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Research Article

Learning together for mental health: feasibility of measures to assess a whole-school mental health and wellbeing intervention in secondary schools

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Abstract

Background: Population mental health in young people worsened during and since the COVID-19 pandemic. School environments can play a key role in improving young people's mental health. Learning Together for Mental Health is a whole-school intervention aiming to promote mental health and well-being among young people in secondary schools. Before progressing to a Phase III effectiveness evaluation of the intervention, it is critical to assess the feasibility of trial measures at baseline and follow-up.

Objective: To evaluate the feasibility of trial measures and procedures within a feasibility study of a whole-school intervention aiming to promote mental health and well-being among young people in secondary schools, including whether we met our progression criterion of survey response rates of 60% or more in two or more schools at baseline and follow-up.

Design and methods: We conducted a feasibility study which included assessment of the indicative primary and secondary outcomes measures and procedures to be used in a future Phase III trial.

Setting and participants: Setting for our feasibility study included five state, mixed-sex secondary schools in southern England (one of which dropped out after baselines and one of which replaced this). We recruited year-7 students to participate in the baseline survey and year-10 students to participate in the follow-up survey at 12-month follow-up. Baseline and follow-up participants were different groups, as the focus was assessing feasibility of measures for the age groups that would be surveyed at baseline and follow-up in a Phase III randomised controlled trial. Our study was not powered or designed to estimate intervention effects.

Interventions: As part of our feasibility study, all schools received the Learning Together for Mental Health intervention for one academic school year.

Main outcome measures: The indicative primary outcome measure trialled was the total difficulties score of the Strengths and Difficulties Questionnaire. Indicative secondary outcomes measures trialled were the: Warwick-Edinburgh Mental Well-being Scale; Short Moods and Feelings Questionnaire; Generalised Anxiety Disorder-7 scale;

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Eating Disorders Examination – Questionnaire Short, self-harm (single item from the Health Behaviour in School-aged Children study); bullying victimisation (Gatehouse Bullying Scale); cyberbullying (two items adapted from the Dose Adjustment for Normal Eating II questionnaire); substance use (National Health Service measure); and Beyond Blue School Climate Questionnaire.

Results: Trial measures and procedures were feasible to implement and were acceptable to year-7 and year-10 students, teachers and parents. At baseline, response rates ranged from 58% to 91% between schools. Only two students were opted out by parents, and no students opted out in advance. Students refusing consent on the day of survey was rare (7%). Twelve per cent of students were absent. The follow-up survey had an overall response rate of 66%, ranging from 44% to 91%. Only two students were opted out by parents, and three students opted out in advance. Overall, 12% opted out on the day. Twenty per cent of students were absent. Variation in response rate reflected specific problems at certain schools. Surveys took 40–45 minutes at baseline and 30 minutes at follow-up. The trial progression criterion concerning response rates was achieved, with three of four schools at baseline and two of four schools at follow-up having responses rates above 60%.

Limitations: Our study involved a small, purposive sample of schools and students which are not representative of those in England.

Conclusions: With some minor amendments, trial measures and procedures should be applied in a future Phase III effectiveness evaluation of the Learning Together for Mental Health intervention.

Future work: Survey response rates could be improved if baseline and follow-up surveys are not scheduled in the last weeks of term, on Fridays or near mock General Certificate of Secondary Education exams. Completion of some measures (such as Eating Disorders Examination – Questionnaire Short) among year-7 students may be improved if question wording is tailored to be age-appropriate.

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Introduction

Mental disorders are the predominant cause of disability in the UK,[1] with onset by age 14 in approximately 50% of cases, and onset by age 24 in approximately 75% of cases.[2,3] Approximately 20% of young people aged 8–25 years in England have one or more mental disorder.[4] Disordered eating is present in approximately 40% of adolescent girls in the UK,[5] and 26% of women aged 16–24 in England report having ever self-harmed.[6] The green paper 'Transforming Children and Young People's Mental Health Provision' identified a prominent role for schools in England and Wales in promoting mental health (MH).[7] Historically, schools have generally not been supported by specialist MH expertise. As of spring 2023, the NHS England and Department for Education's joint roll-out of MH support teams was covering 35% of pupils in schools and learners in further education in England.[8] This programme, however, is still focused predominantly on responding to MH problems, as opposed to prevention, and there remains a need to develop and evaluate new universal preventive interventions.[9] In light of recent evidence indicating that young people's MH has worsened since the COVID-19 pandemic, developing effective, evidence-based universal interventions is of even greater importance.[10,11]

