1.3 UCAS tariff: about ¼ gave no information, or had non-standard entry qualifications
- Q 2.3 time spent filling in applications: some incredible numbers, such as 365 days

Statistics on responses:

What I told the respondents (students):
Your happiness scores based on the 12 questions: Overall you are a cheerful group, significantly happier than the population at large:

    Economics students at Swansea: Mean score   26.6 /36
    Major survey of the population: Mean score   25.0/36

Of course, individual scores varied quite a lot as shown by this histogram

Happiness score

Economics students at Swansea

Score (max 36)
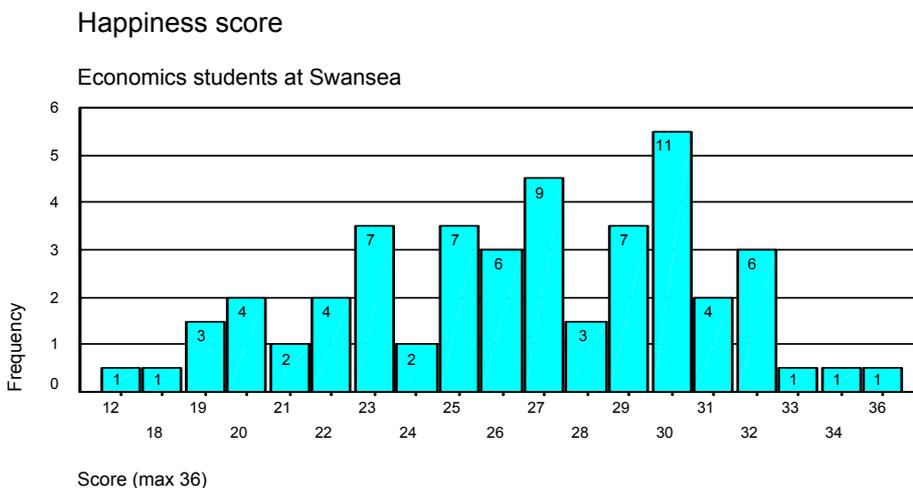
A more detailed analysis showed:

1. **GHQ12 scores:** (based on adding up the 12 individual responses giving a 'Misery score' ranging from 12 – totally happy to 48 – all-round misery. I have also calculated a 'Happiness score' by reversing these numbers:

Overall Happi score results were	Econ Swan:	(Oswald)
Mean	26.6	(25)
Median	27	(26)

<div align="center">Mode   30   (28)</div>

(Figures in brackets refer to results reported by Oswald from a large whole-population survey)

The distribution of results (see histogram) is negatively skewed, as for Oswald data. The central measures are comparable too, with Econ-Swan showing a higher happiness score

2. **Individual GHQ12 scores:** are shown as pie charts.

Individual items varied with
> biggest 1 – happiest response for Q: 'do you think your worthless?' A: 'not at all'
> > smallest 1 – Q: 'able to concentrate?' A: 'better than usual'

There were negligible 4s – most unhappy.

3. **Age:** very narrow range 18, 19

4. **UCAS tariff:** distribution negatively skewed with a 'cut-off point' at 280. Seems to imply that higher scorers go elsewhere, with stragglers accepted with lower grades?

5. **Repeat subjects to improve grades?** ¼ said yes, with 1,2 or 3 subjects repeated. The supplementary question on extra time spent on these repeated grades averages out at about 4 months per repeating student.

6. **Extra time for better grades?** ¼ said yes with an average of 2 hours per week spent by each student who spent the extra hours

7. **Time spent on the application process:** Taking the median value, which will not be affected by the clearly erroneous large values, gives a value of 10 days spent per student.

Tentative conclusion about Rent-seeking: combining the three time-spending items and spreading the times over all students gives an estimate of about 2 months per student of time spent over the basic requirement to be adequately qualified for entry. This is based on heroic assumptions about time spent and effort required, and can only be a first estimate. If anything, I believe this figure of an average of 2 months per student to be on the low side.

