Student wellbeing over time: analysing Student Academic Experience Survey data for undergraduates and taught postgraduates

By Michael Sanders

July 2023

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About the author

Michael Sanders is a Professor of Public Policy at King's College London's Policy Institute, Evidence Associate at the What Works Centre for Wellbeing and Academic Lead for TASO. His research has three main strands; the use of causal methods and particularly randomised trials to evaluate policy interventions; the use of behavioural science in policy design; and increasing social mobility and opportunity. Michael has previously served as the Founding Chief Executive of What Works for Children's Social Care, and Chief Scientist at the Behavioural Insights Team, where he has led diverse teams of researchers, policy specialists and practitioners to improve outcomes for vulnerable people in the UK and overseas.

About the Centre for Transforming Access and Student Outcomes in Higher Education (TASO)

TASO is a what works centre dedicated to reducing gaps in participation and success in higher education through the collation, creation and translation of evidence around what works. It works with partners throughout the higher education sector to help understand what evidence already exists, to build more and higher quality evidence, and to see policy and practice led change informed by that evidence.

About the What Works Centre for Wellbeing

We are an independent collaborating centre and the aim of our work is to improve wellbeing and reduce misery in the UK. We believe that this is the ultimate goal of effective policy and community action. By accelerating research and democratising access to wellbeing evidence, we develop and share robust evidence for governments, businesses, communities and people to improve wellbeing across the UK.

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Introduction

A concerted policy focus on widening participation over the last twenty or more years has increased the number and diversity of students accessing higher education. To ensure that students have the tools and support they need to thrive whilst at university, we must understand the drivers and determinants of student wellbeing.

In this report, we analyse Student Academic Experience Survey data to examine how the wellbeing of undergraduate and taught postgraduate students has changed over time, and how it varies according to demographic characteristics and circumstances. Specifically, we consider wellbeing inequalities by course load, economic background, family education level, proximity to university, employment status, ethnicity, sexuality, sex and disability.

Subjective wellbeing is a measure that captures three distinct components of wellbeing: satisfaction with our lives overall, sense of purpose and affect (happiness and anxiety).

About the data

The Student Academic Experiences Survey (SAES), conducted by AdvanceHE and the Higher Education Policy Institute (HEPI), has collected data on undergraduate students' wellbeing since the 2011-2012 academic year[1]. It collects questions on students' subjective wellbeing as well as a host of other measures that capture details of their lives on and off campus. A more detailed description of the methodology used in the survey itself can be found in the main reporting on the analysis, conducted by AdvanceHE and the Higher Education Policy Institute (HEPI)[2]. For ease of understanding, we have converted the year data in the dataset itself into an 'academic year'.

Survey data collection takes place in February and March of each year, meaning that the 2019-2020 data refer to a period prior to the major onset of the Coronavirus pandemic, and that the 2020-2021 data refer to a period after almost a year of various lockdown restrictions.

[1] https://www.advance-he.ac.uk/reports-publications-and-resources/student-academic-experience-survey-saes

[2] The Survey was designed and developed in partnership between Advance HE and the Higher Education Policy Institute (HEPI), with online panel interviews independently conducted by YouthSight and Pureprofile. YouthSight's Student Panel is made up of over 45,000 undergraduate students in the UK. These students are primarily recruited through a partnership with the Universities and Colleges Admissions Service (UCAS), which invites a large number of new first-year students to join the Panel each year. To maximise the overall sample size, further responses were sourced from Pureprofile. Between 9 February 2022 and 21 March 2022, 45,141 members of the YouthSight Panel and 10,000 from Pureprofile were invited to complete the Survey. In total, 10,142 responses were collected, representing a response rate of 18%. Of the 10,142 total responses, 9,258 were sourced from the YouthSight Panel and 884 were sourced from Pureprofile. On average, the Survey took 11 minutes 12 seconds to complete.

Quantitative findings

Course load and student wellbeing

To explore the relationship between students' course load on wellbeing, we considered:

1. The typical number of timetabled hours the respondent has in a given week.
2. How many of the scheduled hours the respondent typically attends.

The variables that represent the number of timetabled hours and the number of scheduled hours are strongly correlated (r=0.92) and each provide different information for our analysis. See figure 1.

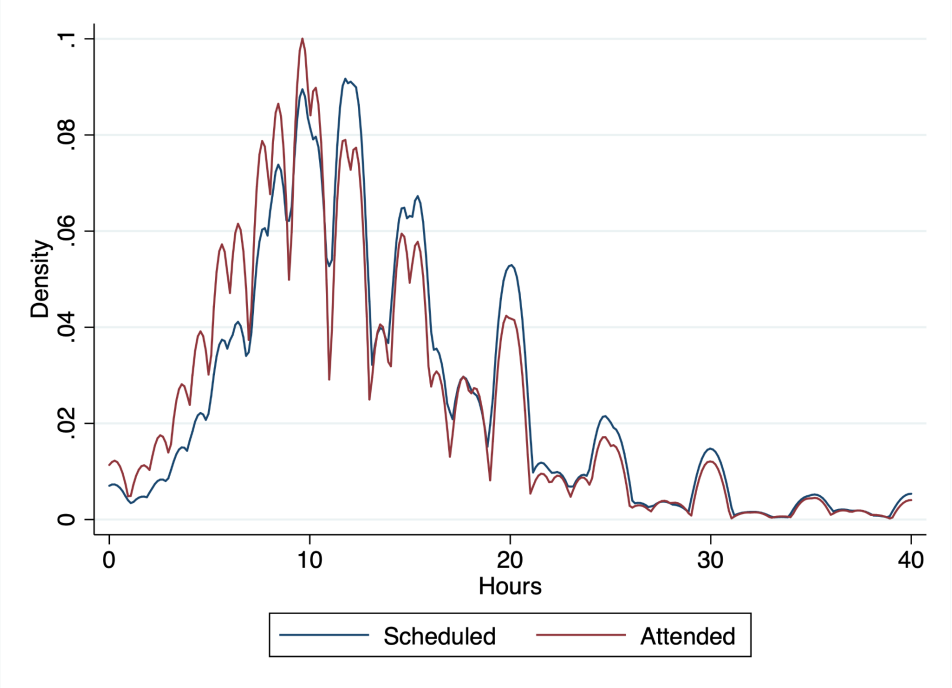

Fig. 1: Density plot showing distribution of scheduled course hours and attended course hours

Looking at the relationship between the four subjective wellbeing measures (ONS4) and the number of timetabled hours (figure 2), we can see a small but statistically significant relationship between number of hours of contact time and high wellbeing scores (life satisfaction, happiness and worthwhile). Similarly, we see a negative and statistically significant relationship between number of hours of contact time (whether virtual or in person) and anxiety where an increase in hours sees a decrease in anxiety.

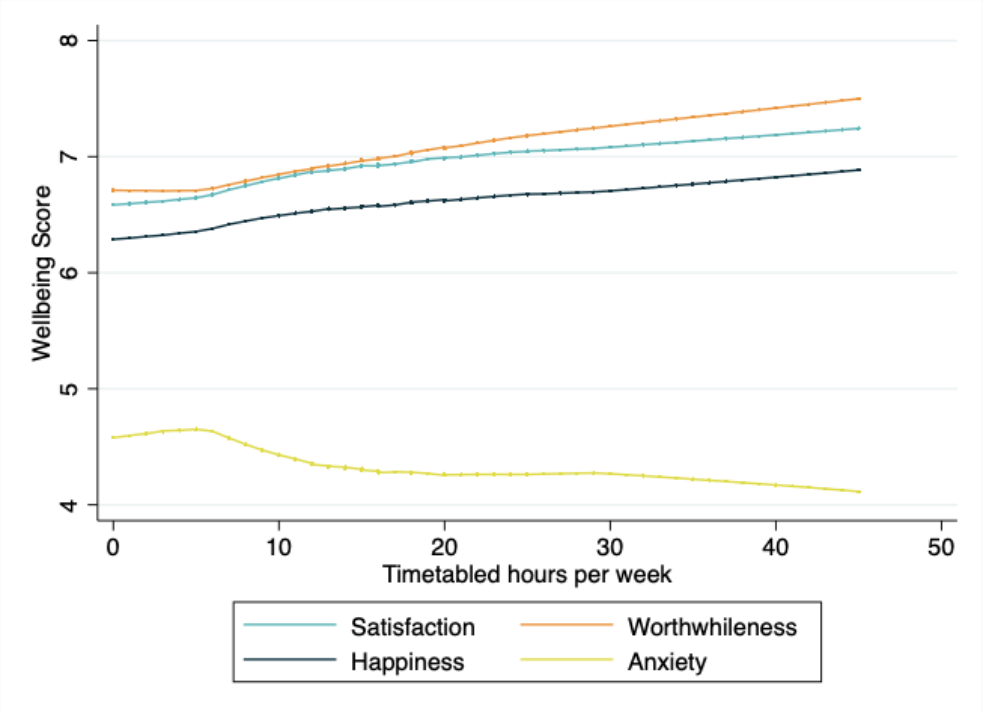

Fig. 2: Relationship between ONS4 measures and the number of timetabled hours

Economic background and student wellbeing

The participation of local areas (POLAR) classification is an area-based measure that looks at how likely young people are to participate in higher education across the UK.

It classifies areas into five groups - or quintiles - based on the proportion of young people who enter higher education aged 18 or 19 years old. Quintile one shows the lowest rate of participation. Quintile five shows the highest rate of participation.

It can be used as a proxy for disadvantage and under-representation, but is not an individual-based measure.

This data is only available for some years of our data (2017-2022), and not for all respondents in the data. The distribution can be seen over time in table 1.

Table 1: POLAR Quintile distribution 2017-2022

	POLAR Quintile					
	1	**2**	**3**	**4**	**5**	**Total**
2017	1430	2001	2399	2785	3324	11939
2018	1451	2091	2352	2803	3479	12176
2019	1456	1996	2396	2832	3543	12223
2020	882	1048	1309	1540	2019	6798
2021	1067	1480	1732	2032	2415	8726
2022	1117	1268	1558	1608	2604	8155
Total	7403	9884	11746	13600	17384	60017

There are more students in higher quintiles than lower ones, reflecting the fact that students living in more economically advantaged neighbourhoods are more likely to attend university.

The relationship between wellbeing and POLAR quintiles is generally mixed, with quintiles 2, 3 and 4 not being statistically significant from each other, and with their ordinal position on all wellbeing questions varying from year to year. As such, most of the action of interest is in the two most extreme quintiles.

The gap between the first and fifth quintiles is both statistically significant from each other, and, for raw scores, each is significantly different from the other three quintiles. Figure 3 and 4 below show the relationship between the top and bottom quintiles of participation, for both low and high wellbeing scores, and how these have changed over time.

