Student Wellbeing and Experiential Learning Report
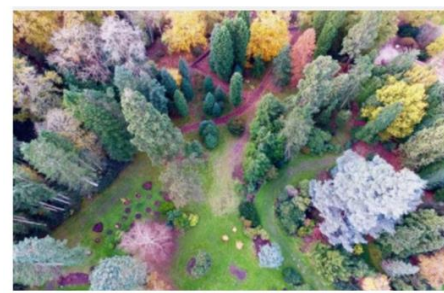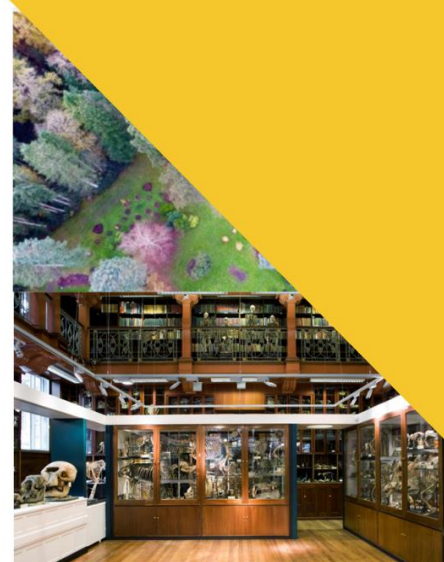
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Summary

Objectives: To assess whether experiential learning informs student wellbeing.

Background: The wellbeing of students in higher education has been decreasing, exacerbated further since the global coronavirus pandemic. Universities are places where students' wellbeing could be better supported and research into how to do this is important to improve outcomes.

Design: Mixed-methods explanatory sequential design where the quantitative study informed the subsequent qualitative study.

Setting: An online survey delivered across University College London (UCL), King's College London (KCL), University of Oxford (Oxford), as well as online 1-hour zoom interviews with students across the three universities.

Participants: From the survey findings there were N=140 university students from undergraduate to postgraduates (UCL=37, KCL=71, Oxford=30, with other universities contributing 2). The qualitative arm recruited N=14 (UCL = 10, KCL=3, Oxford=1)

Primary and Secondary outcome measures: Primary outcome measure was the ONS wellbeing questionnaire. Secondary outcome measure was the Harvard Flourishing Scale.

Results: Across the three universities, students surveyed had worse life satisfaction (3.10% versus 9.84%) and higher anxiety (23.60% versus 59.84%) compared to the national average of young people aged 16-25 years old. Quantitative results showed that descriptively UCL (Life Satisfaction mean = 6.27(SD=2.58); Anxiety mean = 5.24(SD=2.74); Happiness mean = 5.95 (SD=2.89); Worthwhileness mean = 6.19 (SD=2.90)) had the worst reported wellbeing amongst the three, with Oxford having the highest (Life Satisfaction mean = 7.03 (SD=1.54); Anxiety mean = 4.24(SD 2.82); Happiness mean = 6.67 (SD=1.88); Worthwhileness mean = 7.07 (SD=2.02)). Independent t-tests were run on the sample of 140 students to determine if there were differences in ONS Wellbeing scores between our survey population and the national average. The results showed that survey participants had statistically significantly lower life satisfaction ($t(138)=-5.08$, $p=0.000$), happiness ($t(138)=-5.80$, $p=0.000$), feelings that life was worthwhile ($t(138)=-4.85$, $p=0.000$) and worse anxiety ($t(138)=8.20$, $p=0.000$) compared to the national average. Qualitative results then confirmed that students felt their wellbeing was impacted currently, from being at university. The qualitative findings explored the role experiential learning plays in adapting curricula to shape wellbeing as well as how cultural spaces and experiential learning might interact to support that. Accordingly, diversifying module content can positively influence student wellbeing with the physical learning environment also playing an important part. In particular, 'interesting' physical learning spaces have the potential to enhance student wellbeing compared to digital learning environments.

Conclusions: Student wellbeing is impacted by how the curriculum is shaped. Curricula that embed wellbeing into their assessment, seminars, and weekly approach, as well as those that carefully consider the learning environment, might help to bolster student wellbeing.

Introduction

The rise in mental distress and low wellbeing among higher education students, both in the United Kingdom (UK) and internationally, is recognised as an important social and public health issue [1–3]. Key UK initiatives have included funding the Student Mental Health Research Network (SMaRteN) based at King's College London [4] , alongside the 2018 government-initiated directive to establish a University Mental Health Charter [5]. A 2019 perspectives paper outlined the need for a more robust evidence base for the student mental health crisis with particular focus on improved coordination and collaboration in data collection[6]. Despite these efforts to bring further attention to this issue, the wellbeing crisis in higher education institutions persists. Findings from the 2022 Student COVID-19 Insights Survey report almost two thirds (63%) of students experience a worsening of their mental health and wellbeing since the beginning of Autumn Term 2021. These figures illustrate the extent to which COVID-19 has accelerated the already critical mental health situation when placed in the context of the existing crisis, where students are already disproportionately experiencing loneliness (26%) in comparison to adult populations (8%)[7]. This is particularly prevalent in increasingly competitive academic environments where students, in pursuit of educational recognition, are more vulnerable to stress [8] and where the wellbeing aspects of learning are side-lined [9].

Considering these increasing challenges, studies have explored pedagogical approaches to wellbeing, finding the university to be a pedagogical space with potential to support positive wellbeing [9]. One new area that has to date seen limited application in academic learning environments is Social Prescribing. Social Prescribing provides an opportunity for health professionals to refer individuals to a variety of non-clinical services often located within the community. Recognising that individuals' health and wellbeing is shaped by a range of economic, social and environmental factors – the social determinants of health [ref] –social prescribing addresses individuals needs holistically, rather than remaining restricted to medical approaches [10,11]. Similar initiatives have been employed for many years, such as the voluntary sector-led Bromley-by-Bow Centre, London [12] and the Limelight Centre, Manchester [13]; which bring together health, public and voluntary services to

enhance wellbeing. Much of this work has gone largely unnoticed by NHS bodies. However, social prescribing has become a crucial avenue of care in recent years, as GPs report nearly 30% of appointments are psychosocial [14]. Primary care faces pressing psychosocial challenges resulting in NHS bodies embracing social prescribing, evidenced by the NHS Five Year Forward review (2014; [15]) and subsequent General Practice Forward Review (2016; [16]) citing and emphasising the positive impact social prescribing schemes produce. The NHS Long Term Plan (2019; [17]) solidified these initiatives by incorporating social prescribing into its comprehensive model of personalised care. This in turn was highlighted in the Health and Care act 2022 which focused on integration of health and social care. Social prescribing can be seen in the rise of Creative Health, which The National Centre for Creative Health (NCCH) define as '*creating the conditions and opportunities for arts, creativity and culture to be embedded in the health of the public*' [18]. The establishment of the Culture, Health & Wellbeing Alliance in 2018 is further evidence of growing interest in this field. Creative Health has the potential to address higher education student wellbeing practically and holistically to reap effects in line with social prescribing successes, but to date, studies exploring this are sparce, lack a curriculum focus and are without clear understanding of the universities' role [19–21].