Evidence from multiple reviews suggests there is potential for school programmes to address young people's disruptive behaviours and MH,[12–15] including body image and disordered eating;[16] anxiety and depression;[13] self-harm; and development of supportive capacities, for example, self-regulation.[17] However, there are significant limitations to these programmes and the existing evidence base, including small effect sizes,[12] interventions addressing single facets of MH;[18] insufficient flexibility in implementation and delivery;[19] interventions not proving effective at scale; and a lack of interventions co-designed with young people.[9]

Whole-school interventions, which go beyond classroom curricula to encompass modifications of the wider school environment, have been shown to be effective for promoting physical and MH outcomes and are acceptable to schools.[9,20,21] However, their application to the field of MH has been limited, and, therefore, there is a lack of evidence to support their implementation.[20] This type of intervention aims to address multiple determinants of MH via the school environment, including school culture and systems.[22] Such interventions also aim to increase student engagement with the school, particularly among the most disadvantaged,[23,24] as well as build ownership among school leaders, staff and students. School observational studies suggest that the school environment can influence student MH in various ways, including through: development of social and emotional skills, influencing school belonging and commitment, engagement with prosocial or antisocial

peers, experience of bullying and involvement in social-support networks.[25–28]

We previously conducted the INCLUSIVE cluster randomised trial of the Learning Together (LT) intervention with 40 secondary schools.[29] LT incorporated a whole-school approach, aiming to influence the school environment and reduce bullying via: assessment of student needs; a student/staff action group (with external facilitator support) tasked with reviewing needs data and using this to decide on and implement changes to school policies and the wider school environment; training for school staff to use restorative practice (RP) to intervene in bullying and other conflict; and a social and emotional learning (SEL) curriculum. With the exception of the curriculum, we found all of these were implemented with fidelity. The intervention had significant beneficial effects, reducing bullying victimisation (primary outcome) in addition to improving mental well-being and health-related quality of life, and reducing psychological distress and substance use (secondary outcomes), with high-cost effectiveness.[29] Although the intervention did not include activities other than the curriculum directly addressing MH, effect sizes on MH outcomes were approximately 0.1 standard deviation (SD).

In light of these findings, we undertook a refinement and feasibility study, aimed at modifying LT to focus on MH and well-being. We assessed the feasibility and acceptability of the modified intervention, Learning Together for Mental Health (LTMH),[30] in secondary schools in England to determine progression to a potential Phase III trial. The LTMH intervention involved the following components:

1. **Mental health needs-assessment report** informed by survey of year-7 students.
2. **Action group** comprising around six staff and around six students, supported by an external facilitator, conducting at least six meetings to review the needs report, identify changes to school policies and environment, select actions from a menu of evidence-based options to address student MH needs, and oversee implementation of the programme.
3. **Restorative practice** implemented in response to student bullying and other conflict, with all teaching staff receiving introductory training on RP and four to five selected staff receiving intensive training on RP.
4. **Bounce Forward Healthy Minds (SEL) curriculum**[31,32] with selected teaching staff receiving training from the Bounce Forward charity to deliver the 'Foundation Resilience Skills' module to all year-8 students and other modules should the action group members and school leaders decide this would be useful.

Learning Together for Mental Health was implemented in the 2022–3 school year in four mixed-sex, state secondary schools along with a feasibility study and process evaluation. Student data on outcomes we identified as the primary and secondary indicative outcomes for a future full trial were assessed using paper-based questionnaires at baseline among year-7 students and at 12-month follow-up among year-10 students. These data were summarised for schools to provide the MH needs-assessments report.

In this paper, we report on findings from the baseline and follow-up surveys and examine the feasibility and acceptability of the indicative outcome measures and operating procedures to be used in a future trial.

Aim and objectives

We aimed to assess the feasibility and acceptability of indicative outcomes measures, as well as trial and survey operating procedures (e.g. determining response rates) at baseline and follow-up to inform a potential future Phase III trial.

Methods

A full description of the feasibility study and process evaluation, including patient and public involvement and engagement (PPIE) are reported elsewhere.[33,34]

Design

We aimed to conduct a pilot intervention and feasibility study among a purposive sample of four state secondary schools in southern England, incorporating a process evaluation, as well as baseline and follow-up surveys to assess the feasibility and acceptability of outcome measures, and trial and survey operating procedures. This involved piloting all primary and secondary outcome measures (described in this paper as indicative outcome measures), with year-7 students at baseline and year-10 students at 12-month follow-up, as well as employing all standard operating procedures (SOPs) for data collection and obtaining consent as would be applied in a Phase III cluster randomised trial. Full details of the study, including the study population recruitment methods and participant flow, are described elsewhere.

