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# Happy at University? Student Well-being and the Value of Higher Education

**by Marina Della Giusta, Antonia Fernandez  
and Sarah Jewell**

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Department of Economics  
University of Reading  
Whiteknights  
Reading  
RG6 6AA  
United Kingdom

**[www.reading.ac.uk](http://www.reading.ac.uk)**



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University of Reading

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## **Abstract**

We report the results of a project monitoring Student Wellbeing in tertiary education. We investigate wellbeing broadly and wellbeing at university and focus on the role of both academic factors (teaching and learning experience and student expectations and performance) and non-academic ones (student health and finances, term-time employment and social life) and discuss our findings in the context of both student support and measuring the value of higher education.

**JEL Codes: I26, I31, J28**

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## **Introduction**

We report the results of a project monitoring Student Wellbeing in tertiary education. Student wellbeing is becoming an increasingly important area of attention for researchers for a range of important reasons: firstly, because students experience a higher prevalence of mental health problems than the rest of the population, including stress and depression (Cotton et al, 2002); secondly, wellbeing and academic achievement are closely related (Stallman, 2010 for Australia; El Ansari and Stock, 2010 for the UK) and as these translate into labour market outcomes the long-run consequences of experiencing low wellbeing whilst at university can be very serious indeed. Universities worldwide are devoting increasing resources to supporting students' psychological wellbeing with a variety of directed (e.g. counselling, study advise, peer support etc.) and less directed means (stimulating environments, active societies etc.), but the evidence again indicates that too few students who experience low wellbeing seek the support they need. The key aim of our project is to enable both students and support services to identify the causes of low wellbeing and help target both self and external support more effectively. A second aim of the project is to understand what affects student satisfaction with their tertiary education in the context of their own broader

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<sup>1</sup> <https://www.timeshighereducation.co.uk/opinion/why-we-need-new-measures-of-student-well-being>

<sup>2</sup> <http://www.hepi.ac.uk/wp-content/uploads/2016/09/STRICTLY-EMBARGOED-UNTIL-22-SEPT-Hepi-Report-88-FINAL.pdf>

wellbeing. This is becoming of greater interest to universities as the higher education environment has undergone massive change in the UK over recent years. The Government has set explicit targets on the number of graduates it aspires to have, and has changed the funding regime for universities firstly introducing up-front tuition fees and abolishing maintenance grants in 1998 and in 2006 allowed for higher tuition fees and reintroduced maintenance grants. Recently published evidence from the Institute of Fiscal Studies shows that tuition fees affected participation negatively, whilst maintenance grants had a positive but not sufficiently offsetting effect (Dearden et al, 2011). Against the backdrop of the Teaching Excellence Framework, competition amongst universities has increased and league table information which is significantly affected by current students' perception on their experience has become an important aspect of students' decision to choose a university (the National Student Survey, carried out each Spring with final year undergraduates' feeds into both league tables and Key Information Sets, which inform prospective students). The NSS measures of student satisfaction have been found to be strongly influenced by student-staff ratios and student employability, suggesting that more should be invested in student support personal development and employability skills (Lenton, 2015). Finally, measuring student wellbeing contributes an important dimension to capturing the value added of further education, which to date continues to be based on accounting for benefits to employers and employees and recognizes but does not include explicitly wider benefits to individuals and society (BIS, 2014). This paper presents results from four waves of a survey of undergraduate students conducted at the University of Reading, as well as focus groups conducted with the aim of delving deeper into some of the issues uncovered by the survey and discussing with students how to best target resources to address problems in a timely fashion. We investigate wellbeing broadly and wellbeing at university and focus on the role of both academic factors (teaching and learning experience and student expectations and performance) and non-academic ones (student health and finances, term-time employment and social life) and discuss our findings in the context of both student support and measuring the value of higher education.

## **1. The importance of student wellbeing and mental health.**

The education literature has long found that for pupils' school satisfaction is strongly associated with school grades, behaviour problems, and even dropping out (Zullig et al, 2011). A meta review of international research in the correlates of academic achievement conducted by Richardson et al in 2012 concludes that it is not just high grades in secondary school and grade goal (that is the ambition to perform well) that matter as would be expected, but also performance self-efficacy, that is students' belief that they can control their motivation and behaviour as well as their social environment. These beliefs about one's own capabilities are essential to managing situations, and are an essential complement to knowing what to do and possessing the necessary skills (the key to behaviour change according to Bandura's social cognitive theory, 1977), and are often found to be essential to worker's performance (Cherian and Jacob, 2013), and even recovery from illness in the medical literature (Conner and Norman, 1995). Research focusing on university students finds that optimism and support predict less stress and depression, and that the effect is mediated by perceived academic control (Chambel and Curren, 2005) and students are found to experience a higher prevalence of mental health problems including stress and depression than the rest of the population (Cotton et al, 2002). This is not just a serious short term problem, but rather has important long term consequences: in the US, it has been found that depression predicts less year-end degree commitment and lower cumulative GPAs (Ruthing et al, 2009- US),

leading the American College Health Association to state that stress and depression hinder academic achievement. Wellbeing and academic achievement are found to be closely related in Australia (Stallman, 2010) and also in the UK (El Ansari and Stock, 2010 for the UK), and as these translate into labour market outcomes the long-run consequences of experiencing low wellbeing whilst at university can be very serious indeed. Well-being affects an individual's experience while at work. Spills over into non-work domains (Danna and Griffin, 1999): People's work and personal lives are not separate entities (even more so for students): workers experiencing poor health and well-being in the workplace may be less productive, make lower quality decisions, be more prone to be absent from work.

As universities worldwide are devoting increasing resources to supporting psychological wellbeing with a variety of directed (e.g. counselling, study advise, peer support etc.) and less directed means (stimulating environments, active societies etc.), it is important to understand both how student wellbeing varies by monitoring regularly students through their journey from applicants to graduates and beyond, and by understanding how it is affected by a range of university and non-university factors, so as to be able to target support more effectively.