8. On the right course at the right uni? 85% said 'yes' and 'yes', an encouragingly high endorsement. 10% said right course wrong uni, 5% prefer something else.

Analysis: Can the Happiness score measured be explained by any of the other factors identified?

Using a standard linear multivariate regression model where Y is the Happiness score, which is to be explained in terms of

Variable X	in units of	Regress coeff	t-value	Interpretation	as expected?
Age	in years	-1.188	1.34	older->glummer	?
Sex	M=1 F=2	-2.32	1.85	M happier than F	?
UCAS tariff	actual score/100	-0.825	.57	More pts->glummer	×
Repeat subjects	N=0 Y=1	0.905	.47	repeat = happier ☺	×
Extra study time	N=0 Y=1	-0.577	.32	spend extra time->glum	√
Days on applicdays		-0.007	.68	more days-> glum	√
Right course	1=yy 2=yn 3=nn	-0.340	.25	wrong-er -> glum	√

None of these results reaches any degree of significance, which is borne out by the overall adjusted R^2 value of 0.033.

Conclusion: *on the basis of this analysis, it is not possible to identify factors which make some students happier than others.*

 Future strategy: It may not be worthwhile to collect personal information, where similar groups of newly-arrived undergraduates are concerned. If the more diverse post-graduate entry are to be studied, then some of the factors identified by Oswald could be asked for, such as:-
-    marital status   'Are you married...etc?'
-    employment status   'Have you been in full-time employment in the last year?'
-    state of health   'generally healthy?' 'disabled?'
-    level of education — wouldn't be relevant; all up to same level
-    religiosity   'do you attend church regularly?' (this could be tricky!)

All of these have been identified as significant, and have values attached. The raw happiness scores could then be adjusted to help give a better estimate of the overall level of happiness in a given group

Reference used:

Clark, Andrew E & Oswald, Andrew J (forthcoming Mar 2003) A simple statistical method for measuring how life events affect happiness
        -- also: 'Well-being in panels' (Dec 2002)   --offprint from Oswalds website   HAPPY

Experiment using predictors based on Clark/Oswald:

Happiness score was adjusted using coefficients for Age and Sex reported in C/A

Age: in range 17-25 H score declines by 0.13 per year

Sex: Males are 0.20 happier, females 0.96 glummer

Two regressions were run

-with all previous predictor variables including age and sex   giving adj R^2 = 0.10