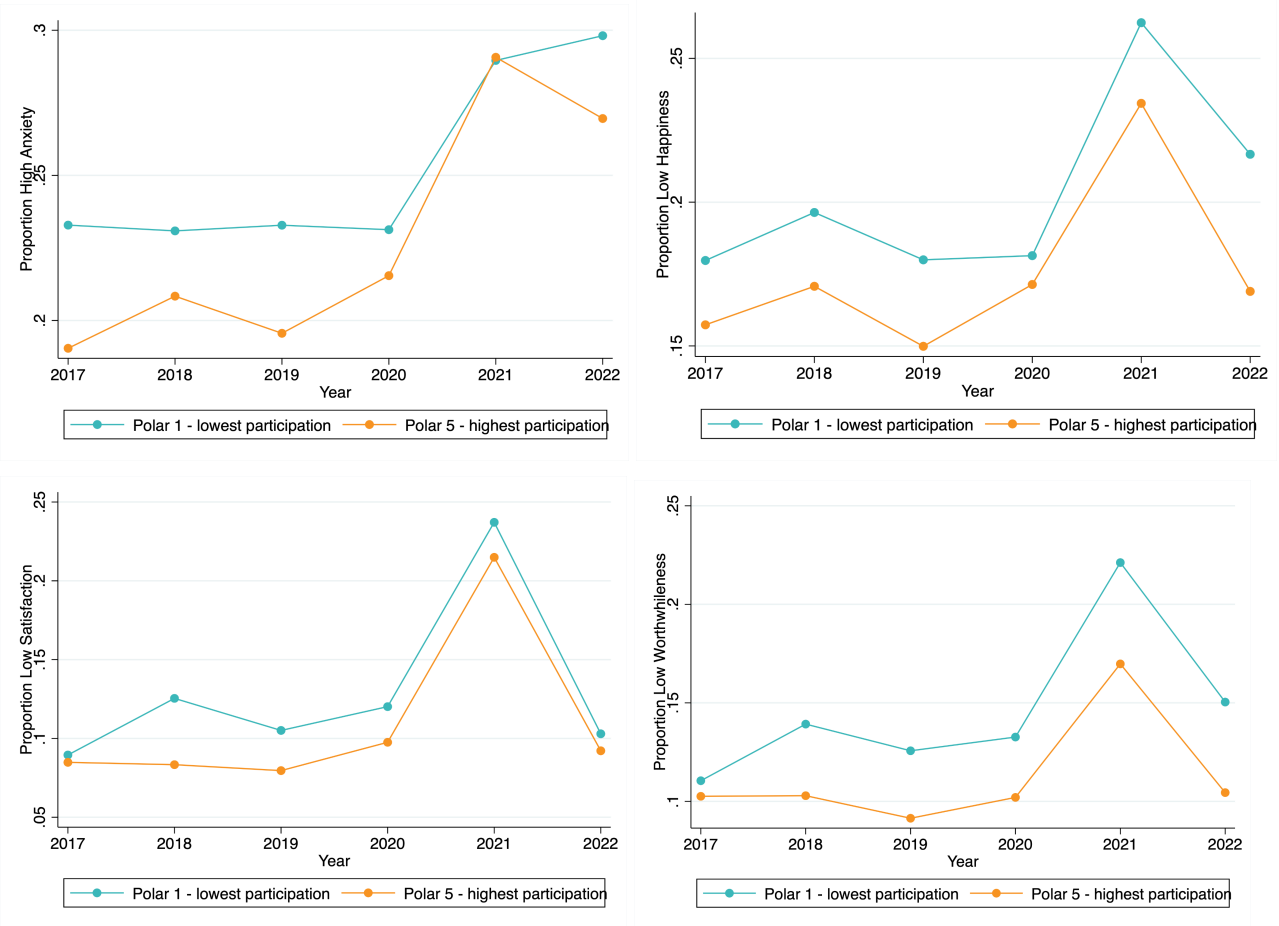

Fig. 3: Proportions with high anxiety, low happiness, low life satisfaction and low worthwhile by POLAR quintile over time.

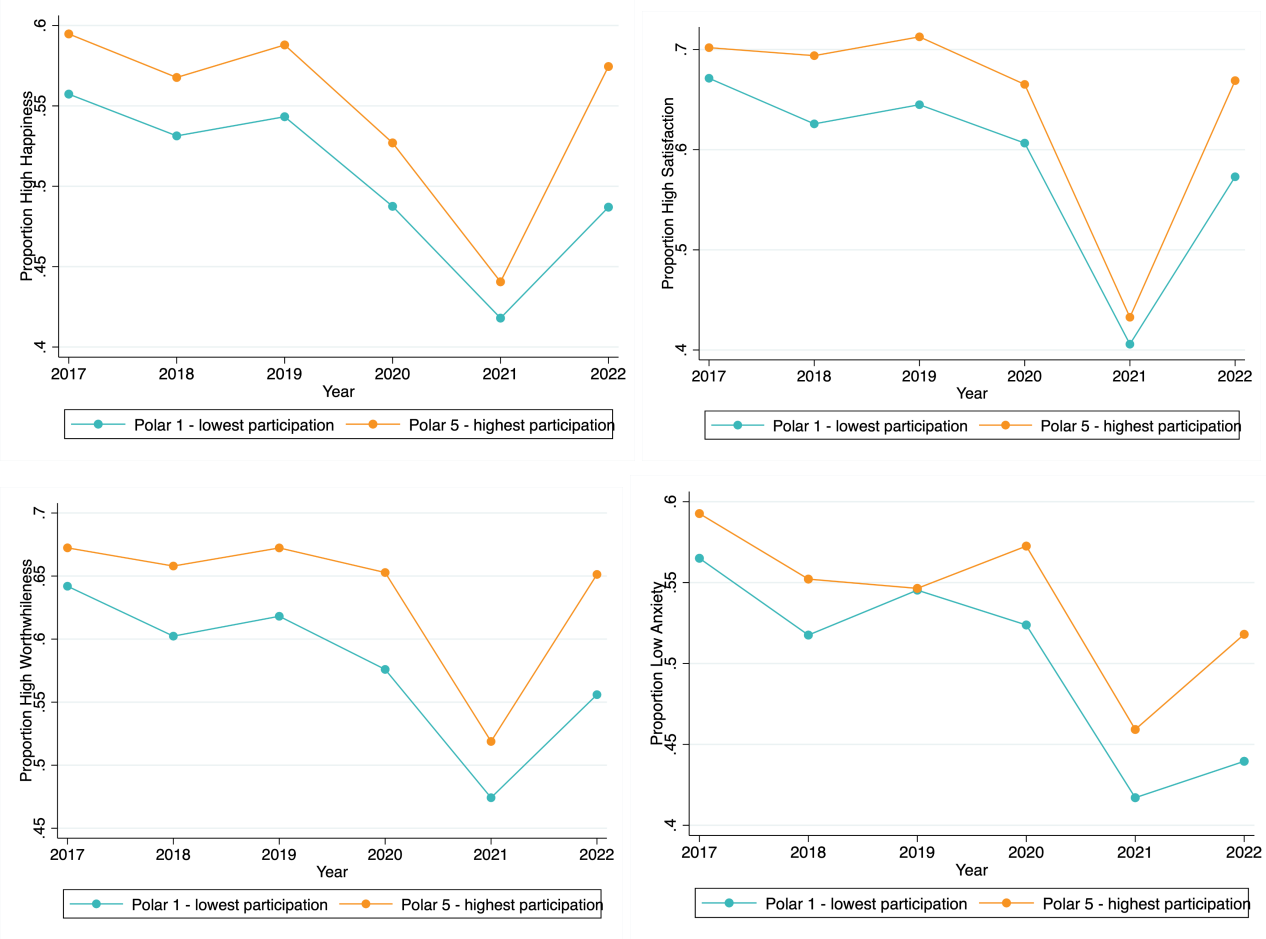

Fig. 4: Proportions with high happiness, high life satisfaction, high worthwhile and low anxiety by POLAR Quintile) over time.

We see that the students in more disadvantaged areas fare significantly worse than their most affluent peers, for both high and low wellbeing scores. Both groups also have a tendency to co-move - that is, although they are significantly different from each other, they changed over time in the same direction and to largely the same extent, and neither group fared particularly better than the other during the pandemic.

Work and student wellbeing

Many students work during their degrees. In our sample this equates to about 35% (figure 5). As we can see from figure 6, of the students who work alongside their studies, most work less than 20 hours per week.

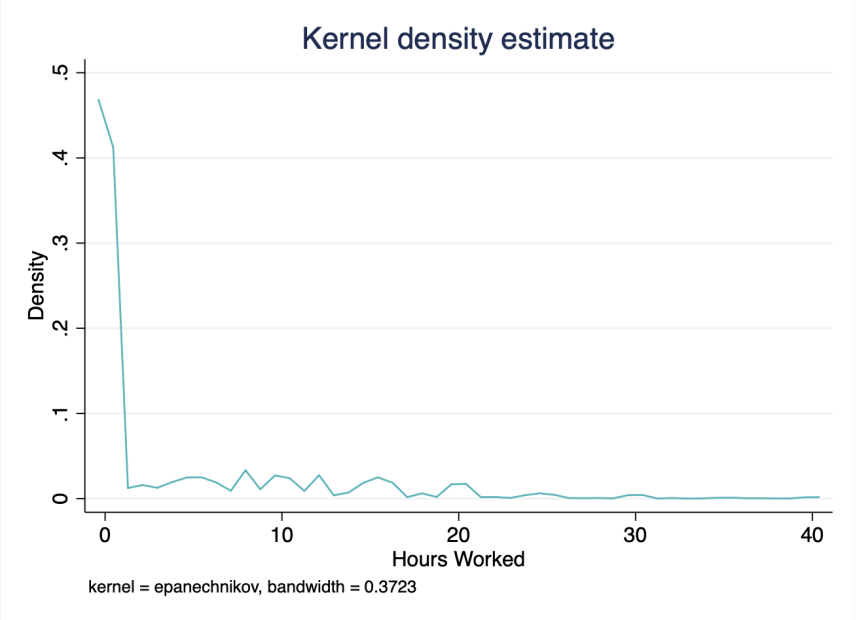

Fig. 5: The distribution of number of hours worked per week for all students (values above 40 hours per week censored)

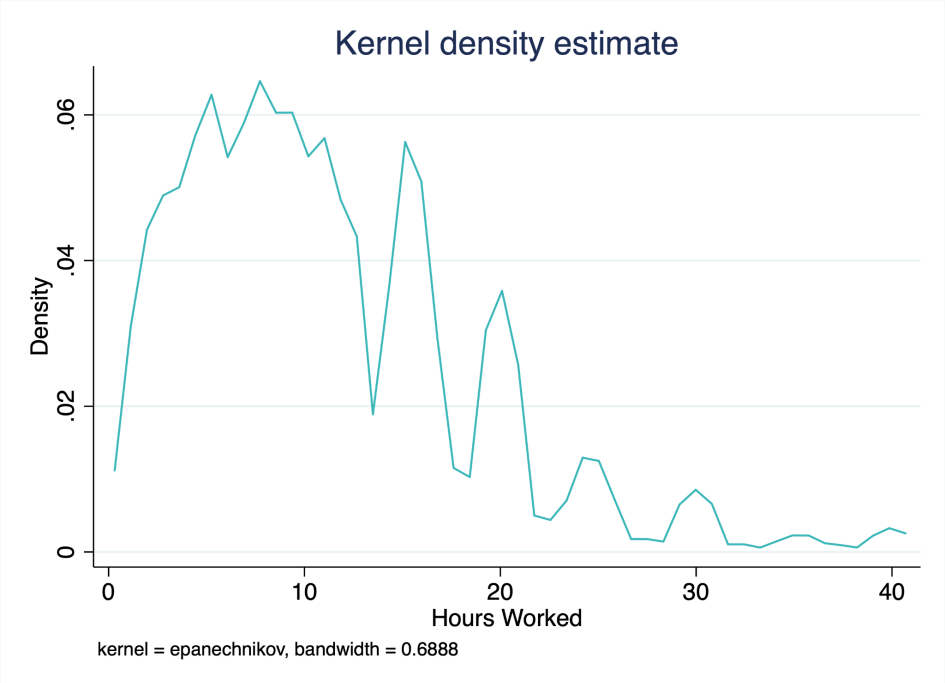

Fig. 6: The distribution of numbers of hours worked per week for students

We then used locally weighted regression to estimate a smoothed curve of the relationship between work and wellbeing, which we support with standard regression analysis. Wellbeing among those working generally increases in the number of hours worked: those working more hours are more likely to report high wellbeing (figure 7), and less likely to experience low wellbeing (figure 8). This relationship is reversed for anxiety, with the likelihood of having high anxiety rising with hours worked and low anxiety falling. We also see that while this relationship holds for students working fewer than around 17 hours per week, it then reverses thereafter, with additional hours above this point leading to lower wellbeing, while anxiety levels flatten off after this point.