Student wellbeing underscores the 'whole person' approach to academic success (Nelson et al, 2009) that is being taken, and this reflects the broader recent concern of policy makers with wellbeing indicators as indicator of individual prosperity and quality of life. As subjective assessments of life satisfaction have been shown to predict life expectancy, morbidity, productivity, quits, absenteeism, unemployment duration and marriage duration, countries worldwide have devoted increasing resources to the collection of data on people's self-reported happiness levels with the purpose of informing public policy (Layard 2006, Commission on the Measurement of Economic Performance and Social Progress, 2009). The ONS has started a wellbeing unit and life satisfaction questions have been asked since 1996 in the British Household Panel Survey, whilst standardised wellbeing questions appear in the Understanding Society Survey since 2009 and in the US Panel Study of Income Dynamics since 2013.

Factors that influence our life satisfaction and wellbeing include the external environment, personal circumstances, and personality (Frey and Stutzer 2002; Richard Layard 2006). There is a strong fixed individual component which individuals tend to revert to after experiencing positive (e.g. winning the lottery) and negative shocks (divorce), though we do not adapt as well to all shocks we experience: losing a job or being widowed are permanently scarring experiences. We have however strong adaptive capacity in the face of some other shocks such as becoming disabled (Clark et al, 1994; 2008; Oswald and Powdthavee 2008). Happiness varies across women and men, with some papers finding evidence of declining life satisfaction for adult women, and women experiencing a larger variation in life satisfaction levels and to be more affected by a wider range of life domains (job, family, social life, house) than men (Della Giusta et al, 2011). Happiness and wellbeing are also varying across the life cycle following a u shaped pattern across the life cycle (Blanchflower and Oswald, 2004; Frey and Stutzer, 2002), and a full life-cycle analysis of wellbeing using cohort studies has been presented in a recent special issue of the Economic Journal edited by Andrew Clark, indicating that adult life satisfaction is very difficult to predict even taking into account childhood circumstances, which instead typically affect other adult outcomes such as education and income (Clark, 2014). The life-course model of wellbeing proposed by Layard et al. (2014) combines the effects of childhood and adolescence with those feeding through from other adult economic, social and personal outcomes (income, employment, education, family status, physical and personal health). A key finding in Layard et al. (2014) is that emotional health at age 26 is the most important predictor of life satisfaction at age 34, again

making a focus on wellbeing at tertiary education level particularly important. Lastly, and quite importantly, measures of wellbeing can account for some of the missing information necessary to evaluate the benefits of further education, and exercise that is still largely underway and on which the consensus indicates the need to broaden the scope of measurement (BIS, 2013 and 2014).

## **2. The student wellbeing project**

Our student wellbeing project has built a longitudinal dataset of undergraduate students which aims to enable us to study student wellbeing over the academic lifecycle. We have been surveying undergraduate students across the university three times a year (with the exception of finalists during the Spring term), with the aim to study changes to students' wellbeing over their three (or four) years at university as well as fluctuations in wellbeing within a year. The Student wellbeing survey (see questionnaires in Appendix A) is conducted using an online questionnaire which draws on questions from the British Household Panel Survey (BHPS)/ Understanding Society Survey, the National Students Survey and questions of our own design. The use of questions from the BHPS and the NSS enables us to benchmark our students' wellbeing to that of the general population. In other words, we are able to compare whether our students are more (or less) happy than the British public.

We have two separate questionnaires which we use in our project. One is for first year students in their first term at the university – this enables us to capture a baseline of students' wellbeing as well as their expectations of university. Our second questionnaire is administered to all other students and to first year students after their first term at the university. In addition to information on wellbeing, we also collect personal and course related information on our respondents via our university's database system which is anonymized and provided to the project team. For details of the particular questions contained in both our questionnaires, please refer to the Appendix A.

Including our pilot survey, we have conducted a total of seven waves of the survey to date. Our pilot and initial surveys were rolled out to a few departments (the pilot was conducted in the Department of Economics, the Department of Politics and the Department of Law) and we had a total of 370 undergraduate respondents from 11 departments. Our survey has since been rolled out across the whole university with a pooled sample of 1,990 respondents in the most recent waves. While our recent waves are broadly evenly split between Arts, Social Sciences, Life Sciences and Other Sciences, this is not the case for our initial waves as only Arts and Social Science students were surveyed. We therefore focus on waves 4 to 7 which were conducted in the 2014/5 and 2015/6 academic years, with these academic years also the year we ran the first term first year survey, our first-year survey has 1,043 respondents. In the following section, we discuss our estimation strategy, and then present our results.

## **3. Estimation strategy**

Our dependent variable is overall satisfaction with life. This variable takes the form of a Likert scale, where 1 is 'not at all satisfied' and 7 is 'completely satisfied'. In our pooled cross-section, we find that satisfaction with life overall is 5.1 (very similar to the mean value for the representative sample of the UK population surveyed in the Understanding Society Survey (USS) over the same period) with 13% of respondents in our main survey (10% in our first year survey stating that they are not satisfied (the relevant comparator for those in education in USS is 13%), 11% ( 8% in our first year survey) stating that they are neither satisfied/unsatisfied (10% in the USS) 32% (36% in our first year survey) that they are mildly

satisfied (against 17% in USS) and 44% (45% in the first year survey) that they are very/completely satisfied (61% in USS).

We estimate two models of student wellbeing – using our main survey sample and using the first-year sample. We begin with the following specification for our main survey sample

$$swbi = \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + u_i \quad (1)$$

where  $swbi$  denotes student wellbeing for an individual, ( $i=1, 2, \dots, N$ );  $x_1$  denotes the vector of the student’s demographic characteristics (age, ethnicity),  $x_2$  contains variables connected to attending university (tariff points on entry, year of study, year of survey, term of the survey, subject group, term time accommodation, leisure activities undertaken, term time employment and work experience);  $x_3$  denotes the vector of satisfaction with different areas of life (health, finances, accommodation);  $x_4$  includes satisfaction questions from the NSS (staff enthusiasm, course documents, organization and management, Library, IT and personal development and  $u_i$  denotes the error term.