The importance of spaces and their role as cultural and community assets [22–25] is widely recognised as part of the creative health lexicon They can include, but are not limited to: gardens, museums, galleries, and parks. Universities sit in this area as a space where wellbeing can be cultivated [26]. Specifically where wellbeing can be constructed and deconstructed, there is growing interest in the role of extra-curricular and curricula-based interventions to support student wellbeing within the University [27]. Importance is placed on a student-led approach as being key to delivering change and improving outcomes, both at an educational and personal level. Baik et al (2018; [27]) outline, from the student perspective, the need for socially informed course designs that embed wellbeing into the process of completing modules or courses. Emphasis is also placed on the importance of the social aspects of students' lives within the framework of learning.

Correspondingly a bespoke, embedded approach has emerged from the literature as a way of further promoting wellbeing within university spaces and through their

curricula [28]. A systematic review from 2022 outlined limited robust evidence to supports the impact of curriculum-embedded interventions aimed at improving student mental health and wellbeing [29]. Although the review was unable to synthesise across studies, due to inconsistent outcome measures, one study found benefit (N=76) in undergraduate students' wellbeing, following the integration of academic and experiential learning [30]. Research claims pre university attributes, such as a students' social, emotional, and psychological competencies contribute to the variance in university outcomes. Utilising the unique university space can redress these established outcomes by steadily increasing wellbeing to enhance these competencies, supporting students' ability to perform academically and remain well at the same time [31,32]. Considering the increase in digital cultural engagement during the COVID-19 Pandemic, the University of Oxford actioned these recommendations by designing an interdisciplinary trial protocol to explore the effects of cultural experiences on mental health using the Ashmolean Museum's digital collection [33]. This serves as robust evidence to the potential impact creative health initiatives hold in addressing young people's (16–25-year-olds) increasingly complex mental health challenges.

The systematic review recommended that future research consider inter-institutional collaborated interventions [29]. The present study was designed to explore the role of experiential learning spaces and student wellbeing across three different institutions. However, due to the onset of the Coronavirus pandemic, it was not possible to conduct in-person research for most of the project. Therefore, the present study was re-designed to address the rising mental health challenges recorded amongst student populations, by exploring curriculum embedded experiential learning as a non-clinical intervention, including both digital and in-person delivery.

Aim: To assess experiential learning informs student wellbeing across three university settings.

Methods

Design

The study design used a mixed methods approach, following an explanatory sequential design, as outlined by Creswell and Plano (2017; [34]). This includes analysing quantitative data from an online survey, followed by 1-hour semi-structured interviews that further explored the quantitative findings.

Participants

For the quantitative arm participants (N=140) comprised of a convenience sample of student survey respondents, from across the three institutions involved (see Table 4). The survey was targeted at students at the three universities via modules and cultural events.

For the qualitative arm of the study, quota sampling was used, thereby selecting cases based on demographics and deciding on a predetermined number of cases reflecting specific characteristics [35]. The sample size was N=14. The breakdown being: 10 from University College London, 3 from King's College London and 1 from the University of Oxford.

Context

University College London (UCL)

At UCL we focused on students taking a range of modules that involve experiential learning and the use of on-campus cultural spaces (i.e., museums and collections spaces) as central element of the curriculum. In particular, this involved a range of modules from UCL's Arts and Sciences Department. At undergraduate level we focused on students taking (or having taken) *BASC0004 Object Lessons: communicating knowledge through collections*. This 10-week second year core module (taken by between 45 and 60 students annually) has an explicit focus on problem-based, object-based learning, whereby students are immersed in individual and group research activities involving object, specimens, and items from across the university's curated collections. At a postgraduate level the invited students largely

took *BASC0030 Arts, Nature, and Wellbeing: non-clinical interventions in health*, a core component of the Master's in Arts and Science (MASc) in Creative Health programme and taken by between 25 and 35 students annually. This module explores different non-clinical and asset-based approaches to supporting health and wellbeing. As part of this, students learn theoretically about a range of perspectives and get to experience practically the impact of these approaches, including nature and the outdoors, movement and performance, fine art and art making, and cultural heritage. Additionally, students from several other modules were also invited to participate such as *ARCL0012 Sites and Artefact*, a first-year core module at the Institute of Archaeology and *BIOL0035 Vertebrate life and Evolution* a third-year module on the biosciences programme. Crucially, all the modules from which students were recruited have hands-on experiential learning as a central component within the curriculum, thus putting these students in an excellent position to compare these experiential modules with the other more traditional (didactic) modules that they take or have taken.

King's College London

Clinician wellbeing impacts on the delivery of patient care. With current student cohorts reporting more mental health issues than previous and clinical practice becoming increasingly more stressful, as clinical educators, therefore, we owe a duty of care to both our students and patients to ensure we create humanistic learning environments that nurture student personal development and support their mental health, as they develop their professional identities. Dental education follows a context specific transformative model of professional development. As Faculty, it is our responsibility to facilitate and curate environments where transformative learning is most likely to occur. Ongoing educational research within the Faculty of Dentistry, Oral & Craniofacial Sciences (FoDOCS) at King's College London has shown that giving students permission within the formal curriculum to explore cross-disciplinary opportunities, away from seminars and clinics in. Engaging with art-museums, cultural places and London's green spaces helps them flourish, become more tolerant of ambiguity and learn not only to take care of their patients but also themselves. As a signature pedagogy for living well and working with uncertainty and complexity, we at FoDOCS have fully integrated arts, humanities, green space activity and museum-based cultural engagement longitudinally throughout all five years of our dental and all three years of our hygiene therapy programmes as sustainable healthcare

education. The *Clinical Humanities & Wellbeing* modules consisting of dialogic large group sessions that address the academic content, discussion fora, and off campus outings are credit bearing and assessed. All first-year students are tasked with carrying out object-based research in London museums and allocated curricular time for volunteering and green space activities as they make the transition from school to university and commence the process of professional identity formation alongside their personal development. Ensuing years continue to have time for volunteering and green spaces, together with specific museum-based activities that promote personal sustainability, reflexivity, and critical thinking, as they continue the transformative journey from beginning and belonging to becoming and then being a clinician. As a developing area of pedagogical research, we are interested to explore further the liminality of these museum, and outdoor spaces and what is it about the space itself that appears to be beneficial to the students' experience and their wellbeing.

University of Oxford

In May-June 2019, Oxford University Gardens, Libraries and Museums (GLAM) organised free activities in its venues (Ashmolean Museum, Bodleian Libraries, History of Science Museum, Oxford Botanic Garden and Arboretum, Oxford University Museum of Natural History and Pitt Rivers Museum) to help students unwind and take a break from the pressures of revision and exams. Activities included yoga in the Weston Library, mindfulness in the Ashmolean Museum and drawing in the Museum of Natural History. The intention was then to develop and broaden the range of activities in 2020 but the COVID-19 pandemic forced a rethink of what could be offered because the GLAM venues were closed during the pandemic lockdowns, meaning a shift to virtual as well/instead of physical environments. For example, in March and April 2021 the Ashmolean Museum created and hosted two virtual 'isoLates' events aimed at students, based on their Ashmolean Lates series, which featured activities that are beneficial for mental health and wellbeing. Activities included poetry, music and art workshops, curator talks and Q&As, games and opportunities for networking via a chat function.