-same but excluding age and sex   = 0.09

Rec No	1.1	1.1	1.2	1.3	2.1Y	2.1Y	2.1Y	2.2Y	2.2Y	2.3	2.4	3.1	4a	4b	4c	4d	4e	4f	4g	4h	4i	4j	4k	4l
	age	sex	Crs	UCAS pts	Rsubj YN	Nxtra subj	x time	xTime grad	hrs/week	time-app	pay £	crsOK	conc	sleep	useful	decision	strain	difficulty	enjoy	problem	unhappy	conf	worthless	allhappy
1	18	2		230	1	2	3	0		10	0	1	2	1	1	2	2	2	2	2	2	2	2	2
2	18	2		280	0			0		20	0	1	2	3	2	1	3	3	2	1	2	2	1	2
3	18	2		0	0			0		10	0	1	2	2	3	2	2	2	3	2	3	2	2	2
4	18	2		280	0			0		14	0	1	3	3	2	2	3	3	2	2	3	2	2	2
5	19	1		240	0			0		10	0	1	2	1	1	2	2	4	1	2	1	1	1	1
6	19	1		ABE	0			0		10	0	1	2	1	1	1	2	1	2	2	1	1	1	2
7	19	1		BCC	0			0		3	0	3	3	3	2	3	2	3	1	2	3	2	2	3
8	19	1		280	1	3	0	1	4	30	0	1	2	1	2	1	3	2	2	1	3	3	1	2
9	19	1		280	0			0		20	0	1	2	1	2	3	2	1	2	2	1	2	1	2
10	18	2		200	0			0		10	0	2	2	2	2	2	3	2	3	2	2	2	2	2
11	19	2		260	1	2	0	1	2	10	0	1	4	3	2	2	3	2	2	2	2	2	2	2
12	18	1		220	0			0		7	0	1	1	1	1	1	2	2	1	2	2	1	1	1
13	17	2		0	0			0		2	0	2												
14	18	1		240	0			0		2	0	1	2	1	2	2	1	1	2	1	1	1	1	1
15	18	2		260	0			0		3	0	1	2	1	2	2	1	2	2	1	1	1	1	2
16	20	2		280	1	1	12	1	10	14	0	1	2	1	2	2	1	1	2	2	1	1	1	2
17	19	2		0	0			0			0	2	3	2	3	2	3	2	3	2	2	1	1	3
18	18	1		220	0			0			0	1	1	1	2	2	2	1	1	2	1	2	1	1
19	18	2		200	1	3		1	30	20	0	1	2	1	2	3	2	1	2	2	2	1	1	1
20	18	1		240	0			0			0	1	2	2	2	2	1	2	3	2	1	2	1	2
21	18	1		280	0			1	5	10	0	1	2	2	2	2	1	2	2	2	1	1	1	2
22	18	1		280	0			0		5	0	1	2	1	2	2	3	3	1	2	2	2	1	1
23	20	2		0	0			0		30	0	2	1	2	1	2	2	1	1	1	2	1	1	2
24	23	1		0	0			0		14	0	1	2	2	2	2	1	3	3	1	1	1	1	2
25	19	1		0	0			0		50	0	1	1	1	1	1	1	1	1	1	1	1	1	1
26	19	1		0	1	1	4	0		8	0	1	2	2	1	1	2	2	1	2	1	1	1	2
27	19	1		0	0			0		10	0	1	2	2	2	3	2	2	3	2	1	1	1	1
28	19	1		0	1	2	1	1	8	3	0	1	2	2	1	2	2	1	2	1	1	1	1	1
29	19	1		280	1	5		0	2	2	0	1	2	1	2	2	1	1	2	2	1	1	1	2
30	20	2		0	0			0		180	0	1	2	1	2	2	2	1	2	2	2	1	1	2
31	21	1		0	0			0		180	0	1	2	2	2	2	2	1	3	3	3	2	1	2
32	18	2		280	0			0		4	0	1	2	2	2	1	1	1	2	2	1	2	1	1
33	19	2		280	1	2	12	1	7	14	0	1	2	1	1	2	1	1	2	1	1	1	1	2
34	18	1		360	1	2	4	1	10	7	0	1	2	2	2	2	3	3	3	3	2	2	2	2
35	18	1		0	1	3	0	1	10	7	0	1	1	1	2	1	2	3	1	2	4	3	4	2
36	19	1		280	1	1	0	1	4	10	0	1	1	1	2	2	2	1	2	3	3	2	1	1
37	19	1		220	0			0		100	0	1	2	3	2	1	2	2	2	1	2	2	2	2
38	18	1		280	1	2	0	1	3	115	0	1	2	1	2	3	3	2	3	2	1	1	1	2
39	18	1		bacc	0			0		10	0	1	2	2	1	3	1	2	3	2	3	2	1	
40	18	1		280	0			0		365	0	1	1	1	2	2	3	2	2	2	2	2	2	2
41	18	2		260	0			0		-1	0	1	2	1	2	1	2	1	2	3	1	1	1	1
42	21	2		hnd	0			0		7	0	1	2	1	2	2	1	1	3	2	1	2	3	2
43	18	2		300	0			0		10	0	1	2	2	2	2	2	1	1	2	2	2	1	2
44	19	2		china	0			1	7	7	0	1	1	2	2	2	1	1	1	1	1	1	1	1
45	19	1		240	0			0		3	0	2	2	2	2	2	1	3	2	1	3	1	1	
46	18	1		230	0			0		10	0	1	2	3	2	1	3	3	2	1	1	2	1	2