We then estimate the following model using our first-year sample

$$swbi = \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + u_i \quad (2)$$

where  $swbi$  denotes student wellbeing for an individual, ( $i=1, 2, \dots, N$ );  $x_1$  denotes the vector of the student’s demographic characteristics (age, ethnicity),  $x_2$  contains variables connected to attending university which differ to those asked in our main survey (tariff points on entry, year of survey, subject group, term time accommodation, whether Reading first choice, how activity in extra-curricular activities pre-university, how financing university, whether planning term time employment and work experience);  $x_3$  denotes the vector of satisfaction with different areas of life (health, finances, accommodation) plus an indicator of who important the first-year is

We treat how satisfied they are overall as a binary variable (whether very or completely satisfied versus all other responses) and estimate our models using a probit model. Estimates reported are average marginal effects (the impact of a unit change of a variable on the probability of reporting very/completely satisfied) since the raw probit coefficients are not easy to interpret. In the appendix, we also report OLS results that treat satisfaction with life overall as a continuous variable since studies (Ferrer-i-Carbonell and Frijters, 2004) have shown that it does not matter for results whether a variable is treated as continuous or an order variable, and estimate our results by ordinary least squares regression.

Since we have a higher response rate by women (67% of main survey and 62% of our first-year survey respondent are women) we run separate models by gender. Secondly, models of life satisfaction have been shown to be different across gender in Della Giusta et al (2012).

We build the model up by including personal characteristics then adding university related variables, the satisfaction variables and then the NSS satisfaction variables.

**Table 1 Subjective wellbeing, main survey (PROBIT)**

	Women			Men		
	1	2	3	1	2	3
Aged 21+ on entry	-0.078*	0.008	0.012	-0.157***	-0.036	-0.038

	[0.046]	[0.039]	[0.039]	[0.053]	[0.048]	[0.048]
British, non-white	-0.066 [0.042]	-0.050 [0.036]	-0.044 [0.036]	-0.078 [0.056]	-0.078 [0.048]	-0.077 [0.047]
Overseas, white	0.028 [0.062]	0.007 [0.051]	-0.008 [0.050]	0.260*** [0.085]	0.178** [0.075]	0.186** [0.074]
Overseas, non-white	-0.011 [0.046]	-0.048 [0.038]	-0.045 [0.038]	0.090 [0.068]	0.024 [0.056]	0.014 [0.055]
Academic year 2015/6	-0.129*** [0.039]	-0.069** [0.035]	-0.086** [0.035]	0.031 [0.067]	0.034 [0.054]	0.037 [0.054]
Spring	-0.143*** [0.039]	-0.105*** [0.033]	-0.118*** [0.032]	0.047 [0.056]	0.039 [0.044]	0.040 [0.044]
Summer	-0.099** [0.041]	-0.045 [0.035]	-0.041 [0.035]	-0.013 [0.058]	0.062 [0.047]	0.091* [0.047]
Second	-0.129*** [0.042]	-0.078** [0.035]	-0.061* [0.035]	0.004 [0.060]	0.086* [0.049]	0.083* [0.049]
Third/Fourth	-0.185*** [0.046]	-0.123*** [0.039]	-0.113*** [0.039]	-0.026 [0.067]	0.066 [0.055]	0.085 [0.055]
<b>Subject Group (ref: Social sciences)</b>						
Arts and Humanities	-0.071* [0.040]	-0.015 [0.034]	-0.030 [0.033]	0.018 [0.067]	0.006 [0.056]	-0.033 [0.058]
Life Sciences	-0.055 [0.036]	-0.026 [0.030]	-0.028 [0.030]	0.117** [0.057]	0.069 [0.045]	0.037 [0.046]
Other Sciences	-0.061 [0.041]	-0.040 [0.035]	-0.038 [0.034]	0.032 [0.047]	0.011 [0.039]	-0.011 [0.039]
320-360 points	0.008 [0.048]	0.024 [0.040]	0.028 [0.040]	0.002 [0.061]	-0.008 [0.050]	0.004 [0.050]
361-420 points	0.034 [0.048]	0.044 [0.040]	0.044 [0.039]	0.018 [0.063]	-0.020 [0.051]	-0.006 [0.051]
More than 420 points	0.067 [0.048]	0.068* [0.039]	0.062 [0.039]	0.110 [0.071]	0.069 [0.058]	0.077 [0.058]
Non UCAS qualification	0.053 [0.051]	0.079* [0.042]	0.072* [0.042]	0.036 [0.068]	-0.029 [0.055]	-0.029 [0.055]
Live with other students off campus	0.061* [0.033]	0.043 [0.028]	0.038 [0.028]	0.129*** [0.049]	0.084** [0.040]	0.096** [0.039]
Live with parents or other private without students	0.091** [0.046]	0.098** [0.039]	0.091** [0.038]	0.104 [0.070]	0.145** [0.057]	0.161*** [0.056]
Member of University Society	0.016 [0.029]	-0.015 [0.024]	-0.018 [0.024]	-0.069* [0.040]	-0.049 [0.032]	-0.051 [0.032]
Member of Sports Club	0.049 [0.032]	-0.015 [0.026]	-0.017 [0.026]	0.015 [0.041]	-0.034 [0.033]	-0.035 [0.033]
Religious groups	0.162*** [0.051]	0.099** [0.042]	0.091** [0.042]	0.021 [0.082]	0.039 [0.062]	0.033 [0.061]
Political groups	0.033	0.017	-0.003	-0.204**	- 0.237***	-0.227***