Fieldwork and data collection

Paper questionnaires containing the MH and other measures were completed confidentially by students in classrooms under exam conditions (see *Report*

Supplementary Material 1, supplementary files 1 and 2). One or two fieldworkers were allocated per classroom, where they were responsible for distributing consent materials (see *Report Supplementary Material 1*, supplementary files 3 and 4) and questionnaires, explaining the study, managing consent, referring any safeguarding issues to the trial manager, supporting students with questionnaire completion, collecting completed questionnaires and completing a data collection record for their class. The trial manager and one study researcher attended all fieldwork sessions at schools, and supported fieldworkers as required. Teachers remained at the front of the class to maintain quiet and order but were unable to read students' responses. Fieldworkers, and, in some cases, teaching assistants, supported students with mild learning difficulties or low English proficiency. Where teaching assistants were involved, they read questions and response options aloud but did not see student responses. During the baseline survey, questionnaires and consent forms for absent students were left with the school study implementation leads for students to complete on their return along with stamped, addressed envelopes for schools to return the completed materials. This did not result in any returned questionnaires and so we did not repeat this procedure at follow-up.

All fieldworkers received online training and were equipped with student information sheets, consent forms, data collection record, teacher information sheets, fieldwork SOPs, questionnaires and frequently asked questions about the questionnaire (see *Report Supplementary Material 1*, supplementary files 1–8).

Outcome measures

The primary outcome for the overall study was meeting progression criteria to proceed to a Phase III trial of effectiveness. Those concerning intervention feasibility and acceptability are reported elsewhere.[33,34] In this paper, we report on the criterion of whether we achieved a survey response rate of 60% or more in two or more schools at baseline and follow-up, as well as reporting on the feasibility and acceptability of indicative outcomes measures, described below.

Indicative primary outcome

The Strengths and Difficulties Questionnaire (SDQ)[35] total score was chosen as the indicative primary outcome for a future trial. The SDQ is the most widely used MH outcome measure for children and young people in the UK, extensively validated in population-samples with children of secondary-school age and used in recent national MH surveys in England.[36,37]

Indicative secondary outcomes

Indicative secondary outcomes in a future trial were assessed, including:

1. SDQ subscales: emotional problems, conduct problems, peer problems, hyperactivity problems and the prosocial subscale.[35]
2. Well-being: Warwick-Edinburgh Mental Well-being Scale[38]
3. Depressive symptoms: Short Moods and Feelings Questionnaire (SMFQ)[39]
4. Anxiety, measured using the seven-item Generalised Anxiety Disorder-7 (GAD-7) scale[40]
5. Disordered eating behaviour and cognitions, measured using the Eating Disorders Examination – Questionnaire Short (EDE-QS), which has measures of weight and shape concerns[41]
6. Self-harm: using one question derived from the Health Behaviour in School-aged Children (HBSC) study[42]
7. Bullying (victimisation) measured using the Gatehouse Bullying Scale (GBS)[43]
8. Cyberbullying, assessed using two items adapted from the DAPHNE II questionnaire asking whether the participant was bullied (victim) and/or bullied someone else (perpetrator) through mobile phone use or the internet[44]
9. Substance use (NHS measure)[45]
10. Student report of school climate, using the Beyond Blue School Climate Questionnaire (BBSCQ)[46]

We also piloted the Child Health Utility – 9 Dimension measure at baseline and follow-up required for an economic analysis within a future Phase III trial of effectiveness, and this is reported elsewhere.

Statistical analyses

The analyses reported here aimed to determine the feasibility and acceptability of our use of outcome measures and trial procedures. We report descriptive summaries of baseline and follow-up data, assessing missing data. We also assess the reliability of outcome measures using Cronbach's alpha where appropriate.

All deviations from the feasibility study protocol are outlined elsewhere.