Now that pandemic restrictions have lifted, GLAM institutions are once again offering in-person activities for students at their venues. In another development, in early 2022 GLAM began a collaboration with Oxford University's Counselling Service, within the

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Student Welfare Support Service, in which GLAM is hosting psychoeducational and therapeutic workshops in its buildings. A pilot in May-June 2022 saw workshops included Managing Sleep and Insomnia, Mindfulness in Nature (in Oxford Botanic Garden) and Perfectionism. The collaboration aims to enhance students' access to and improve their relationship with experiential learning spaces. It also aims to normalise psychoeducational content and mental health needs, by facilitating discussions in non-clinical settings. Ongoing interest and positive feedback from students and facilitators have led to further workshops arranged in October-November 2022 on topics including Reducing Digital Distractions, perfectionism, and mindfulness in nature. Object-based teaching also takes place in GLAM venues. For example, the Ashmolean's University Engagement Programme includes Faculty Fellowships, Eloquent Things, Krasis, the latter two of which offer early-career scholars' opportunities to develop their skills in object-based teaching and learning. Positive feedback from these sessions have led to discussions around expanding the offering to welfare staff, such as counsellors within the university.

Procedures

The survey was conducted over 20 weeks (July-November 2021). Ethical approval was granted from the University College London Research Ethics Committee under ethical approval reference number 13649/004. Consent was obtained specifying that participants had read and consented to the participant information sheet, as per ethical approval. The anonymous survey asked 24 questions and was split across four sections, respectively comprising questions on: (1) Their own creative cultural- and nature-based activities, (2) University provided experiential (i.e., creative cultural- and nature- based) activities, (3) Wellbeing and (4) Demographics. Participants took an average of seven and a half minutes to complete the survey. Section (3) Wellbeing consisted of the Office of National Statistic's four questions (ONS4) and the Harvard Flourishing Scale; the latter was optional for completion.

Interviews were conducted between January and March 2022. Consent was obtained at the beginning of the interview. It covered, the interview being recorded, transcribed, anonymised, and used within this project as well as the option for participants to withdraw their consent up to six months afterwards. However, no participant chose to

do this. Questions were asked over the space of an hour and deviations in prompts enabled a more flexible approach to interrogating answers from participants. All interviews were conducted and recorded over Zoom [36]. Interview transcripts were verbatim and downloaded from the Zoom recording, tidied by two researchers who cross-compared the transcripts with audio files to confirm fidelity [37].

Materials

Quantitative Survey: The anonymous 24-question survey was split across three sections (Demographics, Activities and Wellbeing). In the wellbeing domain of questions, the Office for National Statistics (ONS) four wellbeing questions and the Harvard Flourishing Index were used to understand student wellbeing with the questions outlined in Tables 1-2 [38–40].

Qualitative Interviews: a summary of the questions asked can be found in Table 3.

Table 1: ONS Wellbeing questions summary

Next, I would like to ask you four questions about your feelings on aspects of your life. There are no right or wrong answers. For each of these questions I'd like you to give an answer on a scale of 0 to 10, where 0 is "not at all" and 10 is "completely".

Construct	Question
Life satisfaction	Overall, how satisfied are you with your life nowadays?
Worthwhile	Overall, to what extent do you feel that the things you do in your life are worthwhile?
Happiness	Overall, how happy did you feel yesterday?
Anxiety	On a scale where 0 is "not at all anxious" and 10 is "completely anxious", overall, how anxious did you feel yesterday?

Table 2: Harvard Flourishing Scale questions

Domain	Indicator	Question
Domain 1: Happiness and Life satisfaction	D1.1	Overall, how satisfied are you with life as a whole these days? 0 = Not Satisfied at All, 10 = Completely Satisfied
	D1.2	In general, how happy, or unhappy do you usually feel? 0 = Extreme Unhappy, 10 = Extremely Happy
Domain 2: Mental and Physical Health	D2.1	In general, how would you rate your physical health? 0 = Poor, 10 = Excellent
	D2.2	How would you rate your overall mental health? 0 = Poor, 10 = Excellent
Domain 3: Meaning and Purpose	D3.1	Overall, to what extent do you feel the things you do in your life are worthwhile? 0 = Not at All Worthwhile, 10 = Completely Worthwhile
	D3.2	I understand my purpose in life 0 = Strongly Disagree, 10 = Strongly Agree
Domain 4: Character and Virtue	D4.1	I always act to promote good in all circumstances, even in difficult and challenging situations 0 = Not True of Me, 10 = Completely True of Me
	D4.2	I am always able to give up some happiness now for greater happiness later 0 = Not True of Me, 10 = Completely True of Me
Domain 5: Close social relationships	D5.1	I am content with my friendships and relationships 0 = Strongly Disagree, 10 = Strongly Agree
	D5,2	My relationships are as satisfying as I would want them to be 0 = Strongly Disagree, 10 = Strongly Agree
Domain 6: Financial and Material Stability	D6.1	How often do you worry about being able to meet normal monthly living expenses? 0 = Worry All the Time, 10 = Do Not Ever Worry
	D6.2	How often do you worry about safety, food, or housing? 0 = Worry All the Time. 10 = Do Not Ever Worry, 10

Table 3: Semi-structured Interview questions

Domain	Question
Student experience and Learning	What is your experience like being a student?
Spaces	What difference does the space you're in make to your learning?
Uncertainty/Control	What is gained and what is lost by the current 'blended learning' approach, combining online and in-person activities?
Motivation	Have you taken any modules with a creative, cultural, or natural element to them?
Health and Wellbeing	How would you characterise your own wellbeing at the moment?

Analytical Strategy

As per the study design, the survey was devised under the assumption that there may be a generalizable theory that students suffer from lower wellbeing, and whether it is aided by experiential learning in cultural and natural settings. Qualitative data collection was informed by the survey, to then assess potential patterns by further exploration using interviews to confirm or disagree with the quantitative results. Survey data was analysed using statistical software Stata 17 using both descriptive and inferential statistics [41].

To examine whether survey participants had significant differences in wellbeing, independent t-tests were used to compare the results to the national average, using ONS data from July 2021.

To inspect descriptively the difference between universities, overlapping histograms were generated for each ONS wellbeing scores and Harvard Flourishing domains, followed by mean bootstrapping each outcome to 10,000 replications.

The mixed method approach was explanatory sequential, therefore relying on the qualitative findings to be directed by, and with potential to explain the quantitative findings [34]. To explore the quantitative findings, interviews were designed and conducted to clarify the position of the patterns identified. Qualitative data, comprising of both survey free-text and interviews were analysed using framework analysis in NVivo version 12 [42,43]. The following steps were taken:

(1) verbatim transcription of the interview recordings.