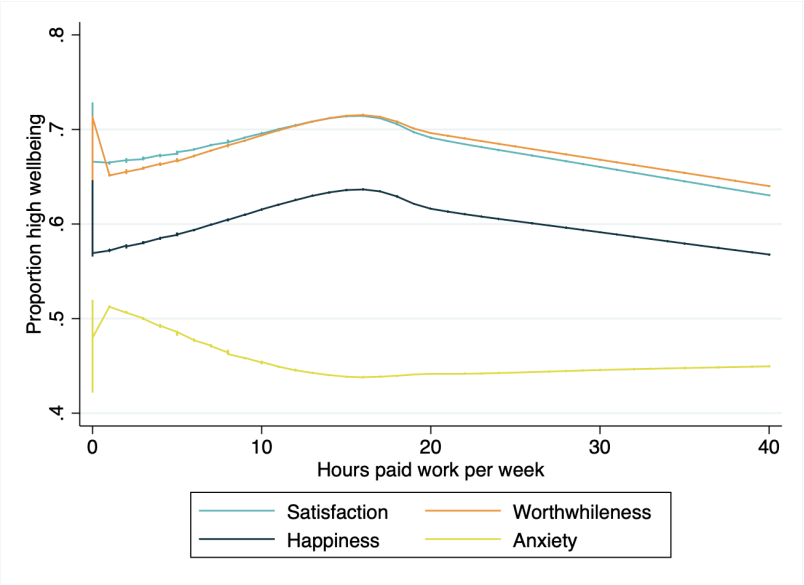

Fig. 7: Relationship between high subjective wellbeing and hours worked

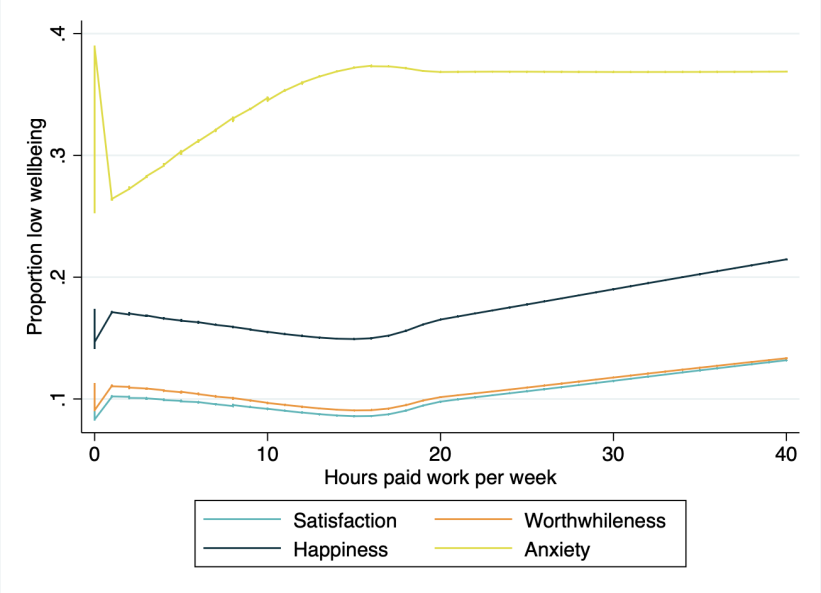

Fig. 8: Relationship between low subjective wellbeing (high anxiety) and hours worked

Regression analysis shows that doing any work is associated with around a four percentage point higher likelihood of having a high wellbeing score on each of the measures, and around a three percentage point lower incidence of low wellbeing scores, when we control for the number of hours worked. Given that paid work is associated with having a lower socio-economic status (students in the highest POLAR quintile are 15% less likely to work than those in the lowest), this finding is slightly counterintuitive but perhaps results from the sense of meaning students derive from work.

Commuting and student wellbeing

The time we spend travelling to work has an impact on our wellbeing, with those with longer commutes consistently reporting lower wellbeing than those who work close to home. Due to course type, contact hours and class schedules, university students may have a different relationship with commuting. For example, they may only attend three days a week. Many students also face a trade-off between living at home with family - perhaps necessitating a longer commute while saving money - and paying rent to live closer to where they study.

The SAES asks questions about how far students "normally" travel to university during term time (table 2).

Table 2: frequency distribution of distance travelled to university in sample

Distance travelled	Number of responses	Percentage
Under 1 Mile	4,369	8.84
1-5 Miles	22,434	45.44
6-10 Miles	4,331	8.77
11-20 Miles	5,124	8.35
21-50 Miles	5,459	11.06
51-99 Miles	4,177	8,46
100+ Miles	4,475	9.06

The majority of students report travelling five miles or less to university during term time. The proportion of students commuting very long distances is perhaps surprising, with 9% reporting a normal travel distance of more than 100 miles. The question "How far do you travel to university during term time?" is arguably ambiguous, and students may be reporting their travel distance to university for term time - i.e. how far away their family lives from university -

instead of how far they themselves travel regularly. This is given some credence by the fact that roughly 40% of students who travel more than 100 miles also report that they live in student halls. The findings for this answer must be treated with a degree of caution, but we will present them as is.

When considering how to analyse these data, we have to consider the pandemic year (2021 in our data), and how university education was transformed during that period. In particular, the fact that students would not be regularly travelling into university at all for much of that period. As such, the main graphs shown below exclude that year of data (figures 9 and 10).

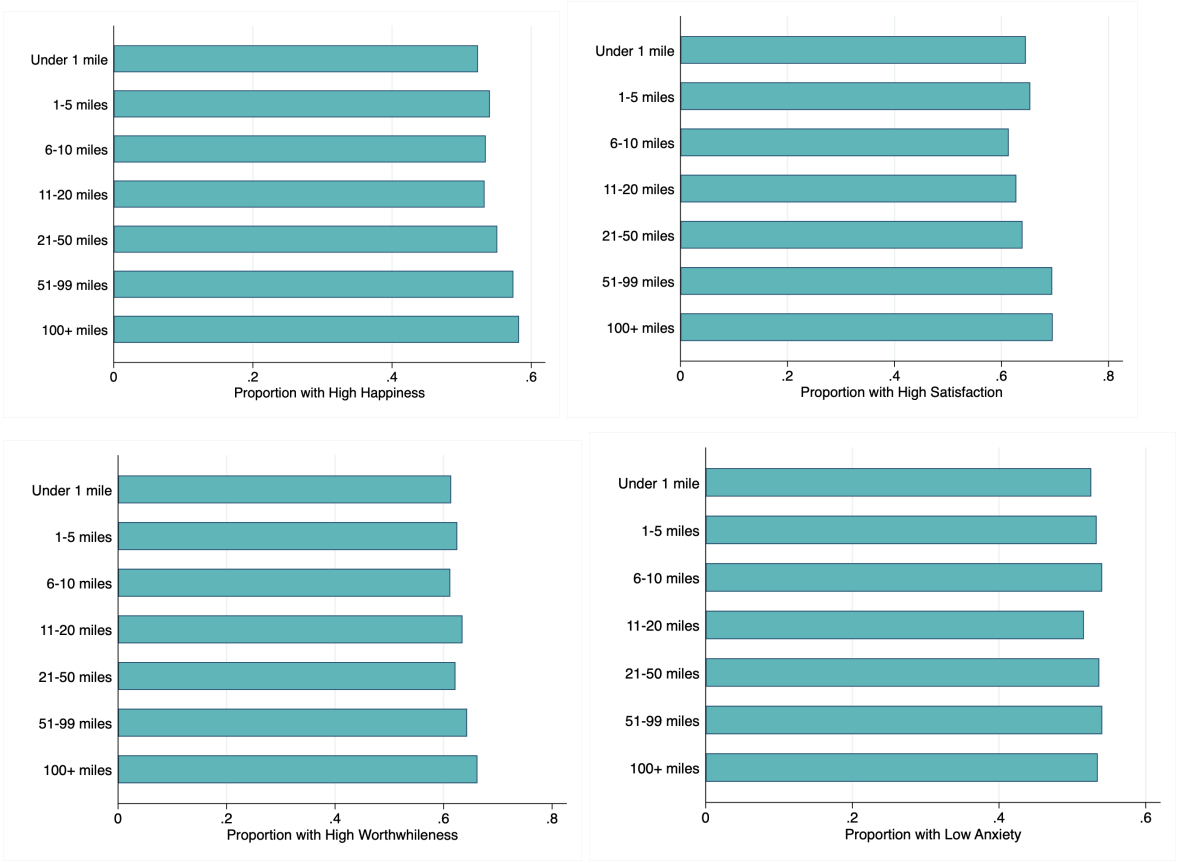

Figure 9: percentage of high happiness, life satisfaction and worthwhile scores, and low anxiety scores by distance travelled to university