Ethics, safeguarding and data protection

Ethics approval for baseline and follow-up surveys was obtained from University College London (UCL) Research Ethics Committee (REC) on 30 March 2022 (UCL Ethics Project ID Number: 21179/001) and the London School

of Hygiene and Tropical Medicine (LSHTM) REC on 26 August 2022 (ref. 27994). The trial manager, who led fieldwork teams during surveys, had an enhanced Disclosure and Barring Services (DBS) check so he could work unaccompanied in schools. We originally planned that all fieldworkers visiting schools would have a DBS check, but this was not required since fieldworkers did not work unsupervised with students. All activities were carried out in accordance with guidelines outlined by the Economic and Social Research Council, the Data Protection Act 1998, the latest Directive on Good Clinical Practice (2005/28/EC) and the General Data Protection Regulation 2018.

Headteachers were asked for written informed consent for the intervention (see *Report Supplementary Material 1*, supplementary file 9). Informed written opt-in consent was sought from students judged competent to provide this. Students and their parents were sent an information sheet (see *Report Supplementary Material 1*, supplementary files 3 and 10) several days before data collection. These explained that participation was voluntary and withdrawal was possible at any point with no negative consequences. Information sheets also provided contact details of the research team should participants or parents have questions. Students or their parents could opt out of the research in advance by contacting the school or research team. Just before data collection, students received an oral description of the study and could ask questions before signing a consent form (see *Report Supplementary Material 1*, supplementary file 4). They were advised that participation was voluntary, and they could withdraw at any point or skip any question they did not want to answer.

Students were advised that their responses would be treated as confidential, but if they reported or disclosed to researchers any indication of risk of serious harm, anonymity would be broken, and their name and details of the potential risk shared with the school's safeguarding lead to decide what action was required. Students opting out of the survey were advised to stay in the classroom and complete reading, homework or private study. We used SOPs for dealing with safeguarding concerns (see *Report Supplementary Material 1*, supplementary file 11) and reporting serious adverse events (SAEs) (see *Report Supplementary Material 1*, supplementary file 12). We balanced our ethical duties of promoting participant autonomy by respecting confidentiality and of promoting participant well-being when determining when we would need to breach confidentiality to address abuse. When such abuse was reported through a questionnaire, we contacted the school safeguarding lead. When it was reported to research staff, we discussed this with the participant prior to contacting the safeguarding lead.

Survey data were managed by research staff using secure systems. Self-report data linked to participant unique identification codes were stored by LSHTM clinical trials unit. Student names linked to the same identification codes were stored by the UCL fieldwork team. Both used password-protected drives and folders. In line with Medical Research Council (MRC) guidance on personal information in medical research, we will retain survey data for 20 years after study completion. No single institution held self-report data linked to names. But where the former indicated potential safeguarding issues, self-report data could be linked to name by interinstitutional collaboration.

Throughout the study, we requested information from participating schools on SAEs among students and assessed whether these were plausibly related to the intervention or research in consultation with school leads. The study steering committee and LSHTM REC were provided with anonymised reports of all safeguarding referrals and SAEs.

Results

School recruitment and participant flow are reported in full elsewhere. Overall, four schools were recruited to the study and completed baseline surveys. Study schools were slightly lower on free school meal (FSM) entitlement and higher on government inspection rating compared to schools in all of England. In these, 640 (79%) of year-7 students completed baseline surveys. One school dropped out of the study immediately after baseline surveys in September 2022 because of challenges with workloads and was replaced by another school in November 2022 which had previously expressed interest. A baseline survey was not completed in this school. In the four schools remaining in the study, 566 (66%) of year-10 students completed follow-up surveys. School characteristics compared to schools in England are reported elsewhere.

Baseline student surveys

Baseline year-7 surveys were conducted between 12 July 2022 and 11 October 2022. Baseline surveys with study schools 2, 3 and 4 were completed during July 2022. Rail strikes delayed travel to study school 1, and consequently, only half of students were surveyed during the first visit in July 2022. The remaining half were surveyed on 11 October 2022 when they had started year 8.

Response rates ranged from 58% to 91% between schools (*Table 1*). Response rates were lowest at school 2 (80%) and school 4 (58%). No students were identified by schools as not competent to give consent. Only two students were opted out by parents, and no students opted out in advance. Students refusing consent on the day of survey was rare overall (7%). School 4 had a relative high proportion of students refusing consent on the day (17%) which contributed to its low response rate (58%). Twelve per cent of students were absent on the day.

Sixty-seven students submitted incomplete consent forms but completed questionnaires. Review of these consent forms in consultation with UCL REC confirmed that there was sufficient evidence that 54 of these were consenting to participate in the research. Some students failed to write their full name or date in the consent form, or did not understand the requirement to tick all 15 consent box statements. Data from these 54 students were included in the analysis. Thirteen (2%) students were deemed to have given insufficient consent, as they had either not signed the consent form or had marked consent boxes with a mixture of crosses and ticks; subsequently, their questionnaires were destroyed and data not analysed. Overall, 12% of students were absent on the day of surveys, and none of these returned the questionnaires left for them. Absentees were highest at school 1 (15%) and 4 (22%).