(2) familiarisation with the interviews, re-reading the transcripts and re-listening to the audio files by both researchers involved in the analysis.

(3) coding in NVivo beginning deductively using the themes generated from the quantitative study, however, there was also open coding simultaneously to capture substantive or emotional elements not considered in the initial codes.

(4) a working analytical framework was developed, halfway through coding the transcripts, between the two researchers who met to discuss the set of codes each

had applied beyond the original deductive ones identified. Codes were then grouped and reduced into a category that was agreed upon and employed for the remainder of the transcripts, with multiple categories identified.

(5) the analytical framework was applied using NVivo where transcripts were coded into the categories agreed.

(6) a framework matrix was generated using an Excel spreadsheet as well as within NVivo to simultaneously check the transcripts filtered into the categories, illustrative quotes were then identified and allocated within the spreadsheet.

(7) data interpretation culminated in the two researchers defining the themes and identifying convergence or divergence between and within transcripts, this was then written up.

Results

Survey Findings: Inferential Statistics

Participants were predominantly female (76.43%), between the ages of 18-21 (66.43%), enrolled in undergraduate degrees (82.14%), UK-Based (94.29%) and white (48.57%) (Table 4).

Inspecting Figure 1 visually shows the proportional difference between SWELS survey participants and the national average. Including participants across the universities demonstrates the proportion of students aged 16-25 years compared to the national average of the same age group at the same time reported worse life satisfaction 3.10% versus 9.84%, and higher anxiety 23.60% versus 59.84%. As a result, independent t-tests were conducted on the student sample (N=140) to compare differences in ONS Wellbeing scores, due to ONS publishing the national average mean and standard deviation quarterly by age group. The results showed that survey participants had statistically significantly lower life satisfaction (t(138)=-5.08, p=0.000), happiness (t(138)=-5.80, p=0.000), feelings that life was worthwhile (t(138)=-4.85, p=0.000) and higher levels of anxiety (t(138)=8.20, p=0.000) compared to the national average.

Survey Findings: Descriptive Statistics

Table 5 shows the absolute mean and standard deviation for each university for the ONS4, which showed descriptively that UCL students (Life Satisfaction mean= 6.27(SD 2.58); Anxiety mean = 5.24(SD 2.74); Happiness mean=5.95 (SD=2.89); Worthwhileness mean= 6.19 (SD 2.90)) reported the worst wellbeing amongst the three universities. Oxford students reported the highest (Life Satisfaction mean= 7.03 (SD 1.54); Anxiety mean = 4.24(SD 2.82); Happiness mean=6.67 (SD=1.88); and Worthwhileness mean= 7.07 (SD 2.02)).

Following 10,000 bootstrap replications, Figure 1 demonstrates the distribution of mean ONS4 wellbeing scores for each University. This descriptively indicates Oxford University has a larger variance in wellbeing outcomes in comparison to KCL and UCL. KCL had a higher anxiety score mean compared to UCL and Oxford, while UCL had

lower life satisfaction and worthwhileness mean score. The bootstrapped results helped to minimise the effect of unbalanced sample sizes between institutions. To see the original distributions of the wellbeing measures, see Supplementary Figures 1-4.

Table 6 shows the absolute mean scores for the domains from the Harvard Flourishing scale. Oxford has the highest mean scores for domains 1 (Happiness and Life Satisfaction), 2 (Physical and Mental Health) and 5 (Close social relationships). KCL has the highest scores for domains 3 (Meaning and Purpose) and 4 (Character and Virtue) and UCL has the highest mean score for domain 6 (Financial and material stability).

After 10,000 bootstrap replications, Figure 3 shows no relative visual difference between universities in close social relationships. UCL lags for students reporting higher levels of meaning and purpose and character and virtue. Similarly, UCL reports lower levels of happiness and life satisfaction compared to Oxford and KCL. The distribution of physical and mental health is similar across universities, however, KCL show less variability. Oxford performs the worst on financial and material stability, whereas UCL students report worrying less.

Visual inspection of Figures 1 and 3 show there was no significant difference between the institutions due to overlapping confidence intervals, therefore no inferential statistics were performed.

Figure 4 shows Survey participants activity levels in experiential learning spaces pre- and post-COVID-19. post-COVID-19, students used Parks (40%) the most, and Museums the least (1%). Post-COVID-19 students jointly used Parks and Online activities the most (31% each), and Libraries the least (1%). There was an increase in outdoor activity pre COVID-19; parks (40%) and gardens (34%), and in indoor activities; online (31%), museums (8%), art galleries (11%) and libraries (3%) post-COVID-19.

Figure 5 shows survey participants activity levels in experiential learning spaces pre-COVID-19 by university. Pre-COVID-19, UCL and KCL most frequently engaged with Parks (20%), and Oxford with Gardens (18%). University students were least likely to engage with Museum and Libraries (1% - UCL), Gardens (5% - KCL) and Online

Activities (7%). UCL students engaged with a wider variety of activities, followed by Oxford and KCL.

Figure 6 shows survey participants activity levels in experiential learning spaces post-COVID-19 by university. Post-COVID-19 UCL students continued to engage in a wider range of activities, followed by KCL and Oxford. UCL where mostly engaging with Online activities (19%), KCL with Parks (12%), and Oxford in Gardens (15%). Students at UCL were engaging least with Libraries (2%), KCL jointly used Museums, Libraries and Art Galleries (1%) the least, and Oxford students engaged the least with Art Galleries (1%).

Table 4: Student Wellbeing and Experiential Learning Study Quantitative Data Demographics (n=140)

|	UCL	KCL	Oxford	Overall
	%	%	%	%
Gender				
Female	75.68	76.06	76.67	76.43
Male	18.92	23.94	20.00	21.43
Other	2.70	N/A	3.33	1.43
Prefer not to say	2.70	N/A	N/A	0.71
Age range				
18-21	45.95	77.46	70.00	66.43
22-24	27.03	9.86	6.67	13.57
25+	27.03	12.68	23.33	20.00
Uni course				
Undergraduate	59.46	100	70.00	82.14
Postgraduate Taught	35.14	N/A	10.00	11.43
Postgraduate Research	5.41	N/A	16.67	5.71
Prefer not to say	N/A	N/A	3.33	0.71
UK-based				
Yes	81.08	98.59	100	94.29
No	18.92	1.41	N/A	5.71
Ethnicity				
White	59.46	29.58	76.67	48.57
Asian or Asian British	24.32	50.70	13.33	35.00
Black, African, Caribbean	N/A	4.23	3.33	2.14
Mixed/Multiple ethnic groups	5.41	5.63	3.33	5.00
Prefer not to say	8.11	1.41	3.33	3.57
Other	2.70	8.45	3.33	5.71

NB: The sample size was different per university: UCL N=37, KCL N=71, Oxford N=30, with other universities contributing 2. Overall N = 140.