Non-University Society	[0.082] -0.000	[0.070] 0.005	[0.068] 0.005	[0.091] -0.004	[0.076] -0.022	[0.076] -0.017
Indoor Hobby	[0.043] -0.010	[0.036] -0.016	[0.035] -0.022	[0.061] 0.003	[0.050] 0.015	[0.050] -0.002
Outdoor hobby	[0.028] 0.035	[0.023] 0.027	[0.023] 0.025	[0.040] 0.090**	[0.032] 0.031	[0.033] 0.022
Other non-academic pursuit	[0.032] -0.080**	[0.026] -0.077**	[0.026] -0.071**	[0.042] -0.077	[0.034] -0.082*	[0.034] -0.071
	[0.039]	[0.032]	[0.032]	[0.058]	[0.049]	[0.049]
<b>Work Experience (ref: Not done/interested)</b>						
Like to find out more	-0.021	0.016	0.015	-0.104	-	-0.134***
	[0.049]	[0.043]	[0.043]	[0.065]	0.139***	[0.050]
Intend to	0.037	0.036	0.044	-0.046	-	-0.146***
	[0.048]	[0.041]	[0.041]	[0.062]	0.135***	[0.048]
Have done/doing	0.094**	0.069*	0.064*	-0.028	-	-0.145***
	[0.043]	[0.037]	[0.037]	[0.057]	0.129***	[0.045]
<b>Term time employment (ref: Not done/interested)</b>						
Like to find out more	-0.018	-0.043	-0.043	-0.021	-0.004	-0.014
	[0.044]	[0.036]	[0.036]	[0.058]	[0.048]	[0.047]
Intend to	-0.038	-0.069*	-0.069*	0.012	0.001	-0.013
	[0.044]	[0.037]	[0.037]	[0.061]	[0.052]	[0.051]
Have done/doing	-0.015	-0.046	-0.047	-0.033	-0.036	-0.056
	[0.037]	[0.030]	[0.030]	[0.050]	[0.042]	[0.042]
Health		0.089***	0.081***		0.089***	0.083***
		[0.008]	[0.009]		[0.013]	[0.013]
Finances		0.033***	0.031***		0.013	0.008
		[0.007]	[0.007]		[0.012]	[0.012]
Accommodation		0.016*	0.011		0.025**	0.019
		[0.009]	[0.009]		[0.012]	[0.013]
Social Life		0.132***	0.118***		0.139***	0.121***
		[0.009]	[0.010]		[0.011]	[0.012]
Staff enthusiasm			0.001			0.008
			[0.012]			[0.018]
Course documents			0.028**			0.034**
			[0.012]			[0.017]
Organisation and Management			-0.002			-0.001
			[0.011]			[0.015]
Library			0.031***			0.014
			[0.011]			[0.014]
IT			-0.022**			-0.000
			[0.009]			[0.012]
Personal development			0.030**			0.026*
			[0.012]			[0.016]
Observations	1,343	1,343	1,343	647	647	647

Log likelihood	-881.3	-639.5	-624.2	-414	-287.5	-278.4
LR Chi2	79.30	562.9	593.6	62.86	315.9	334.1
(pseudo) r-squared	0.0431	0.306	0.322	0.0706	0.355	0.375

We find that overseas white male student are the most satisfied. Women surveyed in 2015/6 were less satisfied than those surveyed in 2014/5, and women also tend to be less happy in the Spring term (men are happier in the summer term when the NSS variables are controlled for) and tend to be less satisfied in their second and third year and get less satisfied as they move through their degree, whilst there are no significant effects for men. Men seem to be most satisfied in life sciences (though this reduces when we control for satisfaction variables), in line with findings from the large literature on gender and uptake and enjoyment of STEM subjects (Archer and DeWitt, 2014; BSU, 2015; NUS, 2012). It is interesting to note also that entry tariff points have little significant effect, but women with non-UCAS qualifications and those with high tariff points tend to be more satisfied which suggests the more motivated enjoy their achievements. The life satisfaction literature typically finds that those with higher education also have higher aspirations, and are thus less likely to be satisfied: we find those of higher ability and non-UCAS tend to be more satisfied.

In terms of other nonacademic activities, being part of a religious group has a positive effect for women, an outdoor hobby has a positive effect for men, whilst being part of a political group has a negative effect for men. Doing other non-academic pursuits has a negative impact on satisfaction, suggesting that there may be too many competing demands on students' time or affiliation.

Having done work experience seems to have a positive effect for women but negative effect for men (the effects are less strong in the OLS version, see appendix). Intending to do term time employment has a negative impact for women, and this effect remains even when we control for satisfaction with finances, suggesting that again it may reflect the effect of competing demands.

Concentrating on the satisfaction with different aspects of life, the strongest impact comes from social life, followed by health, finances and accommodation, and of the NSS variables course documents and personal development seem the most important. Library has a positive impact for women and IT a negative one.

We now present the results of our survey of first year students.

**Table 2 Student wellbeing First Years (PROBIT)**

	Women		Men	
	1	2	1	2
<b>Personal Characteristics</b>				
Aged 21+ on entry	-0.102 [0.081]	-0.022 [0.074]	-0.047 [0.093]	-0.014 [0.087]
<b>Nationality/Ethnicity (British, white)</b>				
British, non-white	0.060 [0.058]	0.018 [0.053]	-0.036 [0.074]	-0.018 [0.068]
Overseas, white	0.164** [0.080]	0.109 [0.073]	0.189* [0.102]	0.059 [0.100]
Overseas, non-white	0.046 [0.077]	0.030 [0.070]	-0.107 [0.079]	-0.143** [0.070]
<b>Academic year 2015/6</b>				
	-0.015 [0.039]	-0.031 [0.035]	-0.079 [0.051]	-0.051 [0.047]