Questionnaires took students 40–45 minutes to complete, in line with our previous research.[29] There were no concerns or complaints raised about the questionnaire by students, teachers or parents. Student queries focused on clarification of language and meaning, which were answered by fieldworkers. Terms sometimes not understood included 'markedly' (as used in the Likert scale included in the EDE-QS), and 'full time' and 'part time' in relation to a question on parental work. Some students queried the purpose of the questions included in the Family Affluence Scale (FAS). Some students were unsure how to describe their ethnicity. Some students were uncertain about the sequencing of questions for the SDQ impact supplement. Fieldworkers were able to address these issues. Safeguarding issue identified during surveys are reported below.

Follow-up student survey

Fieldwork procedures remained largely unchanged from baseline surveys. Minor changes were: having one fieldworker only per class but with the trial manager and study researcher supporting across classes; not leaving surveys for absent students; in agreement with our ethics committees, updating the student consent form with one tick box for all statements of consent. Procedures had to be adapted at study school 5 due to significant challenges described below.

Follow-up surveys were conducted between 15 June 2023 and 17 July 2023. Surveys at schools 1 and 3 were completed in June, but surveys at schools 4 and 5 had to be within the last week of term due to school timetabling challenges. We experienced significant challenges surveying at school 5 due to organisation and timetabling issues on the day. Around half of the students were called out of their classrooms near the start of the survey to attend a year-10 activity which had not been communicated to the study team and were gone for all or most of the session. Most had not yet consented or started the questionnaire and were recorded as absent. Of these, only 33 students completed the survey later at school.

The majority of students completed the questionnaire in approximately 30 minutes. There were no concerns or

TABLE 1 Survey response rates at baseline

	Feasibility study/intervention schools					
Baseline survey	**1**	**2**	**3**	**4**	**5**	**Total**
Ineligible, *n* (% eligible)	0/216 (0)	0/211 (0)	0/210 (0)	0/171 (0)	N/A	0/808 (0)
Parent opt-out ahead, *n* (% eligible)	2/216 (1)	1/211 (1)	3/210 (1)	0/171 (0)	N/A	6/808 (1)
Student opt-out ahead, *n* (% eligible)	0/216 (0)	0/211 (0)	0/210 (0)	0/171 (0)	N/A	0/808 (0)
Absent on the day, *n* (% eligible)	33/216 (15)	23/211 (11)	2/210 (1)	38/171 (22)	N/A	96/808 (12)
Student opt-out on day, *n* (% eligible)	2/216 (1)	13/211 (6)	9/210 (4)	29/171 (17)	N/A	53/808 (7)
Insufficient consent (data removed from analysis), *n*/eligible	0/216 (0)	5/211 (2)	4/210 (2)	4/171 (2)	N/A	13/808 (2)
Overall response rate, *n*/eligible (%)	179/216 (83)	169/211 (80)	192/210 (91)	100/171 (58)	N/A	640/808 (79)

complaints raised about the questionnaire by students, teachers or parents, and students asked very few questions concerning the questionnaire. Guidance concerning the sequencing of questions in the SDQ impact supplement was updated, and no students raised issues about this. No students exhibited distress, and no safeguarding concerns were identified.

The follow-up survey had an overall response rate of 66%, ranging from 44% to 91% (*Table 2*), reflecting a timetabling clash with a school trip and high rates of absenteeism on the day in school 4, the challenges reported above at school 5, and high opt-out rates (12% and 27%) in schools 4 and 5.

Only two students were opted out by parents, and three students opted out in advance. Overall, 12% of students opted out on the day with significant variation between schools. One student in school 4 was deemed not competent to give consent. Twenty per cent of students were absent.

All data management procedures were feasible, including the use of self-report data linked to unique identification codes.

Safeguarding

Safeguarding concerns were raised for four students during baseline surveys: one was upset and spoke of homophobic bullying they had experienced; two were not distressed but spoke of bullying and self-harming that they had experienced; and one became very distressed, worrying that their responses would be shared with their social worker, which would result in the student being taken into care. Analysis of handwritten responses on baseline questionnaires identified safeguarding concerns relating to two other students who reported self-harm. All these students were referred to school safeguarding leads. Analysis of handwritten responses on follow-up questionnaires identified safeguarding concerns for one student who reported the impact of bullying that they had experienced, and who was referred to the school safeguarding lead.