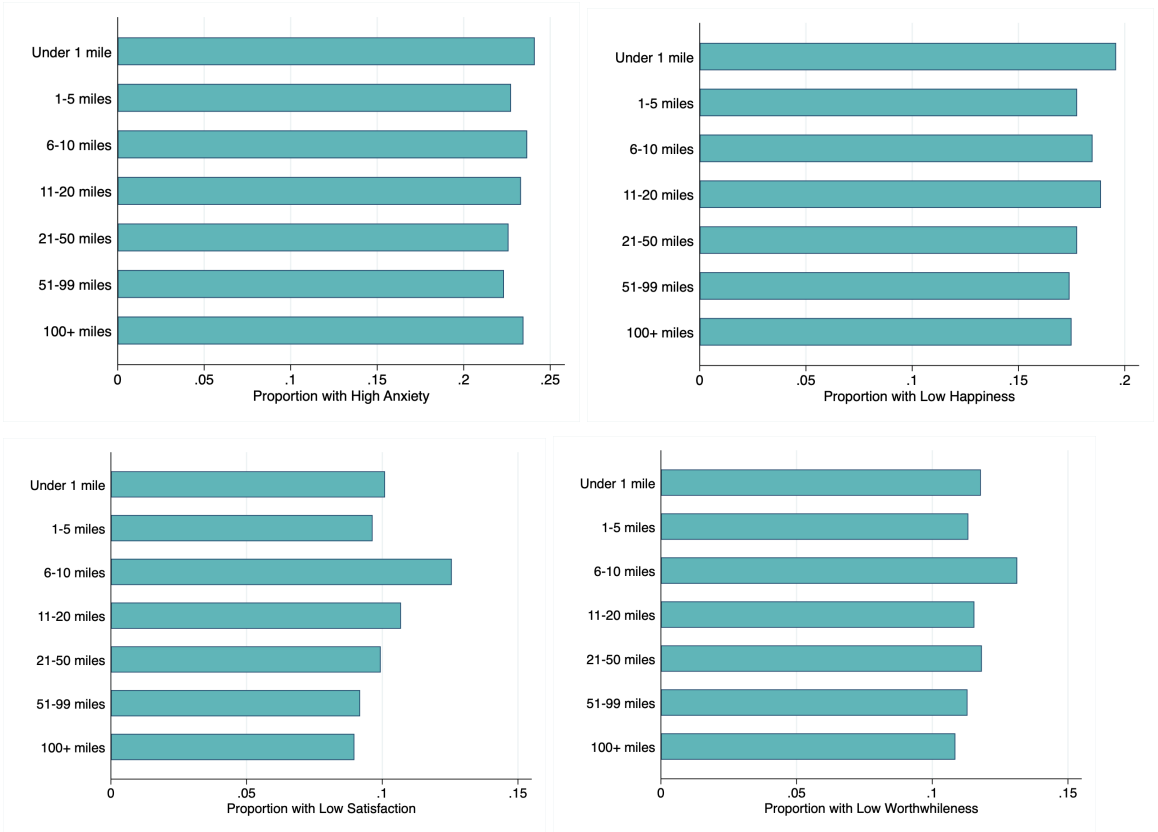

Figure 10: percentage of low happiness, life satisfaction and worthwhile scores, and high anxiety scores by distance travelled to university

The picture across these analyses is of a weak relationship between distance travelled to university and wellbeing. In regression analysis, there is not a consistently significant relationship between distance travelled and any of the four subjective wellbeing measures. What trend there is, interestingly, is in the opposite direction of that observed in the general population; students with longer commutes appear generally to have higher wellbeing than their peers with shorter commutes.

If there is a relationship between commuting and wellbeing, we might expect that this would change during the 2021 SAES wave, a time when most students were unable to commute to campus due to national and local lockdowns as a result of the COVID 19 Pandemic. What we see in this year is a strong relationship, both in terms of the size of wellbeing score differences, and the level of statistical significance associated with these relationships. Students living further from university during the pandemic year were happier than their peers living closer to university by a greater amount than they had been in other years[3]. This might suggest that the protective value of living with family was heightened during 2021 - possibly because parents' houses may be typically larger, with better access to green spaces, than university accommodation - or because they facilitate a greater social connection and social support.

[3] All students in general experienced lower wellbeing in the pandemic year, so this is a difference in the differences between groups.

To investigate this, we considered the wellbeing of students in different living arrangements. These are correlated, though imperfectly, with distance travelled to university, and also with year, with fewer students living in halls during covid.

We ran a regression analysis, in which we controlled for:

- distance travelled;
- where students are living (at home, in a university halls of residence, and so on);
- year of data collection.

We found that students living with parents fall in the middle of the pack for wellbeing scores, with students in university halls of residence and living in flats with others scoring more highly on all wellbeing questions, and students in non-university halls of residence, and those living by themselves, scoring lower.

Differences in raw scores are relatively modest[4]. Differences in experiences of low wellbeing are more pronounced, with students living in university halls, and in flats with other students, being 15-20% less likely to experience low wellbeing than their peers with similar commutes in the same course year but living either at home or by themselves.

Ethnicity and student wellbeing

Questions about respondents' ethnicities have been included in the SAES since its inception, and so we have 11 years of data on wellbeing by ethnicity. Ethnicity is coded as a categorical variable with several values[5]. The makeup of our sample is shown in table 3.

When we look at the relationship between ethnicity and student wellbeing, students who identify as White or Chinese are more likely to experience high wellbeing than other ethnicities (figure 11).

Students who identify as Black Caribbean, Black African or Black other are less likely to experience high wellbeing. Students who identify as Black African, Black Caribbean, Black other, Indian or Bangladeshi are more likely to experience low anxiety than their white peers.

[4] About 0.2 standard deviations

[5] The breakdown is less granular than in some other surveys, for example by not breaking down White into subcategories (including Roma), nor does it include Arab as an ethnicity or decompose the “Mixed” category.

Table 3: ethnic distribution in sample

Ethnicity	Frequency	Percentage
White	111474	77.28%
Black Caribbean	1119	0.78%
Black African	3288	2.28%
Black other	222	0.15%
Indian	5545	3.84%
Pakistani	4001	2.77%
Bangladeshi	2298	1.59%
Chinese	4124	2.86%
Other Asian	2996	2.08%
Mixed	5238	3.63%
Other	1410	0.98%
Prefer not to say	2525	1.75%
Total	144240	100%

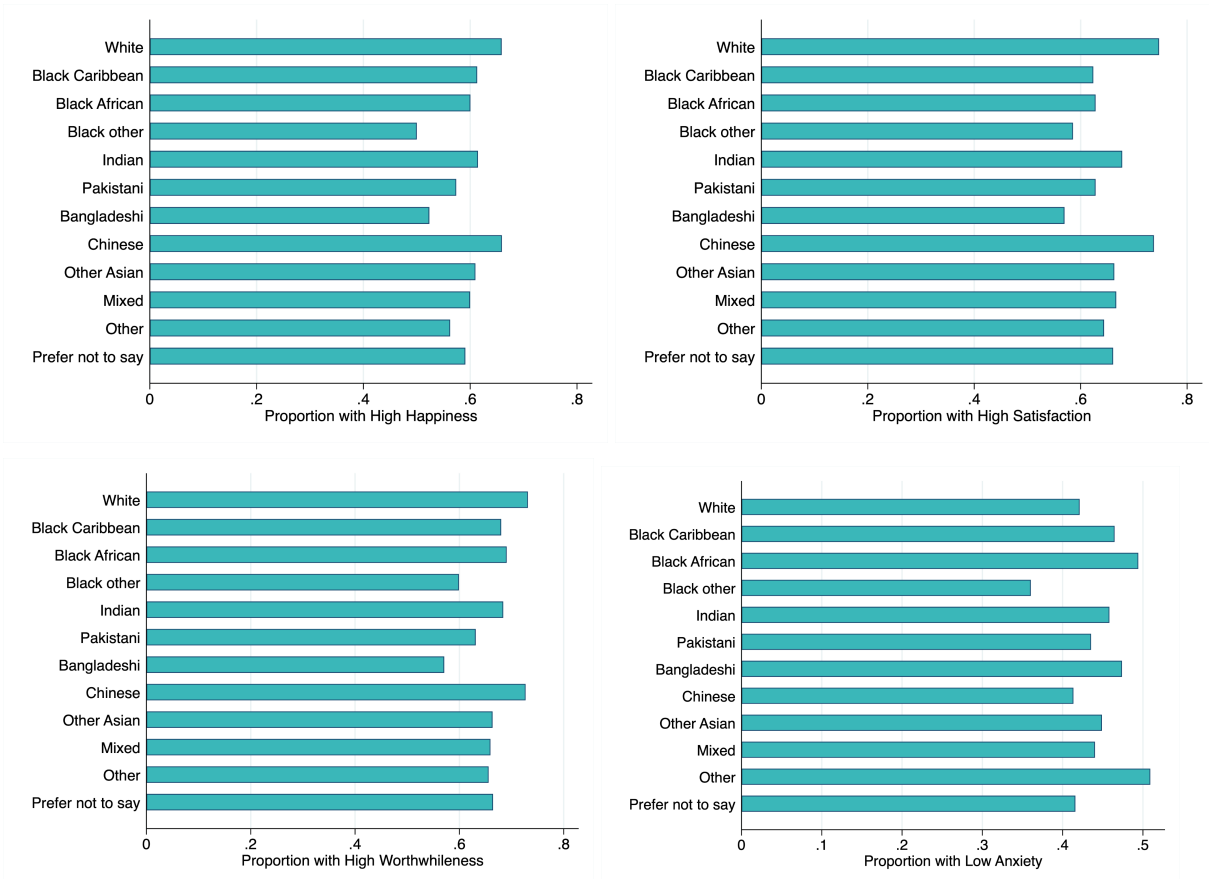

Fig. 11: Proportion of high subjective wellbeing (high happiness, life satisfaction, worthwhile and low anxiety scores) by ethnicity

Looking at the probabilities of students experiencing low wellbeing by ethnicity (figure 12), students who identify as Black other or Bangladeshi are roughly twice as likely to experience low life satisfaction scores than students who identify as Chinese. Students who identify as Chinese are least likely to report low scores of worthwhile, life satisfaction and happiness but are also most likely to report high levels of anxiety. As the data does not capture household income directly, we are unable to reliably control for it.