<b>Subject Group (ref: Social sciences)</b>				
Arts and Humanities	0.037 [0.056]	0.100** [0.050]	0.028 [0.081]	0.006 [0.074]
Life Sciences	0.001 [0.051]	0.026 [0.046]	0.020 [0.081]	0.012 [0.074]
Other Sciences	-0.074 [0.060]	-0.030 [0.055]	-0.034 [0.060]	-0.040 [0.056]
<b>Tariff Points (ref: less than 320 points)</b>				
320-360 points	-0.082 [0.065]	-0.077 [0.059]	0.096 [0.072]	0.077 [0.068]
361-420 points	0.006 [0.063]	0.013 [0.057]	0.086 [0.079]	0.053 [0.075]
More than 420 points	-0.043 [0.065]	-0.052 [0.061]	-0.051 [0.081]	-0.120 [0.076]
Non UCAS qualification	-0.102 [0.078]	-0.170** [0.069]	0.098 [0.090]	0.051 [0.086]
<b>Term Time Accommodation (ref: Live in Halls)</b>				
Live with other students off campus	0.045 [0.077]	0.039 [0.069]	-0.158** [0.080]	-0.205*** [0.071]
Live with parents or other private without students	-0.052 [0.061]	-0.109** [0.055]	0.024 [0.082]	-0.071 [0.075]
<b>Reading First Choice</b>	0.006 [0.048]	-0.031 [0.045]	0.000 [0.059]	-0.019 [0.057]
<b>How financing University</b>				
Loans	-0.017 [0.059]	-0.002 [0.054]	-0.052 [0.070]	-0.086 [0.064]
Grants	0.059 [0.047]	0.067 [0.042]	-0.082 [0.059]	-0.071 [0.055]
Family Support	0.049 [0.047]	0.024 [0.043]	0.019 [0.060]	0.011 [0.055]
Self-financing	-0.095** [0.044]	-0.098** [0.041]	-0.070 [0.055]	-0.050 [0.051]
Active in extra-curricular activities (1-4)	0.010 [0.021]	-0.001 [0.019]	0.091*** [0.026]	0.052** [0.025]
Plan to do work experience	0.073* [0.043]	0.062 [0.039]	0.057 [0.055]	0.034 [0.050]
Plan to do term time employment	0.059 [0.043]	0.073* [0.039]	0.015 [0.054]	0.042 [0.050]
<b>Satisfaction with (1 to 7):</b>				
Health		0.090*** [0.013]		0.110*** [0.019]
Finances		0.026** [0.012]		0.009 [0.017]
Accommodation		0.081*** [0.014]		0.065*** [0.019]
A-level results		0.018 [0.013]		0.025 [0.017]
First year important (1-4)		0.085*** [0.029]		0.042 [0.034]
Observations	657	656	386	386
Log likelihood	-439.5	-369.9	-248	-213.3
LR Chi2	26.11	164.1	34.92	104.4

pseudo r-squared 0.0288 0.181 0.0658 0.197

Standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

There are clear differences in the effects of some variables on student satisfaction in the first year, indicating it is indeed a very important year on which to focus support: overseas white individuals continue to be more satisfied (this time for both sexes), but now overseas white men tend to be less satisfied among first years in their first term, suggesting they should perhaps be targeted for support. Among first years, the happiest seem to be Arts and Humanities students, although we know later on this effect disappears. Women with non-UCAS qualifications are less satisfied in the first year, which combined with the earlier result suggests it may be hard to settle in, though worth it in the longer run. Regarding accommodation, we would expect results to be different for first year as the expectation is that students will live in halls in their first year. Indeed, we find that those who live off campus with other students are less happy as are those women who live with parents/other private accommodation. In our main survey those off campus tended to be happier instead, which suggests they have settled in with friends.

As for extra-curricular activities, we again find significant gender differences: men who are more active in extra-curricular activities prior to university are more satisfied but there is no corresponding impact for women, though women who plan to do work experience and term time employment are more satisfied.

The effect of satisfaction with different aspects of life is also different in the first year, when health and accommodation appear most important (though the latter could be related to social life). Finances only matter for women at the beginning of their degree.

#### 4. Implications and Further Research

Our research indicates that levels of wellbeing reported by students are related to a range of life and student life issues: there are clearly effects stemming from student aspirations and performance, health and finances effects, and effects running through the various social life components that comprise the student experience beyond the purely academic realm. We find that students' overall satisfaction with life exactly mirrors that of the UK population more generally. Where 1 is "not at all satisfied" and 7 is "completely satisfied", the average score is 5.2 for the population as a whole. Given age and life stage, it is perhaps not surprising that there is a lower percentage of students who are "very satisfied", but this is compensated for with an increase in the number who are "satisfied". So, the scores hardly suggest that this generation is not enjoying its experience – our students get happier through their course. Second, overall determinants of student satisfaction are health, finances and accommodation. Many older adults give similar answers. Students are certainly not living in a bubble. Third, students who expect a high degree class, asked in the survey, are more likely to be satisfied with life overall – although multiple surveys need to be conducted before we know which comes first, the performance or the happiness. More than 60 per cent of students, asked in the survey, attend university "to get a good job". Perhaps this is not surprising, but it is still important feedback – particularly when you discover that by "good" they do not just mean well-paid. Students are also very optimistic about their academic prospects when they set out, with more than 45 per cent expecting to get a first. Not surprisingly, expectations get more realistic over time, but most still expect a 2:1.

One lesson of all this is that targeting services more effectively and efficiently at the right time is key to addressing problems and, more generally, to equipping students with the tools to look after their own well-being. This begins before they even arrive – ensuring that the transition from home to halls is as stress-free as possible is paramount. Even more important is to make sure that the support on offer during those first few weeks is strong, clear and accessible. Giving students the environment to build confidence and friendships can produce “softer” interventions that help to address the stigma associated with mental health issues; sharing problems can be the first step to solving them, and students are more likely to access support services if they know others have. Our survey highlighted that 39 per cent of students were reluctant to seek counselling because of embarrassment and a lack of clarity on what the service provides.

Emotional health at age 26 is the most important indicator of life satisfaction at 34. And if higher well-being is linked to academic achievement, this, in turn, has consequences in the labour market and broader health and life outcomes. Subjective assessments of life satisfaction have been shown to predict – among other things – life expectancy, productivity, unemployment duration and marriage duration. It is important to design intervention done with this age group, both as it is typically easier to carry out and more likely to result in long lasting life changes, as indicated widely in the literature evaluating various kinds of policy nudges (Scottish Government International Review of Behaviour Change Initiatives, 2011).

Universities can clearly do a lot to support student wellbeing: although the infrastructure appears to be a strong driver, the results on health and social life clearly indicate that there are a range of components to the student experience that universities can influence in a positive way. A related development is to produce baseline studies of perspective students at offer holder stage, as well as following graduates in the labour market to ascertain the extent to which the wellbeing tools built whilst at university support graduates through their careers (as done with a one-off project at Plymouth by Crust and Hicks, 2013).