Figure 1: Proportional breakdown of SWELS survey participants ONS4 wellbeing scores compared to the National Average at the same time point for the same age.
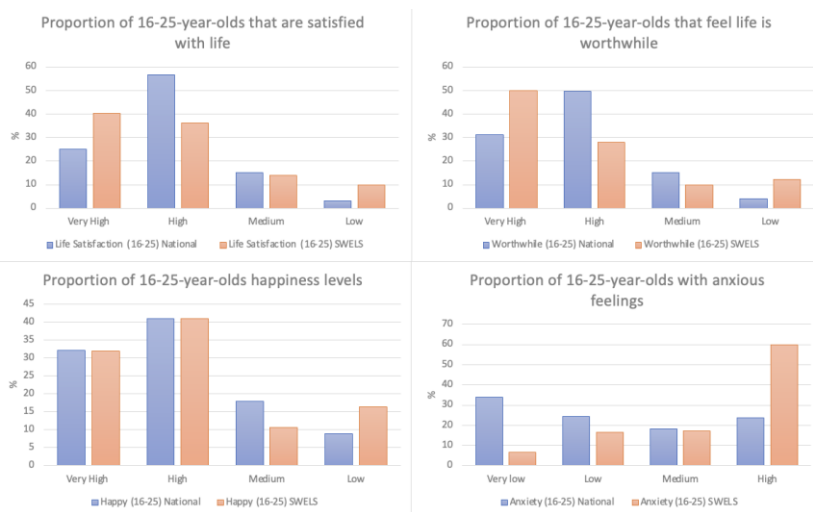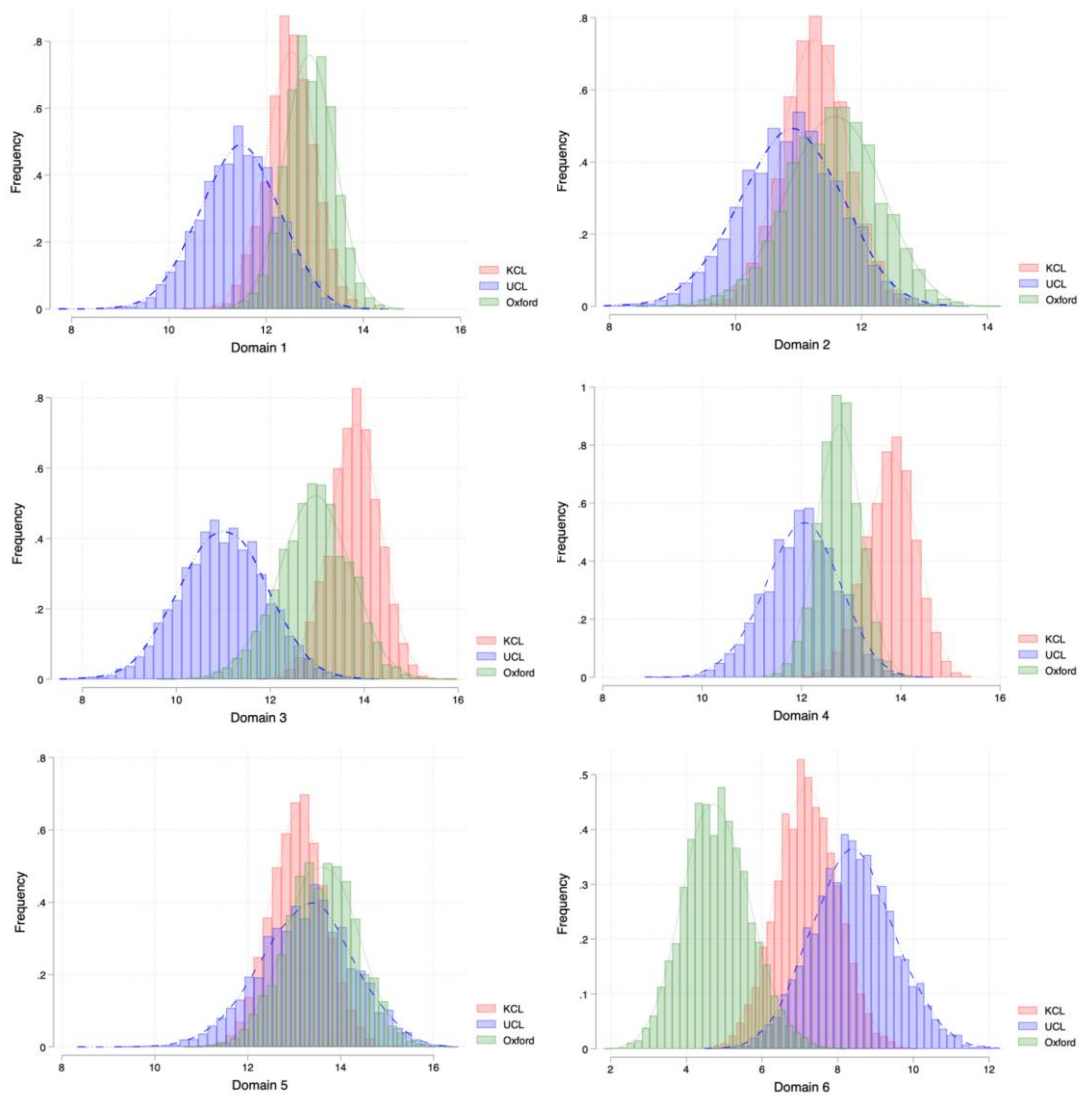

Figure 2: Distribution of the ONS4 scores by university from 10,000-iteration bootstraps
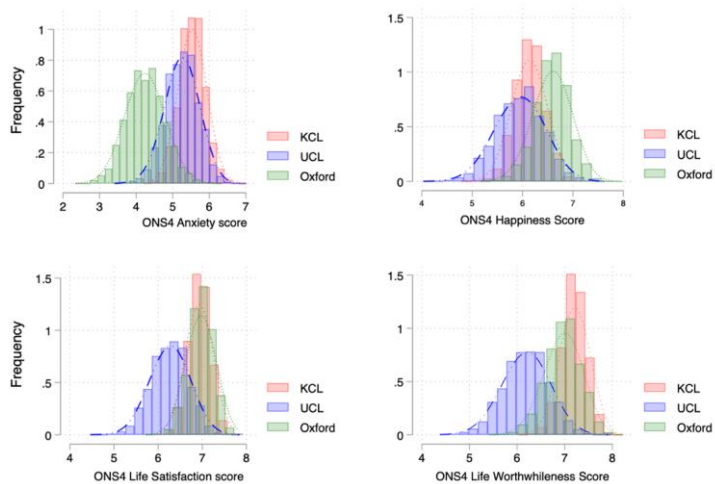
Figure 3: Distribution of the Harvard Flourishing domains by university from 10,000-iteration bootstraps

Table 5: Mean and standard deviation of ONS Wellbeing questions by university

|	UCL Mean (SD)	KCL Mean (SD)	Oxford Mean (SD)	Overall Mean (SD)
Life Satisfaction	6.27 (2.58)	6.93 (2.02)	7.03 (1.54)	6.74 (2.11)
Anxiety	5.24 (2.74)	5.54 (2.88)	4.24 (2.82)	5.20 (2.84)
Happiness	5.95 (2.89)	6.13 (2.47)	6.67 (1.88)	6.18 (2.46)
Worthwhileness	6.19 (2.90)	7.20 (2.18)	7.07 (2.02)	6.87 (2.38)

NB: The sample size was different per university: UCL = N37, KCL=N70, Oxford=N30, with other universities contributing 2. Overall N = 139.