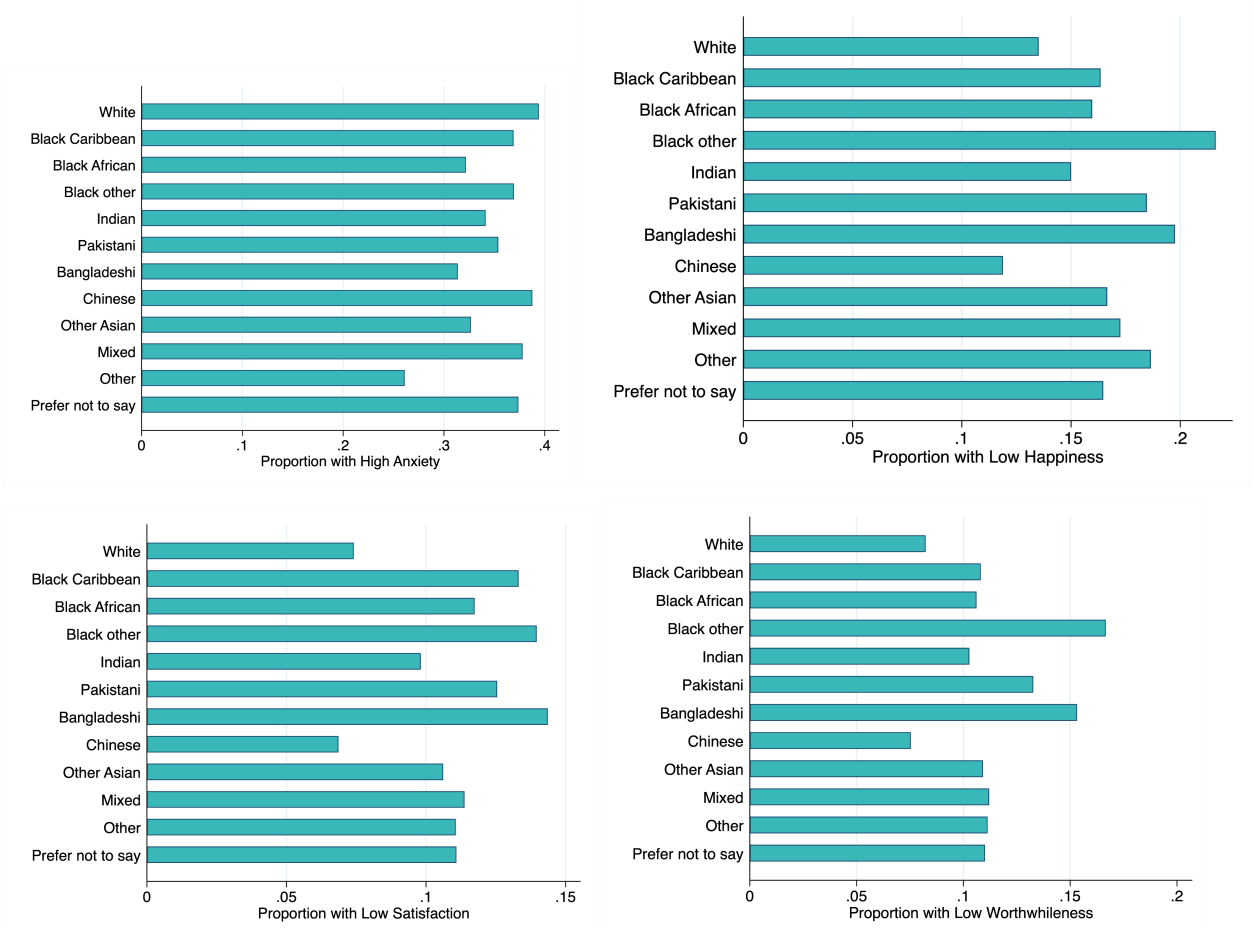

Fig 12: Proportion of low wellbeing (low happiness, life satisfaction, worthwhile and high anxiety scores) by ethnicity

Family education level and student wellbeing

Part of the drive for widening participation over the last 25 years is to increase the rate at which young people whose parents did not attend university were able to do so. In our sample, students are about as likely to have just a mother or step mother (11.9%) who went to university as they are to have just a father or step father that went to university (11.2%), but much more likely to have both parents having attended university, (25.6%). The majority had neither parent having attended university.

Around a third of students (35.8%) have a sibling who attended university. For over half of these students, their sibling was the first in their immediate family to attend university.

Using regression analysis, we looked at the relationship between having a family member who attended university and student wellbeing. Students with no family having attended university have significantly lower wellbeing, and significantly higher anxiety, than those for whom any family member attended university. However they are significantly more likely to experience wellbeing scores classed as high (figure 13), and significantly less likely to report scores classed as low (figure 14), suggesting a mixed picture of their wellbeing overall.

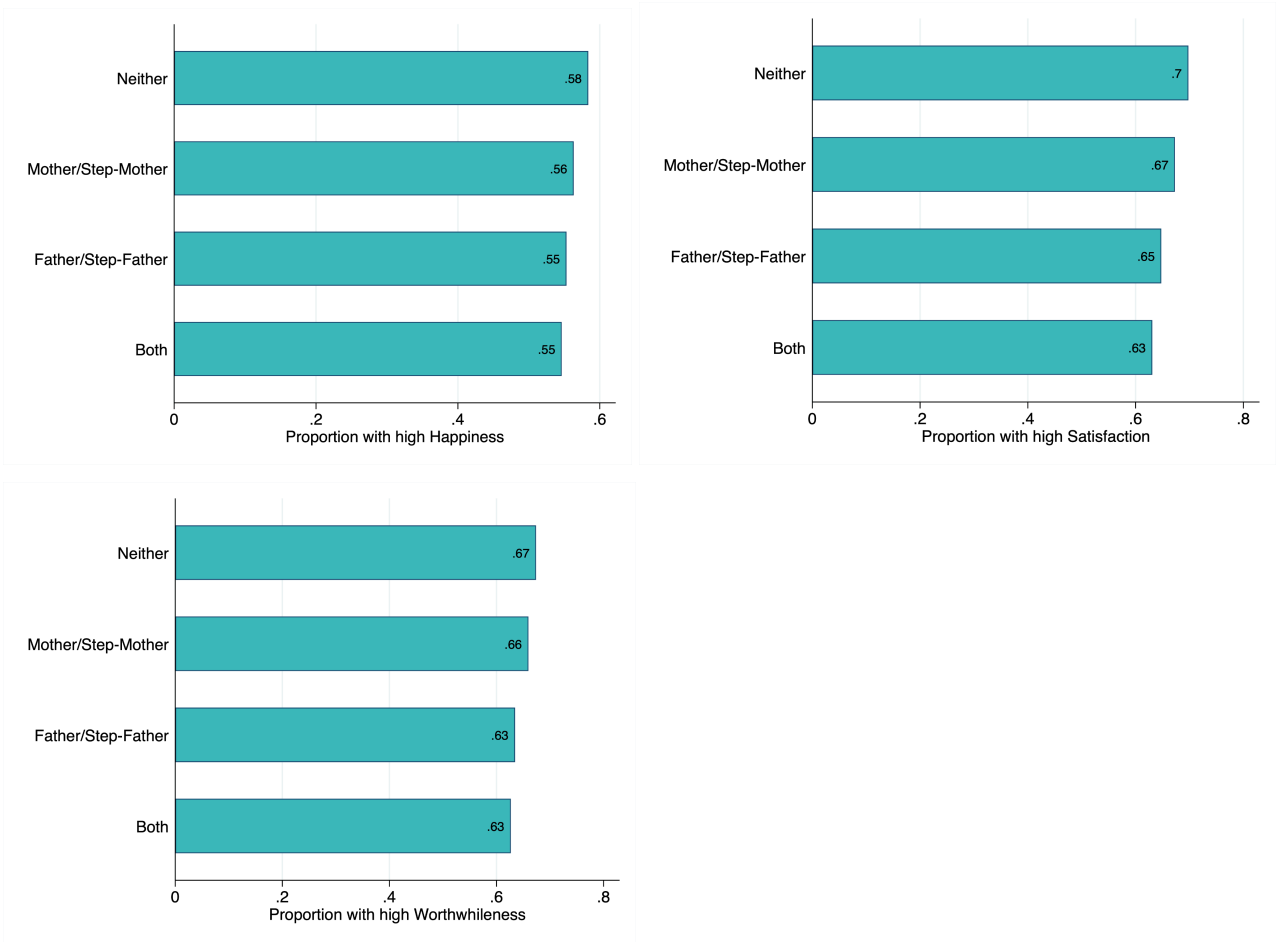

Fig. 13: Proportion of high happiness, life satisfaction and worthwhileness by whether if none, one or both parents attended university

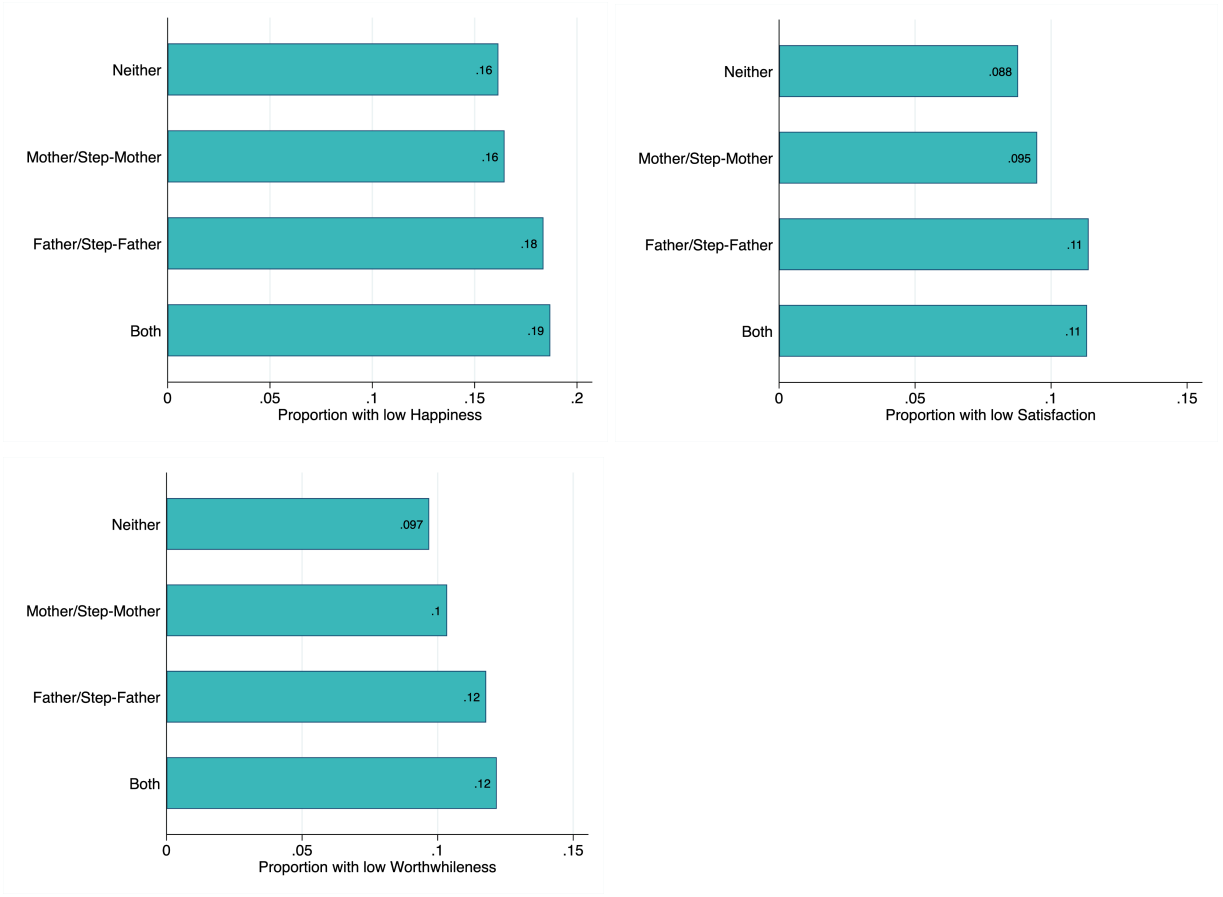

Fig. 14: Proportion of low happiness, low life satisfaction and low worthwhile by whether if none, one or both parents attended university

For anxiety, having no family members having attended university is associated with significantly higher levels of high anxiety, but also significantly lower levels of low anxiety - although the former difference is larger (figure 15).