If the value of higher education is to be comprehensively understood, we must move beyond standard productivity based measures and fully embrace the agenda of measuring why we think that further education contributes to fully fledged and functioning citizens.

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## Appendix A

### Student Well-being Survey

Autumn term, 1<sup>st</sup> year students only

1. All things considered, how happy are you with your life right now?

- 1. Not happy at all
- 2. Very unhappy
- 3. Mildly unhappy
- 4. Neither happy nor unhappy
- 5. Mildly happy
- 6. Very happy
- 7. Completely happy

2. Was the University of Reading:

- 1. Your firm choice
- 2. Your insurance choice
- 3. You came here through adjustment
- 4. You came here through clearing
- 9. Prefer to not answer this question

How satisfied are you with the following:

3. Your finances?

- 1. Not satisfied at all
- 2. Very unsatisfied
- 3. Mildly unsatisfied
- 4. Neither satisfied nor unsatisfied
- 5. Mildly satisfied
- 6. Very satisfied
- 7. Completely satisfied

4. Your health?

- 1. Not satisfied at all
- 2. Very unsatisfied



- 3. Mildly unsatisfied
- 4. Neither satisfied nor unsatisfied
- 5. Mildly satisfied
- 6. Very satisfied
- 7. Completely satisfied

5. Your accommodation?

- 1. Not satisfied at all
- 2. Very unsatisfied
- 3. Mildly unsatisfied
- 4. Neither satisfied nor unsatisfied
- 5. Mildly satisfied
- 6. Very satisfied
- 7. Completely satisfied

6. Your 'A' level results (or equivalents)?

- 1. Not satisfied at all
- 2. Very unsatisfied
- 3. Mildly unsatisfied
- 4. Neither satisfied nor unsatisfied
- 5. Mildly satisfied
- 6. Very satisfied
- 7. Completely satisfied

7. During term time, where do you live?

- 1. With your parent(s)
- 2. In a University or private hall
- 3. In private accommodation, sharing with other students
- 4. In private accommodation, without other students

8. Do you intend to do placements, work experience or voluntary work?

- 1. No intention and not interested
- 2. Had not thought of it but would like to find out more
- 3. Intend to do so

9. Do you intend to take up term-time employment?

- 1. No intention and not interested
- 2. Had not thought of it but would like to find out more
- 3. Intend to do so

10. How will you be funding your degree and living costs (choose as many as relevant)?

- 1. Tuition fee loan
- 2. Maintenance loan
- 3. Maintenance grant or special support grant
- 4. Additional grants or loans (National Scholarship Programme, Income Support etc.)
- 5. Parental or family support
- 6. Self-financing (work during term time, own savings etc.)
- 7. Other sources of funding

11. What class of degree are you expecting to achieve?

- 1. First class
- 2. Second upper
- 3. Second lower
- 4. Third
- 5. Pass
- 6. Fail

12. Why have you chosen to attend university?

- 1. To get a good job
- 2. Enjoy learning
- 3. Social life and friends
- 4. It is what everyone else is doing
- 5. Did not know what else to do
- 6. Other

If other, please specify:

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13. Do you know what type of career you intend to pursue after you graduate?

- 1. Yes
- 0. No

14. Is your choice of career related to your chosen degree?

- 1. Not at all related
- 2. Mildly related
- 3. Closely related
- 4. Not applicable

15. If you need help with a problem or personal matter while at university, from whom would you seek support (choose all relevant answers)?

- 1. Mother
- 2. Father
- 3. Sibling
- 4. Grandparent(s)
- 5. Uncle/aunt
- 6. Cousins

- 7. Friends
- 8. Partner
- 9. Personal tutor
- 10. GP
- 11. University counselling service
- 12. Priest/other religious leader
- 13. Other

16. How important is your first year at university?

- 1. Not at all important
- 2. Slightly important
- 3. Important
- 4. Very important

17. How active were you in extra-curricular activities before coming to university?

- Not at all
- Slightly active
- Fairly active
- Very active

18. What do you expect will be different about being at university?

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## Student Well-being Survey

All terms, students from all years (except 1<sup>st</sup> year students in Autumn term and finalists in Spring term)

How satisfied are you with the following:

1. Your health?
  - a. 1. Not satisfied at all
  - b. 2. Very unsatisfied
  - c. 3. Mildly unsatisfied
  - d. 4. Neither satisfied nor unsatisfied
  - e. 5. Mildly satisfied
  - f. 6. Very satisfied
  - g. 7. Completely satisfied
  
2. Your financial situation?
  - a. 1. Not satisfied at all
  - b. 2. Very unsatisfied
  - c. 3. Mildly unsatisfied
  - d. 4. Neither satisfied nor unsatisfied
  - e. 5. Mildly satisfied
  - f. 6. Very satisfied
  - g. 7. Completely satisfied
  
3. Your accommodation?
  - a. 1. Not satisfied at all
  - b. 2. Very unsatisfied
  - c. 3. Mildly unsatisfied
  - d. 4. Neither satisfied nor unsatisfied
  - e. 5. Mildly satisfied
  - f. 6. Very satisfied
  - g. 7. Completely satisfied

4. Your course?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

5. Your social life?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

6. Your life overall?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

7. Compared with last term

- a. 1. I am more satisfied with life than last term
- b. 2. I feel the same as I did last term

- c. 3. I am less satisfied with life than last term

8. Stimulation and enthusiasm from staff?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

9. Interest and stimulation from course material?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

10. Organisation and management?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

11. The library?

- a. 1. Not satisfied at all

- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

12.IT (PC labs, internet connectivity, printing, wireless etc.)?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

13.Personal development (social and communication skills etc.)?

- a. 1. Not satisfied at all
- b. 2. Very unsatisfied
- c. 3. Mildly unsatisfied
- d. 4. Neither satisfied nor unsatisfied
- e. 5. Mildly satisfied
- f. 6. Very satisfied
- g. 7. Completely satisfied

14.What class of degree are you expecting to achieve?