**Table 6: Mean and standard deviation of Harvard Flourishing scale by university**

	UCL Mean (SD)	KCL Mean (SD)	Oxford Mean (SD)	Overall Mean (SD)
Domain 1: Happiness and Life Satisfaction	11.32 (4.64)	12.51 (3.93)	12.80 (2.68)	12.24 (3.88)
Domain 2: Physical and Mental Health	10.76 (4.57)	11.26 (4.17)	11.55 (3.92)	11.18 (4.17)
Domain 3: Meaning and Purpose	10.86 (5.29)	13.85 (4.17)	12.87 (4.07)	12.76 (4.61)
Domain 4: Character and Virtue	12.17 (4.20)	13.90 (3.95)	12.70 (2.23)	13.17 (3.74)
Domain 5: Close social relationships	13.17 (5.79)	13.16 (4.68)	13.50 (4.07)	13.25 (4.82)
Domain 6: Financial and material stability	8.57 (6.54)	7.10 (6.42)	5.00 (4.76)	7.11 (6.23)
Flourishing Index	117.54 (47.64)	128.31 (45.58)	131.17 (22.88)	126.02 (42.09)

NB: The sample size was different per university: UCL = N37, KCL=N71, Oxford=N30, with other universities contributing 2. Overall N = 140.

**Figure 4:** Survey participants activity levels in experiential learning spaces pre and post COVID-19

SWELS survey participants activity levels in experiential learning spaces pre- and post-COVID-19
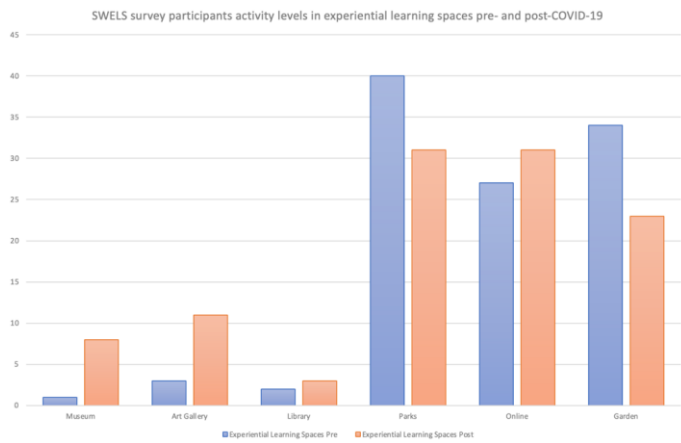
Figure 5: Survey participants activity levels in experiential learning spaces pre COVID-19 by university

SWELS survey participants activity levels in experiential learning spaces pre-COVID-19 by university
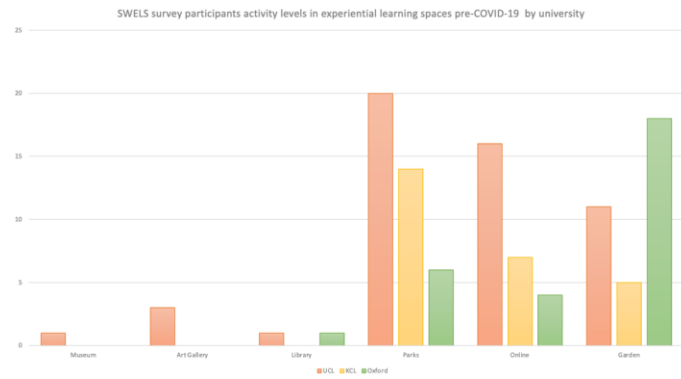
Figure 6: Survey Participants activity levels in experiential learning spaces post COVID-19 by university

SWELS survey participants activity levels in experiential learning spaces post-COVID-19 by university
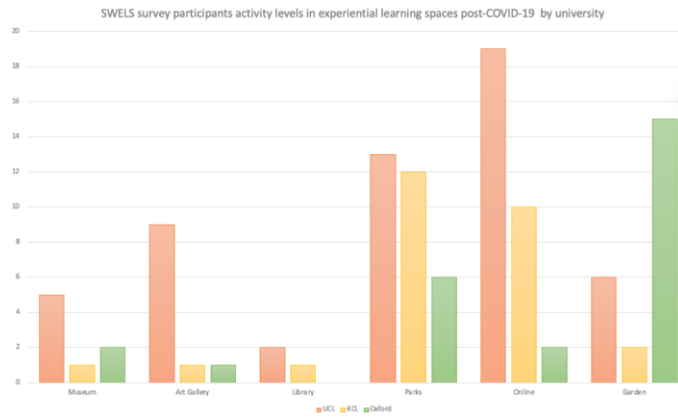
Interview Findings

Participants were predominantly female (n=12, 85.7%) and studying either undergraduate or postgraduate taught degrees (n=6, 42.8% (Table 7).

Table 7: Student Wellbeing and Experiential Learning Study Qualitative Data Demographics				
	UCL	KCL	Oxford	Overall
	%	%	%	%
Gender				
Female	100	33.3	100	85.7
Male	0	66.6	0	14.3
Uni course				
Undergraduate	40	66.6	0	42.8
Postgraduate Taught	60	0	0	42.8
Postgraduate Research	0	33.3	100	14.4
NB: The sample size was different per university: UCL = 10, KCL=3, Oxford=1.				

The three deductive themes that our framework analysis was built around were *Activity*, *University* and *Wellbeing.* These themes were informed by the survey trends and potential patterns for further explorations, using interviews to confirm or disagree with the quantitative results. Following the initial stage of coding, a period of open coding followed which was integrated into the original deductive themes. The overall framework matrix can be seen in Table 8. Illustrative quotes were identified and are presented below.