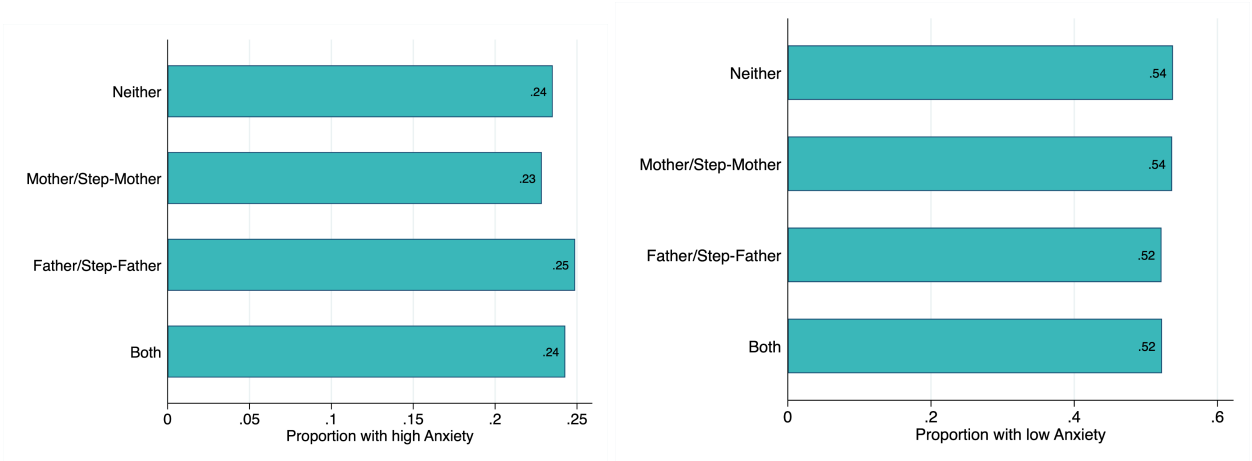

Fig. 15: Proportion of students with high and low anxiety by whether if none, one or both parents attended university

We examined the relationship between student wellbeing and university attendance for specific family members. Sibling attendance does not explain variation in wellbeing, compared to having no family attending university. Parental attendance is associated with significantly higher wellbeing overall. The differences are on average twice as large when a students' father/stepfather attended university compared to if their mother/stepmother attended university. Having both parents attend university is associated with higher wellbeing still, but the differences compared to just one parent attending are not statistically significant.

Students' whose fathers attended university have significantly higher rates of high wellbeing than peers for whom neither parent attended university, but a smaller (if still positive) association with having a mother who attended university.

To further explore these findings, we looked at the relationship between students wellbeing and parental university attendance by student sex. For students of both sexes, the association is close to zero for mother/step-mother attendance[6]. Both sexes have higher wellbeing when their father went to university. The level of significance and the absolute differences are smaller for male students than for female students (table 4). It is notable that our data contain many more students who identify as female than male (a ratio of approximately 2 to 1).

[6] The exception is that female students whose mothers went to university are significantly more likely to have high life satisfaction than female students neither of whose parents went to university.

Table 4: Percentage point differences in high/low wellbeing scores by sex and parental university attendance.[7]

	Mother attended		Father attended		Both attended	
	Male	Female	Male	Female	Male	Female
High Satisfaction	0	1.5*	+2.6	+3.7*	5.7*	5.8*
Low satisfaction	0	0	-0.5	-2.0*	-2.1*	-2.2*
High worthwhileness	-0	0	+1.9	+3.1*	4.7*	3.7*
Low worthwhileness	0	-0	-0	-2.0*	-2.0*	-2.1*
High Happiness	0	0	+0	+1.3*	3.8*	2.8*
Low Happiness	-0	-0	-1.2	-2.3*	-2.6*	-1.9*
High anxiety	1.1	-0	-0	-2.1*	0	-1.3*
Low anxiety	-0.6	0	+0	+1.6*	-0	+2.0*
Statistical significance at the p<0.05 level is indicated by a *						

There are a number of possible interpretations of these findings. As our data do not contain good information on social class or family income, and it is likely that prior university attendance of parents is associated with higher family income. Nonetheless, the differences between sexes, and between mothers' and fathers' attendance, are difficult to entirely explain in this way.

Disability and student wellbeing

Since 2017, the SAES has asked whether respondents have a disability, and if they do, what the nature of that disability is.

According to the Equality Act, the definition of disability must meet three criteria: that the impairment is i. Substantial; ii. Long-term; and iii. Affect day-to-day activities.[8] The General Medical Council's guidance specifies that a disability must prevent the individual from managing normal day to day activities, and either have lasted, or be expected to last, for more than a year.[9]

[7] Figures report percentage point differences in incidence between participants with these characteristics and a reference category; for mother and father columns, the reference category is students of the same sex for whom neither parent attended university. For the 'both' columns, this is the sum of the mother and father columns.
[8] See Equality Act Guidance https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/570382/Equality_Act_2010-disability_definition.pdf
[9] https://www.gmc-uk.org/education/standards-guidance-and-curricula/guidance/welcomed-and-valued/health-and-disability-in-medicine/who-is-a-disabled-person

Table 5, below, shows the makeup of the sample over time, divided between those who identify as having a disability, and those who do not. Table 6 shows the number of participants with each type of disability across all waves, and the number of people with more than one disability.

Table 5: Proportion of SAES respondents reporting a disability over time

Year	2017	2018	2019	2020	2021	2022
Any disability	1,833 (13.05%)	2,114 (15.05%)	2,311 (16.42%)	1,963 (19.19%)	1,804 (17.71%)	1,868 (18.48%
No Disability	11,736 (83.58%)	11,514 (81.96%)	11,341 (80.58%)	7,880 (77.04%)	8,005 (78.60%)	7,877 (77.94%
Prefer not to say	473 (3.37%)	420 (2.99%)	422 (3.00%)	385 (3.76%)	376 (3.69%)	361 (3.57%)
Total	14,042	14,048	14,068	10,227	10,185	10,106

Table 6: frequency distribution of disability by type in sample

Category of disability	**Number**	**Percentage**
Mental Health difficulties	7057	9.71%
Learning Disability	2907	4.00%
Two or more disabilities	2,245	3.09%
An unseen disability	1442	1.98%
Autistic Spectrum Disorder	1079	1.49%
Other	900	1.24%
Deaf/Hearing Impairment	542	0.75%
Wheelchair/Mobility impairment	510	0.70%
Blind/Partially sighted	456	0.63%
Personal care support	196	0.27%

The proportion of people with any disability has gradually risen from 2017 to 2022. The biggest increases occur when the sample size changes, and so may be methodological.

Of those with a disability, the most common types are mental health difficulties (9.71%), and learning disabilities (4%). It should be noted that the relatively high frequency of mental health difficulties suggests that at least some people are identifying in this group who do not have a clinically diagnosed mental illness.

To understand the relationship between disability and students' wellbeing over time, we divided the sample into four groups: those with no self-reported disability; those with self-reported mental health difficulties; those with self-reported learning disabilities, and those who reported using a wheelchair or having a mobility impairment (figure 16).

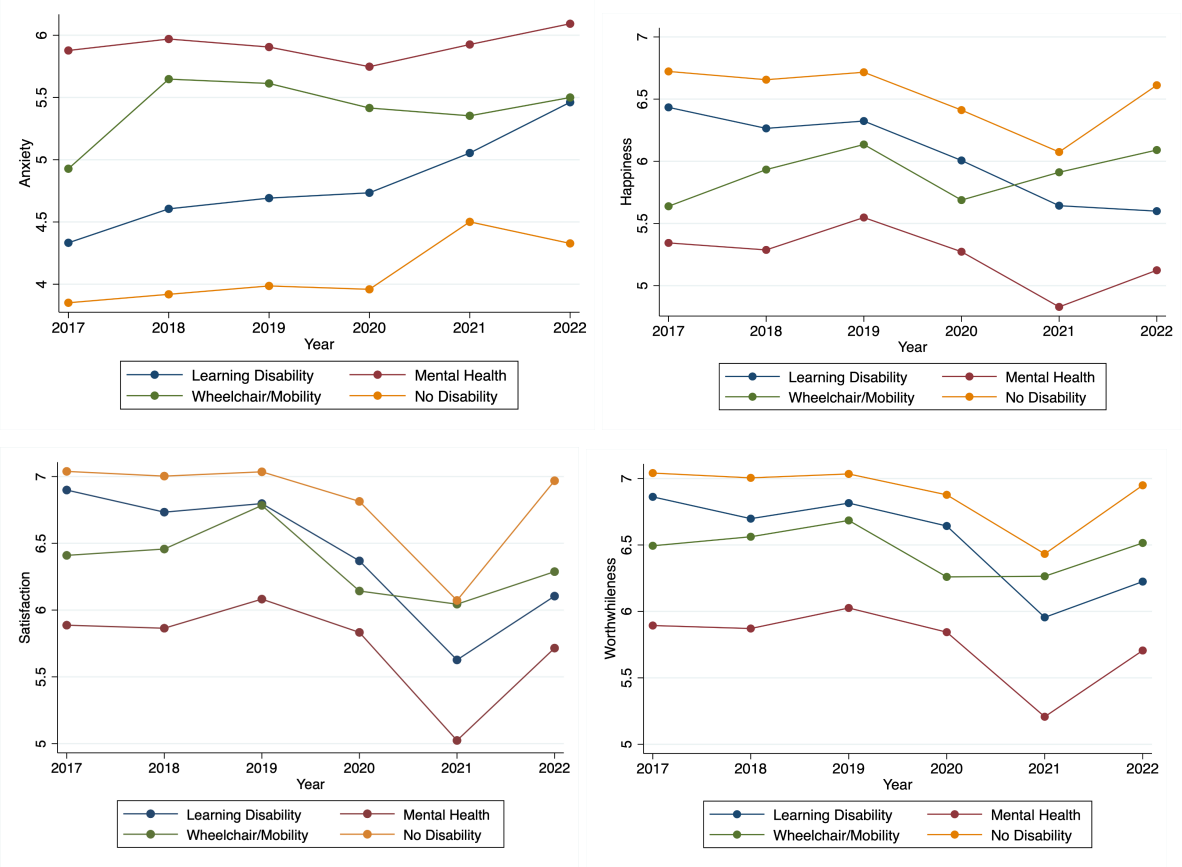

Fig. 16: Average levels of anxiety, happiness, satisfaction and worthwhileness by disability type over time

Overall, respondents with no self-reported disabilities have consistently higher wellbeing, and lower anxiety, than those with self-reported disabilities. Respondents with mental health disabilities have worse wellbeing and higher anxiety than any other group. These between-group differences in wellbeing scores are all statistically significant. This is potentially particularly concerning given what we observe if we look at the prevalence of mental health disability in particular in the data, which is shown in figure 17 below - that the proportion of

student reporting this type of disability has doubled over the time period covered by our data, in a trend that predates the COVID-19 pandemic.