- a. 1. First class
- b. 2. Second upper
- c. 3. Second lower
- d. 4. Third
- e. 5. Pass



- f. 6. Fail

15. During term time, where do you live?

- a. 1. With your parent(s)
- b. 2. In a University or private hall
- c. 3. In private accommodation, sharing with other students
- d. 4. In private accommodation, without other students

16. How long does it take you to get to your classes?

- a. 1. 15 minutes or less
- b. 2. Between 15 and 30 minutes
- c. 3. Between 30 and 45 minutes
- d. 4. Between 45 and 60 minutes
- e. 5. More than 1 hour

17. Placements, work experience and voluntary work

- a. 1. Have not done and not interested
- b. 2. Have not done but would like to find out more
- c. 3. Have not done but intend to
- d. 4. Have done or are doing

18. Term-time employment

- a. 1. Have not done and not interested
- b. 2. Have not done but would like to find out more
- c. 3. Have not done but intend to
- d. 4. Have done or are doing

19. Other non-academic pursuits (tick as many as applicable)

- a. 1. Sports clubs
- b. 2. University societies
- c. 3. Non-university groups

- d. 4. Religious groups
- e. 5. Political groups/parties
- f. 6. Civics or environmental groups
- g. 7. Hobbies (indoor activities)
- h. 8. Hobbies (outdoor activities)
- i. 9. Other

20. When feeling stressed/under pressure would you consider contacting Student Wellbeing to access counselling and information?

- a. 1. Yes
- b. 0. No

21. What are the obstacles which might stop you using the University counselling service?

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## Appendix B

### OLS Life satisfaction whole sample

	Women			Men		
	1	2	3	1	2	3
Aged 21+ on entry	-0.286** [0.118]	-0.028 [0.086]	-0.040 [0.084]	-0.726*** [0.140]	-0.225** [0.102]	-0.228** [0.100]
British, non-white	-0.290*** [0.109]	-0.199** [0.080]	-0.201*** [0.078]	0.000 [0.150]	-0.008 [0.107]	-0.004 [0.105]
Overseas, white	0.138 [0.158]	0.087 [0.116]	0.055 [0.113]	0.690*** [0.241]	0.401** [0.172]	0.436** [0.169]
Overseas, non-white	0.080 [0.118]	-0.018 [0.087]	-0.006 [0.085]	0.598*** [0.177]	0.304** [0.128]	0.293** [0.125]
Academic year 2015/6	-0.340*** [0.109]	-0.167** [0.080]	-0.230*** [0.078]	0.047 [0.177]	0.083 [0.125]	0.084 [0.124]
Spring	-0.184* [0.104]	-0.075 [0.076]	-0.124* [0.074]	-0.027 [0.150]	-0.013 [0.106]	-0.018 [0.104]
Summer	-0.147 [0.106]	0.007 [0.077]	0.002 [0.076]	-0.062 [0.155]	0.152 [0.111]	0.187* [0.111]
Second	-0.294*** [0.109]	-0.123 [0.079]	-0.087 [0.078]	-0.210 [0.157]	0.038 [0.112]	0.055 [0.110]
Third/Fourth	-0.415*** [0.122]	-0.219** [0.089]	-0.224** [0.087]	-0.190 [0.177]	0.097 [0.126]	0.170 [0.124]
Arts and Humanities	-0.295*** [0.102]	-0.129* [0.075]	-0.162** [0.073]	-0.055 [0.178]	-0.104 [0.126]	-0.153 [0.125]
Life Sciences	-0.135 [0.093]	-0.057 [0.068]	-0.068 [0.066]	0.135 [0.150]	0.006 [0.107]	-0.044 [0.106]
Other Sciences	-0.242** [0.106]	-0.158** [0.077]	-0.150** [0.075]	0.055 [0.125]	-0.030 [0.089]	-0.062 [0.088]
320-360 points	-0.102 [0.124]	-0.054 [0.091]	-0.047 [0.088]	0.148 [0.163]	0.105 [0.116]	0.130 [0.114]
361-420 points	0.079 [0.124]	0.115 [0.090]	0.115 [0.088]	0.149 [0.167]	0.022 [0.119]	0.069 [0.117]
More than 420 points	0.036 [0.122]	0.064 [0.089]	0.069 [0.087]	0.274 [0.186]	0.139 [0.133]	0.153 [0.131]
Non UCAS qualification	0.120 [0.132]	0.194** [0.096]	0.176* [0.094]	0.163 [0.178]	-0.039 [0.127]	-0.019 [0.124]
Live with other students off campus	0.123 [0.086]	0.097 [0.063]	0.070 [0.062]	0.250* [0.129]	0.101 [0.092]	0.113 [0.090]
Live with parents or other private without students	0.127 [0.118]	0.161* [0.087]	0.167** [0.085]	0.138 [0.182]	0.146 [0.131]	0.161 [0.128]