Table 8: Framework Matrix

Theme: Activity - Digital versus Physical and Diversifying content	
Code	Description
Social connection via experiential learning	Experiential learning opportunities in the curriculum enabled students to potentially connect more with their peers and gave more opportunities for social connection.
Seeing versus touching	There was a distinct difference in how students engaged with seeing and touching within experiential learning moments. Touching seemed to enable an engagement beyond looking. However slow looking exercises as part of the seminar opened students' eyes to the benefits of slowing down.
Diversifying perspectives	When engaging in cultural, natural, and creative spaces through specific modules they found it opened their eyes, broadened their horizons, and allowed them to "meet people where they are" to explore the diversity of perspectives.
Non-traditional learning space	Students interviewed identified a range of places where they had been taught that were not traditional learning spaces. These included the National Gallery, UCL Grant Museum, the UCL Art Museum, the UCL Petrie Museum, the Oxford libraries and coffee shops.
Theme: Wellbeing - Experiential Learning Curricula shapes wellbeing	
Superficial not structural benefits of cultural engagement	Some students saw the cultural engagement in both their daily lives and within the university curriculum as the cherry on top rather than the base benefit needed.
Structural determinants of wellbeing	Students identified how at an institutional level the university can improve systemic and structural determinants of student wellbeing through constructing courses with wellbeing in mind and improving access to psychological services.
Benefits of active movement	Many students interviewed highlighted the need to move their bodies, whether through yoga, Pilates, getting 10,000 steps a day or a daily walk with their dog. Other activities highlighted were skiing, swimming, playing games with friends, using clay, running, and going to the gym.
Benefits of space or environment	Students spoke about how the different natural and cultural spaces benefitted them. Some explain that they seek out these spaces routinely, others explained that the benefits included: recharging and stimulating them.
Social benefits of seminars	Seminars were identified as being both a social as well as educational resource for students.
Social barriers during COVID	During COVID-19 pandemic, students found the loss of weekly face to face contact and especially the restriction around masks to be a barrier to their socialisation and enjoyment.
Theme: University - Cultural Spaces and Modules	
Learning preferences	Students have a preference as to how and where they learn best. This is heterogenous across the population and as a result there is no one cohesive view here. What might be most important is that students are able to

	choose and have autonomy over a diverse variety of modules that each have different spaces and ways of learning or pedagogical underpinnings.
Online learning downfalls and benefits	Online learning was not an overwhelming success with most of the students interviewed expressing some reservation about the loss of face-to-face contact in supporting their learning, specifically for seminars. Students did appreciate the university-wide rapid adaptation to online content and their chief benefit was the ability to watch lectures, re-watch them or watch them at slower or quicker speeds.
Suboptimal/Optimal Learning spaces	Students challenged the way suboptimal learning spaces can discourage their learning if there is a lack of natural lighting, too much noise, or if they are not aesthetically pleasing even. Seemingly during the COVID-19 pandemic the loss of face to face and shift to the online environment was identified as a suboptimal learning space. Optimal learning spaces were described by students as being light, bright, airy, temperature was well regulated, interesting diverse. They liked moving around campus to different spaces to maintain stimulation and interest.
Disliking cultural spaces to learn	Six students elucidated to some extent dissatisfaction with being in certain cultural spaces, either it "wasn't their thing", due to the collections themselves being made from taxidermy or it was actively the space itself being dark, cold, and old.
Disparity between cohorts	The students from this cohort we interviewed have lived and learned through the COVID-19 pandemic. Upon reflection between their previous or current experiences of university there was a clear difference that student and university life has changed.
Diversity in content improves outcomes and cohesion	There was a clear continuation between students that by diversifying their module or course content to go beyond a lecture, seminar, essay, or exam format with built in creative and innovative ways of learning was more engaging and led to higher social cohesion between a cohort as they interact more with one another as well as improved other outcomes, potentially how students felt about their marks and assessment.
Curriculum shapes wellbeing	Students outlined the ways that the content of modules might affect their wellbeing, and the modules that they have taken that embed wellbeing into the curriculum does support their wellbeing.

Quotes

Cultural Spaces and Modules

"Events which encourage people to step outside of what they're doing, because a university experience should be a holistic experience, you should be able to engage with things outside of you and get a spirit of place, so anything which encourages you to explore places like the Ashmolean or the Pitt Rivers or the Natural History Museum."

"These [UCL museum] spaces do have the power to transform individuals and they do, but they also have the power to trigger and over stimulate some people...we've got to meet people where they are and build these bridges."

"Clinical humanities [KCL] was a nice time of the week, you have to be present, we would have to be there in the moment and go to a museum or the park and either way it forced us to relax and take some time off. A few hours to yourself."

Experiential Learning Curricula shapes wellbeing

"[Experiential learning supporting wellbeing] needs to be a conscious thought throughout the construction of modules and university campuses, across all aspects of university life because I think right now it's very obviously not considered."

" I definitely know regularly engaging with experiential learning has helped me and I've never had a period of wellness that's lasted this long, and I don't think that's a coincidence."

"Experiential learning is very beneficial by making things very real and very present and making you a lot more aware of what you're doing."

"[Experiential Learning in the curriculum] would have exposed me to a wider set of pedagogical tools which might mean I would have really hit the ground running, it might not, but I think it would have been nice to know, maybe I am a very experiential learner

and I'm you know someone who benefits from actually touching and holding things, I haven't been exposed so that I don't know."

Diversifying content and curriculum shaped wellbeing

"I think the whole idea of diversifying content makes it more enjoyable as a student. If these modules expecting us to think creatively and they want us to come up with original ideas with essays. But they're not being particularly original creative with the way they're giving these modules, which I think limits how many [students think] outside of the box. I think there's a certain expectation on us as students to break barriers and yet there's always an assessment criterion to check."

"It would be way easier to come up with original thoughts if I knew that maybe this module had not been given the exact same way and the lecture is the exact same every year. I think you're really relying on the student individually. It becomes more competitive and less supportive, where the student feels the need to prove themselves, instead of feeling like they're in a place where it was more accepting of crazy ideas."

Digital versus Physical

"Without this module and the trips to the museum, I wouldn't have met people from the course, as nothing really was in-person. I was able to make friends regardless of the pandemic through this module."

Discussion

As previously established from the introduction, student mental distress is increasing in higher education institutions across the United Kingdom and beyond. The quantitative results demonstrate a trend where participants have lower life satisfaction and higher anxiety levels in comparison to the same age group national average, speaking to the larger phenomenon. Furthermore, the quantitative data demonstrated a trend in disparity of wellbeing outcome, by university UCL does the worst for wellbeing, followed by KCL, then Oxford which had the best outcomes for wellbeing on both scales, but remained below national average. The quantitative survey focused generally on the wellbeing deficit among young adults and those in higher education, although data on what they do to support wellbeing was also collected. Interviews on the other hand shone a light on the wellbeing potential, or otherwise, of experiential learning spaces and opportunities. In combination, the qualitative and quantitative elements present a relatively complimentary picture with survey results primarily highlighting the problems and interviews focusing on opportunities and potential solutions.

During the survey period, students supported their wellbeing by spending time in natural green spaces and engaging with online activities. Interview findings found students predominantly focused on physical movement activities: yoga, swimming and running. There was an emphasis on how digital engagement versus physical engagement differed, physical activities enabling never experienced experiential learning trips, empowering students to meet and interact with course-mates, encouraging the formation of wider social connections.