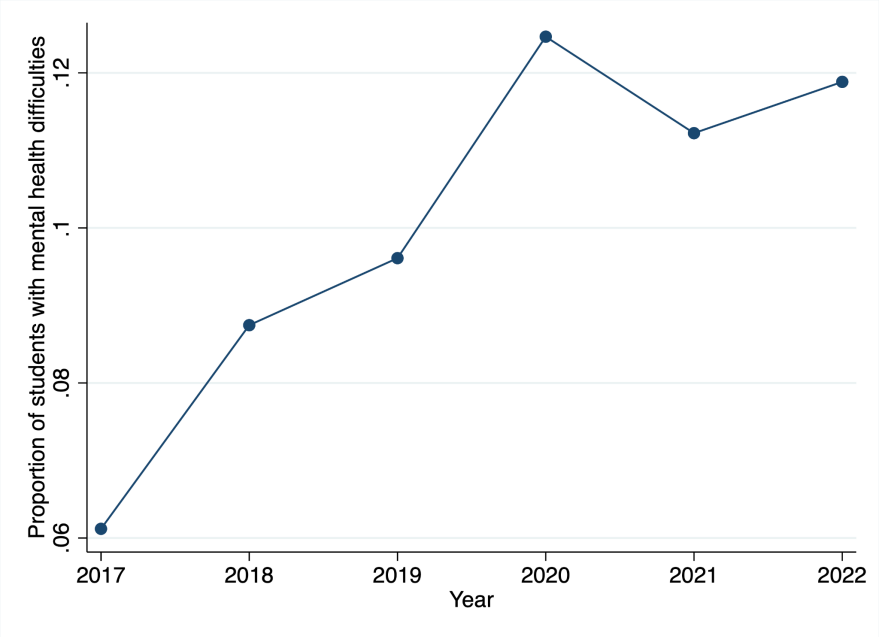

Fig. 17: Sample incidence of mental health disabilities (self reported)

Looking specifically at anxiety over time, we can see that groups with disabilities have responded differently to the COVID-19 pandemic (which occurs in our data in 2021). Anxiety is more level for students with mental health disabilities and for students with mobility challenges, while it increases more steeply for students with learning disabilities and those with no self-reported disabilities.

We now take a more granular look at wellbeing over time for each disability type in the SAES by ONS4 measures (figures 18-21). As types of disability are not categorical - that is, some people can have multiple disabilities - we have created a single indicator for multiple disabilities. This is not ideal - someone who is a blind wheelchair user is likely to have a very different experience of life than someone who is on the autistic spectrum and has dyslexia (a learning disability), but it is the most tractable way of approaching these data. We also note that due to the prevalence of mental health difficulties relative to other disabilities, most people (78%) who have multiple disabilities have mental health difficulties as one of them.