Member of University Society	0.020 [0.074]	-0.081 [0.054]	-0.093* [0.053]	-0.130 [0.106]	-0.103 [0.075]	-0.107 [0.074]
Member of Sports Club	0.115 [0.082]	-0.055 [0.060]	-0.042 [0.058]	0.166 [0.109]	0.032 [0.078]	0.024 [0.076]
Religious groups	0.429*** [0.132]	0.200** [0.096]	0.176* [0.094]	0.079 [0.216]	0.075 [0.154]	0.068 [0.151]
Political groups	0.097 [0.210]	0.157 [0.153]	0.092 [0.150]	-0.202 [0.232]	-0.211 [0.166]	-0.239 [0.163]
Non-University Society	0.031 [0.112]	0.017 [0.081]	-0.002 [0.079]	0.010 [0.160]	-0.078 [0.115]	-0.046 [0.112]
Indoor Hobby	-0.014 [0.073]	-0.028 [0.053]	-0.043 [0.052]	0.048 [0.106]	0.057 [0.076]	0.041 [0.075]
Outdoor hobby	0.054 [0.082]	0.011 [0.060]	-0.009 [0.058]	0.339*** [0.112]	0.154* [0.080]	0.120 [0.079]
Other non-academic pursuit	-0.214** [0.099]	-0.155** [0.072]	-0.133* [0.070]	-0.268* [0.153]	-0.248** [0.109]	-0.209* [0.107]
Like to find out more	0.024 [0.129]	0.084 [0.094]	0.085 [0.092]	0.070 [0.174]	-0.035 [0.123]	-0.067 [0.122]
Intend to	0.168 [0.124]	0.084 [0.090]	0.083 [0.088]	0.313* [0.163]	0.054 [0.116]	-0.026 [0.115]
Have done/doing	0.302*** [0.111]	0.165** [0.081]	0.146* [0.079]	0.248* [0.149]	-0.053 [0.107]	-0.142 [0.106]
<b>Term time employment (ref: Not done/interested)</b>						
Like to find out more	-0.029 [0.113]	-0.051 [0.083]	-0.078 [0.081]	-0.128 [0.155]	-0.039 [0.111]	-0.038 [0.109]
Intend to	-0.185 [0.114]	0.226*** [0.084]	-0.227*** [0.082]	-0.152 [0.161]	-0.105 [0.116]	-0.141 [0.113]
Have done/doing	0.081 [0.095]	0.010 [0.069]	-0.017 [0.067]	-0.028 [0.134]	-0.014 [0.096]	-0.083 [0.096]
Health		0.268*** [0.019]	0.236*** [0.020]		0.276*** [0.030]	0.256*** [0.030]
Finances		0.079*** [0.017]	0.065*** [0.017]		0.063** [0.026]	0.050** [0.026]
Accommodation		0.071*** [0.019]	0.049*** [0.019]		0.057** [0.028]	0.057** [0.028]
Social Life		0.400*** [0.020]	0.349*** [0.021]		0.433*** [0.027]	0.372*** [0.029]
Staff enthusiasm			0.008 [0.027]			-0.020 [0.040]
Course documents			0.123*** [0.027]			0.088** [0.038]
Organisation and Management			-0.007 [0.023]			-0.022 [0.034]
Library			0.017			-0.004

				[0.023]		[0.031]
IT				-0.025		-0.032
				[0.020]		[0.027]
Personal development				0.120***		0.173***
				[0.026]		[0.035]
Observations	1,343	1,343	1,343	647	647	647
r-squared	0.070	0.510	0.537	0.137	0.569	0.592

## OLS Student wellbeing Frist Years

	Women		Men	
	1	2	1	2
<b>Personal Characteristics</b>				
Aged 21+ on entry	-0.201	0.068	-0.085	0.057
	[0.208]	[0.171]	[0.213]	[0.181]
<b>Nationality/Ethnicity (British, white)</b>				
British, non-white	0.085	0.011	-0.067	-0.023
	[0.141]	[0.124]	[0.160]	[0.128]
Overseas, white	0.350*	0.192	0.528***	0.179
	[0.197]	[0.167]	[0.198]	[0.172]
Overseas, non-white	0.254	0.203	-0.305*	-0.359**
	[0.176]	[0.146]	[0.180]	[0.167]
<b>Academic year 2015/6</b>				
	0.053	0.032	-0.227**	-0.181*
	[0.097]	[0.081]	[0.110]	[0.095]
<b>Subject Group (ref: Social sciences)</b>				
Arts and Humanities	0.121	0.281**	0.022	-0.036
	[0.132]	[0.111]	[0.173]	[0.146]
Life Sciences	-0.159	-0.064	0.028	-0.007
	[0.133]	[0.109]	[0.154]	[0.150]
Other Sciences	-0.201	0.010	-0.098	-0.127
	[0.146]	[0.123]	[0.129]	[0.112]
<b>Tariff Points (ref: less than 320 points)</b>				
320-360 points	-0.054	-0.045	0.206	0.195
	[0.156]	[0.135]	[0.155]	[0.144]
361-420 points	0.008	0.045	0.155	0.137
	[0.147]	[0.130]	[0.164]	[0.139]
More than 420 points	-0.150	-0.149	-0.167	-0.311*
	[0.155]	[0.136]	[0.206]	[0.171]
Non UCAS qualification	-0.191	-0.360**	-0.008	-0.092
	[0.188]	[0.159]	[0.205]	[0.188]
<b>Term Time Accommodation (ref: Live in Halls)</b>				
Live with other students off campus	-0.046	-0.073	-0.031	-0.139
	[0.186]	[0.152]	[0.192]	[0.159]
Live with parents or other private without students	-0.160	-0.276**	0.226	-0.022
	[0.162]	[0.131]	[0.192]	[0.153]
Reading First Choice	0.054	-0.090	0.037	-0.035
	[0.121]	[0.109]	[0.128]	[0.123]
<b>How financing University</b>				
Loans	-0.027	0.004	-0.054	-0.121

	[0.150]	[0.115]	[0.142]	[0.129]
Grants	0.168	0.183**	-0.156	-0.142
	[0.111]	[0.092]	[0.131]	[0.108]
Family Support	0.141	0.039	0.218	0.168
	[0.121]	[0.100]	[0.146]	[0.127]
Self-financing	-0.154	-0.146	-0.217*	-0.174
	[0.113]	[0.092]	[0.120]	[0.107]
Active in extra-curricular activities (1-4)	0.042	0.016	0.229***	0.119**
	[0.055]	[0.046]	[0.057]	[0.050]
Plan to do work experience	0.239**	0.201**	0.115	0.097
	[0.109]	[0.090]	[0.116]	[0.103]
Plan to do term time employment	0.001	0.060	-0.015	0.075
	[0.108]	[0.090]	[0.118]	[0.105]
<b>Satisfaction with (1 to 7):</b>				
Health		0.267***		0.274***
		[0.035]		[0.047]
Finances		0.087***		0.004
		[0.029]		[0.039]
Accommodation		0.245***		0.212***
		[0.036]		[0.044]
A-level results		0.049		0.025
		[0.032]		[0.040]
First year important (1-4)		0.150**		0.139
		[0.068]		[0.087]
<hr/>				
Observations	656	656	386	386
r-squared	0.043	0.335	0.124	0.357

Standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1