Students spoke to how different natural and cultural spaces benefitted them. Some seek out these spaces routinely, others found these spaces recharged and simulated them. Interviews articulated how the universities' experiential learning spaces supported student wellbeing by broadening perspectives and improving exploration of students' local cultural and natural assets. These helped to build bridges, acting as a talking point, bringing people into the present, together. The space where object-based learning occurred mattered, digital verses physical space made a difference to

both engagement and outcome. Being physically present enabled students to build social connections with peers in their cohort, this may not have happened as effortlessly, evidenced by the example quote: "*without this module and the trips to the museum, I wouldn't have met people from the course, as nothing really was in-person. I was able to make friends regardless of the pandemic through this module*." This is helped by the university cultural and natural assets being focal talking points which enable conversations to flow, encouraging students to build better connections more easily. Clear distinctions were made between lectures remaining online versus the value of seminars taking place physically and situated in cultural or natural spaces, as opposed to typical teaching rooms. This was predominantly due to the social focus seminars tended to have in both curriculum-building and cohort-building.

Modules, courses, and experiences that enabled experiential learning were found to shape wellbeing outcomes for interviewees. One participant elaborated: *"[Experiential learning supporting wellbeing] needs to be a conscious thought throughout the construction of modules and university campuses, across all aspects of university life because I think right now it's very obviously not considered."* This finding filters into the further category that necessitates the diversifying of curriculum content to be shaped by wellbeing. Part of the university's purview is understanding the structural determinants of wellbeing. This theme ran through qualitative responses. Their focus was at an institutional level, calling for universities to improve systemic and structural determinants of student wellbeing through constructing courses with wellbeing in mind and improving access to psychological services. This was mirrored in the inverse relationship of those who had low wellbeing scores who tended to have inconsistent financial stability as ascertained from the final domain in the Harvard Flourishing scale. Some students saw the cultural engagement in both their daily lives and within the university curriculum as the cherry on top rather than the base benefit needed.

Limitations

Focusing on three highly competitive, research-intensive universities in the Southeast of England, has brought focus on a particular demographic. Thus, careful attention must be paid to avoid over-generalising finding to other U.K. Higher Education settings.

Many universities do not have access to similar 'cultural assets' that UCL, KCL and Oxford have at their disposal, this should be considered in relation to opportunities for experiential learning on campus. We advocate a community engaged university, which could create similar opportunities in and through partnership with cultural assets i.e., museums, collections, parks, and gardens off campus. In fact, this is exactly the focus of KCL's Clinical Humanities programme, which brings student in contact with cultural institutions outside of university. In addition, there is a sampling bias with a predominance of KCL for the quantitative survey and UCL for the qualitative interviews. This may have skewed the mental wellbeing results; however, this was addressed using bootstrapping to derive a single dataset from many simulated samples.

Conclusion

Based on a sample of students from three research intensive UK universities, it seems that university student's wellbeing – as represented by life satisfaction, anxiety, and happiness – is statistically below the national average. There are differences between these institutions, which could relate to their geographical settings, the level of study or sociodemographic profiles of the students. The interviews highlighted the potential impact embedding more experiential learning opportunities into the curriculum could have. More work is needed to compare these results more widely, across both the UK and internationally. A debate is required on how institutions should structure curricula to help, rather than hinder student wellbeing during their time at university.

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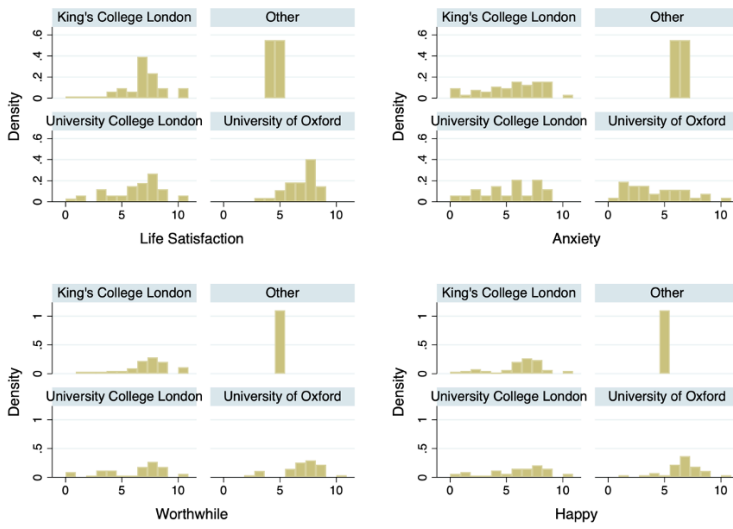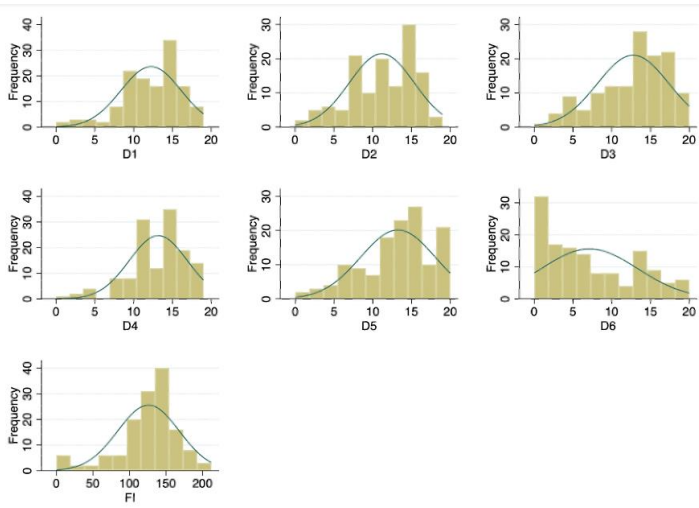
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Supplementary Material

Supplementary Figure 1: Observed data distribution of ONS Wellbeing scores
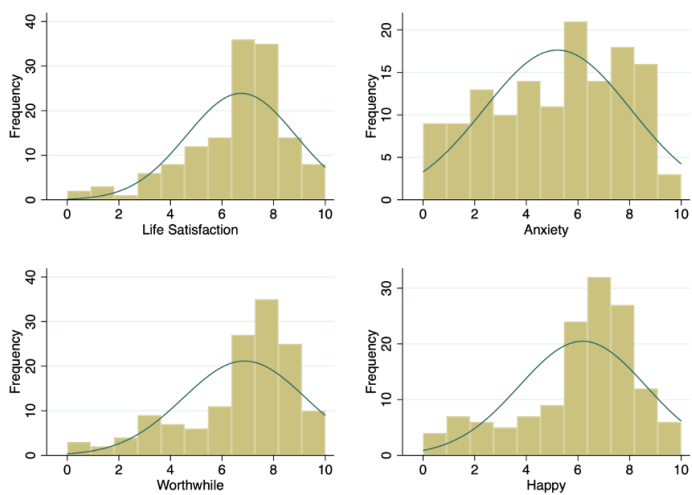
Supplementary Figure 2: Observed data distribution of ONS Wellbeing scores by university

Supplementary Figure 3: Observed data distribution of Harvard Flourishing scale

Supplementary Figure 4: Observed data distribution of Harvard Flourishing scale by university