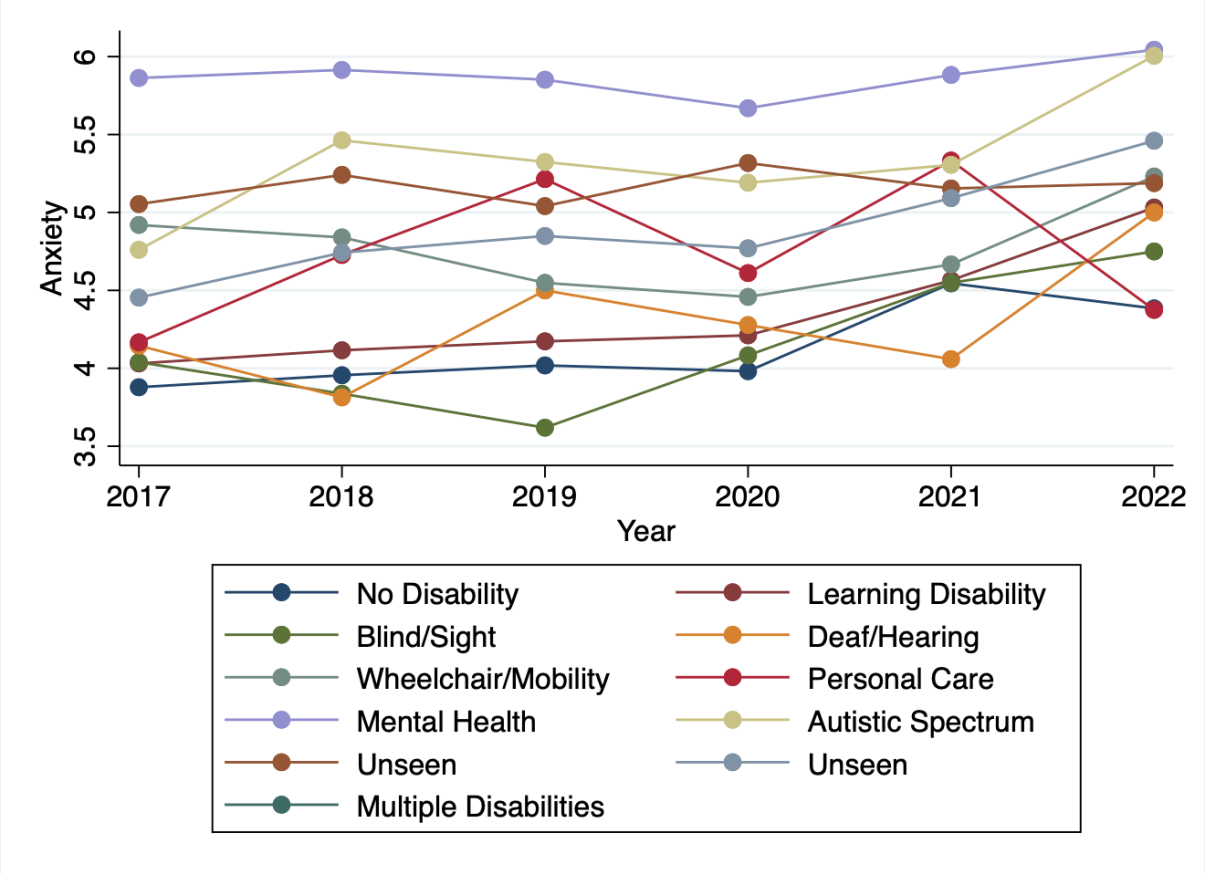

Fig. 18: Average anxiety level over time by SAES disability type

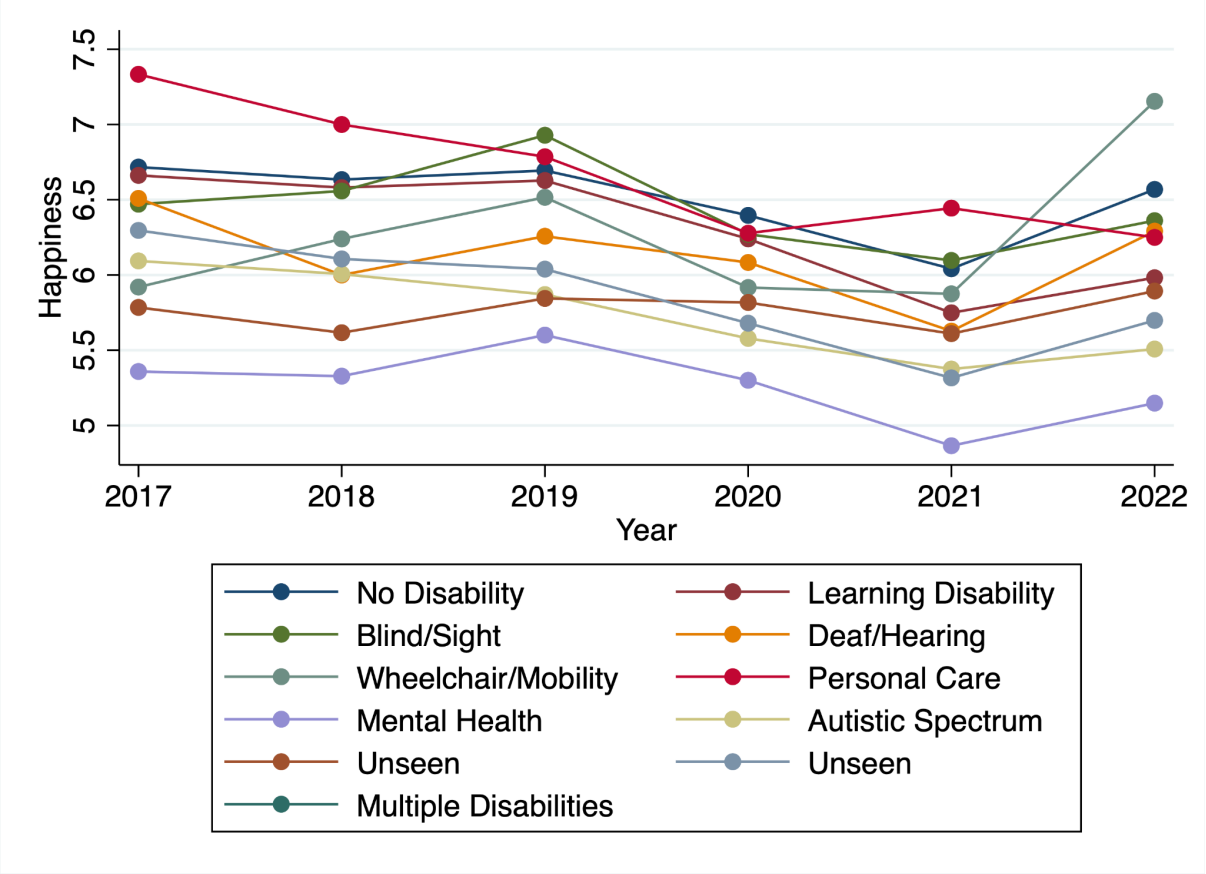

Fig. 19: Average happiness level over time by SAES disability type

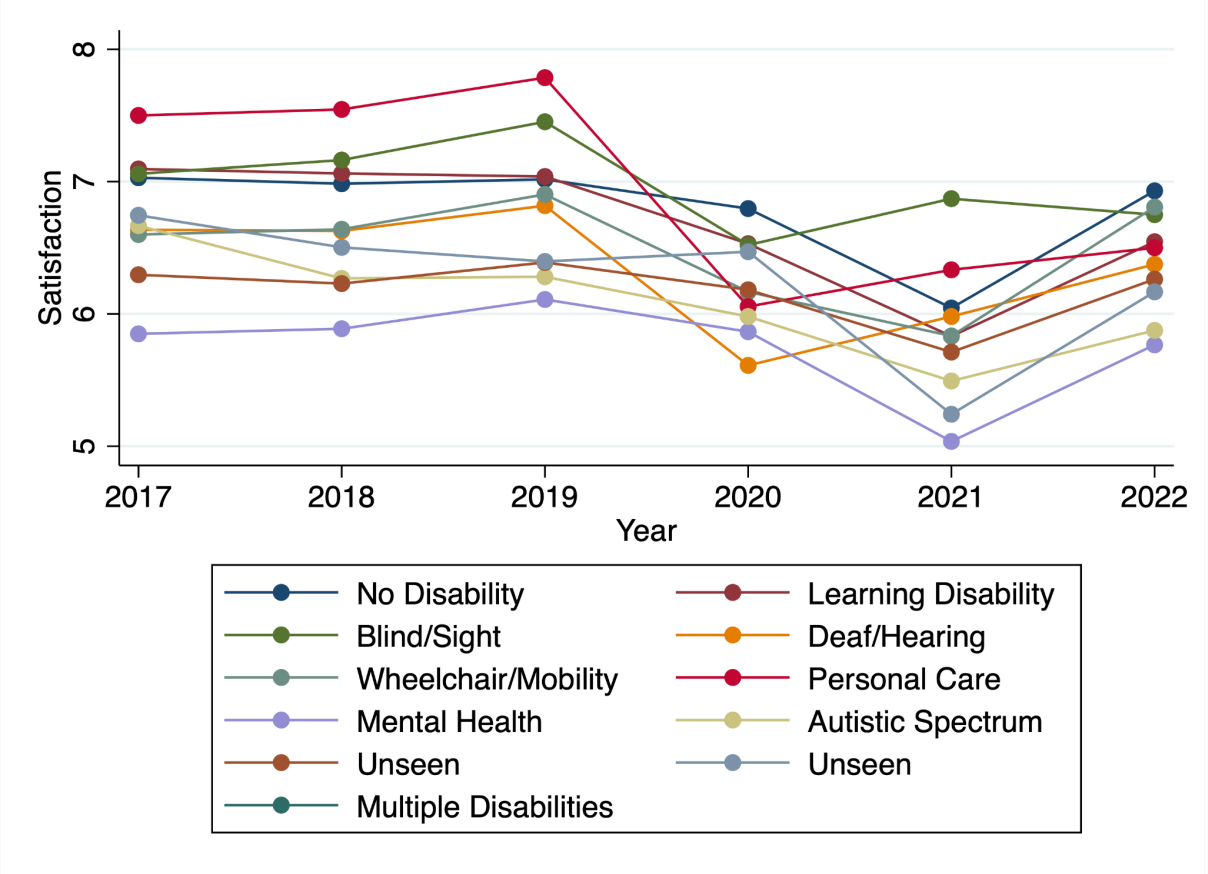

Fig. 20: Average life satisfaction level over time by SAES disability type

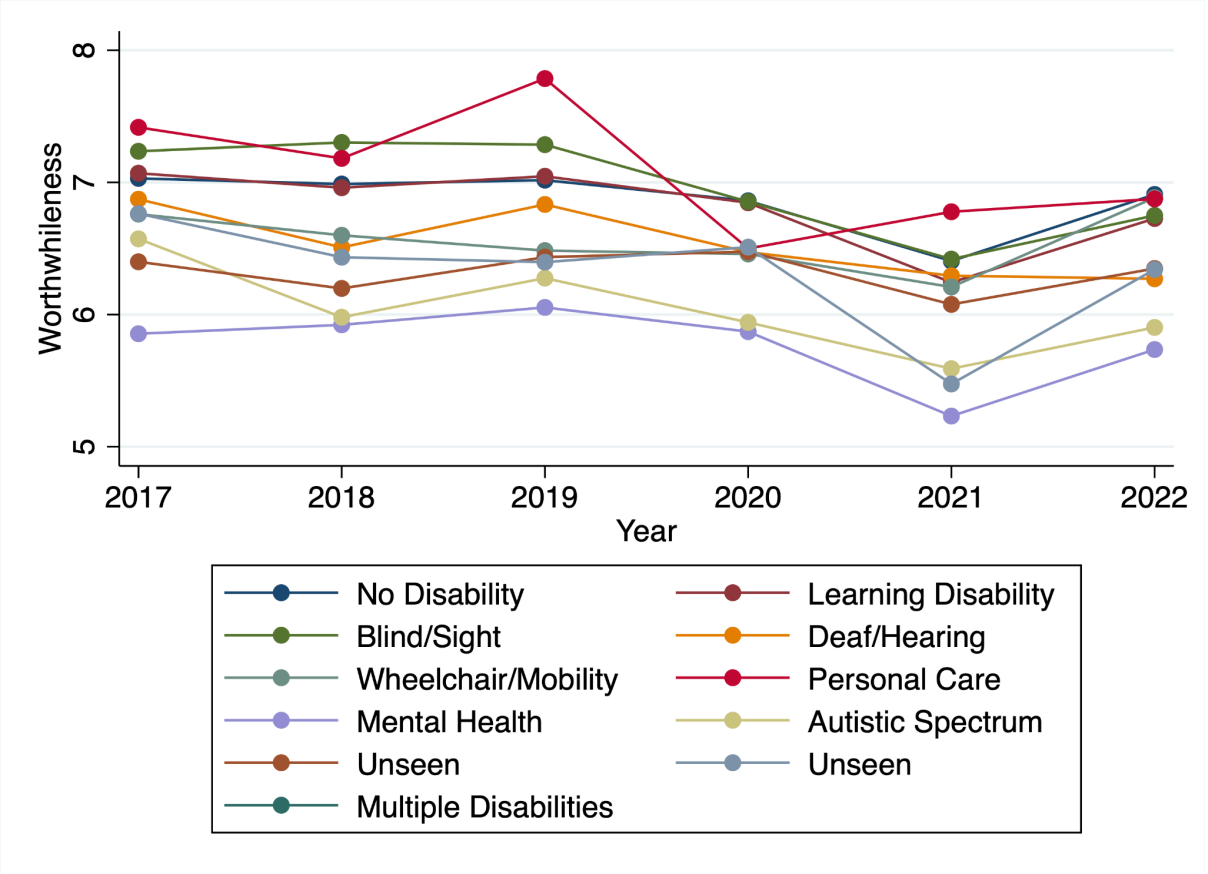

Fig. 21: Average life satisfaction level over time by SAES disability type

The following findings are consistent across time and across the different wellbeing indicators:

1. Students with mental health difficulties consistently have the lowest wellbeing and highest anxiety. This is the most high-risk group.
2. Students with unseen disabilities, or who are on the autistic spectrum, are often the next lowest wellbeing groups after those with mental health difficulties. This suggests that universities could do more to support those with disabilities which are not externally visible.
3. Students with no disabilities generally - but not exclusively - have higher wellbeing and lower anxiety than those with disabilities.
4. Learning disabilities are not associated with particularly higher anxiety or lower wellbeing than having no disability. In the context of an institution of higher learning, it is possible that universities might be doing a good job at supporting these students.

We find similar findings when we look at the proportion of people with each disability who report experiencing low wellbeing. Students with mental health difficulties, those on the autistic spectrum, and students with unseen disabilities are far more likely to experience low wellbeing than other students. Students with mental health difficulties are roughly twice as likely to have low scores on any of the wellbeing variables than their peers without disabilities.

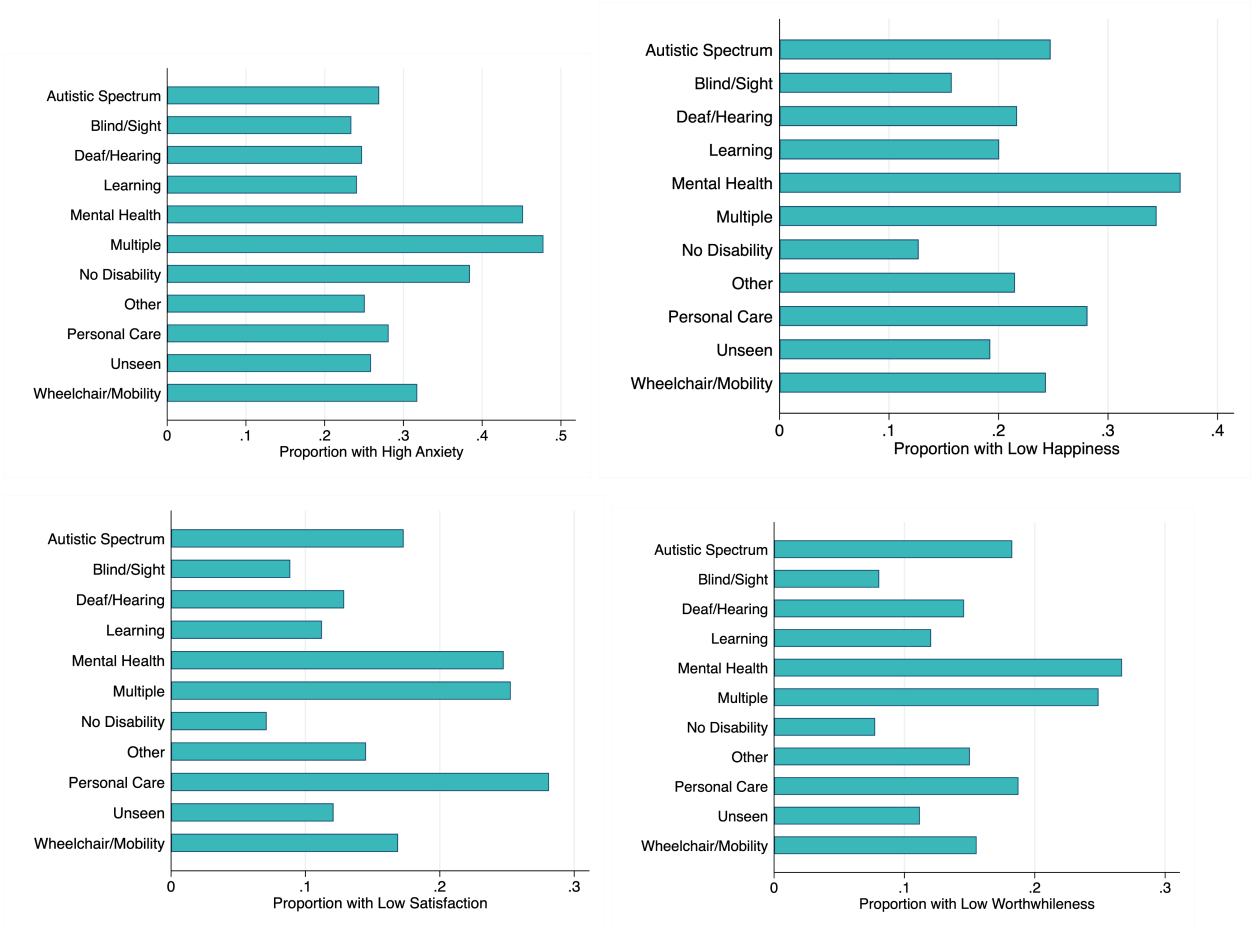

Fig. 22: The proportion of students with low wellbeing (low happiness, life satisfaction, worthwhileness, or high anxiety), by SAES disability classification

Discussion

We have analysed data on student wellbeing over time, broken down by various student characteristics. We find that student wellbeing was adversely affected by the COVID-19 pandemic, and that this has yet to be recovered from fully.

We have also found that there are important relationships between participants' characteristics and circumstances and their wellbeing. Some of this is unsurprising - that students with poor mental health also experience low wellbeing, or that students with no disability are significantly happier than those who do experience a disability. Similarly, students from more economically deprived backgrounds are more likely to experience low wellbeing, and more likely to experience high wellbeing, than their more affluent peers.

Other findings were more surprising. For example, there is a lack of strong relationship between respondents' parental participation in higher education and their own wellbeing while at university - suggesting that the low social capital typically identified as a challenge for these students is not playing out in terms of their wellbeing. There was also a lack of a strong relationship between students' ethnicity and their wellbeing, which was perhaps surprising.

Alongside the findings relating to Covid, the most troubling is a rise in the incidence of students identifying as having a mental health disability, which has doubled over the course of the period covered by our data in a trend that substantially predates the pandemic. This rise suggests a growing challenge in student wellbeing should the trend persist.