47	18	2		260	0			1	10	2	0	1	2	2	2	1	3	3	3	1	2	1	1	2
48	19	1		240	0			0		30	0	2	2	1	2	1	3	1	2	2	2	1	2	2
49	21	1		21old	0			0		10	0	1	1	3	2	1	2	3	3	2	3	3	3	2
50	19	2		0	0			0		8	0	3	2	1	2	2	1	1	2	2	1	1	1	3
51	18	2		240	1			0		2	0	1	1	3	3	3	2	3	2	1	3	1	1	3
52	18	2		240	0			0		8	0	1	2	3	2	3	4	3	2	2	2	2	2	2
53	19	1		140	0			1	3	30	0	1	1	3	1	1	2	2	1	1	1	1	1	1
54	18	1		120	0			0		150	0	1	1	3	1	1	2	2	1	1	1	1	1	1
55	20	2		120	0			1	20	7	0	1	2	2	3	2	2	3	2	3	3	2	2	2
56	20	2		120	0			0		7	0	1	2	2	3	3	2	3	2	2	3	3	2	3
57	18	1		260	0			0		7	0	1	2	2	2	1	2	2	2	1	2	1	2	2
58	18	1		0	1	1	0	0		5	0	1	2	1	2	2	2	2	3	1	1	1	1	1
59	18	1		240	0			0		5	0	1	2	2	2	2	2	2	2	2	2	2	1	1
60	18	1		300	1	1	12	1	5	20	0	1	2	1	2	1	2	1	2	1	1	1	1	2
61	18	1		280	0			0		30	0	1	2	2	1	2	3	3	2	2	3	3	1	1
62	19	2		bbb	0			0		3	0	1	2	2	3	2	1	1	2	2	1	1	1	1
63	18	1		280	0			0		5	0	1	2	2	2	2	3	2	1	2	2	2	3	1
64	19	1		280	0			0		2	0	1	1	1	1	1	2	1	4	2	2	1	1	1
65	18	1		280	0			0		100	0	1	1	3	4	2	4	2	1	1	3	1	1	2
66	19	1		0	1	2	4	0		5	0	3	1	1	2	2	2	1	2	2	1	1	1	2
67	19	2		0	0			0		2	0	1	2	2	2	2	1	1	2	1	2	1	1	2
68	18	1		240	0			1	10	10	0	1	2	3	3	2	3	1	2	2	2	2	1	2
69	20	1		280	0			0		30	0	1	2	2	1	2	3	3	1	2	2	3	4	1
70	18	1		300	0			1	50	180	0	1												
71	18	1		260	0			0		3	0	1	2	1	2	2	1	2	2	2	1	1	1	2
72	18	2		280	0			0		3	0	1	2	1	1	1	1	1	1	2	1	1	1	1
73	19	1		220	0			0		4	0	1	2	1	2	2	1	1	2	2	1	1	1	2
74	18	1		240	0			0		4	0	2	2	1	2	2	2	2	3	2	1	1	1	2
75	18	1		220	0			0		5	0	2	2	1	2	2	1	1	2	2	1	1	1	2
76	18	2		260	0			0		10	0	3	2	1	2	1	1	1	2	2	1	1	1	1
77	18	1		300	1	1	0	1	12	20	0	1	2	2	2	2	2	1	2	2	2	1	1	1
78	18	2		260	0			0		10	0	1	3	4	4	3	2	2	3	3	3	3	3	3
79	18	1		300	0			0		20	0	1	2	1	1	2	2	1	1	2	2	1	2	1
80	19	2		300	1		12	1	15	60	0	1	2	3	2	2	2	2	3	2	3	1	2	1
81	19	2		280	1	1	12	1	8	100	0	1	2	2	2	2	2	2	2	2	3	2	2	2
82	18	2		280	1	1	12	1	6	30	0	1	2	2	2	2	2	2	2	2	3	2	2	2
83	18										0	1												
84	18										0	1												
85	18										0	1												
86	18										0	1												
87	18										0	1												
88																								