Serious adverse events

No SAEs were reported by study schools.

Student characteristics

Student sociodemographic characteristics are shown in *Table 3*. We did not compare differences in sociodemographic data between baseline and follow-up as the surveys were conducted on different groups of students.

In general, most students who participated in the year-7 baseline survey and year-10 follow-up survey completed the sociodemographic items, and rates of missing data were low. With the exception of the FAS, sociodemographic items had < 10% missing data at baseline or follow-up. Missing data were higher for questions on family affluence, family structure, sexual orientation and ethnicity than other measures. Missing data were higher at baseline than follow-up across all sociodemographic survey items.

The Cronbach's alpha value for the FAS was lower (0.64) at baseline than follow-up (0.72). There were slightly more male year-7 students at baseline (51%) and slightly more female year-10 students at follow-up (54%). The two samples differed in terms of gender, sexual

TABLE 2 Survey response rates at follow-up

	Feasibility study/intervention schools					
Follow-up survey	**1**	**2**	**3**	**4**	**5**	**Total**
Ineligible, *n* (% eligible)	0/213 (0)	N/A	0/180 (0)	1/211 (1)	0/254 (0)	1/858 (0)
Parent opt-out ahead, *n* (% eligible)	0/213 (0)	N/A	0/180 (0)	0/211 (0)	2/254 (1)	2/858 (0)
Student opt-out ahead, *n* (% eligible)	1/213 (1)	N/A	1/180 (1)	0/211 (0)	1/254 (0)	3/858 (0)
Absent on the day, *n* (% eligible)	12/213 (6)	N/A	8/180 (4)	87/211 (41)	62/254 (24)	169/858 (20)
Student opt-out on day, *n* (% eligible)	7/213 (3)	N/A	6/180 (3)	26/211 (12)	68/254 (27)	107/858 (13)
Insufficient consent – data removed from analysis, *n*/eligible	0/213 (0)	N/A	1/180 (1)	0/0 (0)	9/254 (4)	10/858 (1)
Overall response rate, *n*/eligible (%)	193/213 (91)	N/A	164/180 (91)	97/211 (46)	112/254 (44)	566/858 (66)

N/A, not applicable.

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TABLE 3 Year-7 and year-10 student characteristics

	Year-7 (baseline) survey[a]			Year-10 (follow-up) survey[a]		
Student characteristic	**Number or mean**	**% or SD**	**Cronbach's alpha**	**Number or mean**	**% or SD**	**Cronbach's alpha**
Total *n*	640	100%		566	100%	
Age	11.9	0.36		14.8	0.40	
Missing	9	1.4%		0	0%	
Sex						
Male	328	51.2%		259	45.8%	
Female	306	47.8%		306	54.1%	
Missing	6	0.9%		1	0.2%	
Gender						
Boy	327	51.1%		252	44.5%	
Girl	292	45.6%		301	53.2%	
Non-binary	3	0.5%		4	0.7%	
Other	8	1.3%		7	1.2%	
Missing	10	1.6%		2	0.4%	
Sexual orientation						
Straight or heterosexual	514	80.3%		515	91.0%	
Gay or lesbian	5	0.8%		8	1.4%	
Bisexual	26	4.1%		18	3.2%	
Asexual	9	1.4%		2	0.4%	
Unsure/questioning	37	5.8%		13	2.3%	
Other	10	1.6%		2	0.4%	
Missing	39	6.1%		8	1.4%	
Ethnicity						
White	268	41.9%		149	26.3%	
Asian/Asian British	241	37.7%		294	51.9%	

TABLE 3 Year-7 and year-10 student characteristics (*continued*)

Student characteristic	Year-7 (baseline) survey[a]			Year-10 (follow-up) survey[a]		
	Number or mean	% or SD	Cronbach's alpha	Number or mean	% or SD	Cronbach's alpha
Black/Black British	42	6.6%		42	7.4%	
Mixed ethnicity	33	5.2%		32	5.7%	
Other	16	2.5%		44	7.8%	
Missing	40	6.3%		5	0.9%	
Family structure						
Two parents	488	76.3%		430	76.0%	
Single mother	60	9.4%		55	9.7%	
Single father	5	0.8%		3	0.5%	
Reconstituted	25	3.9%		19	3.4%	
Other	6	0.9%		12	2.1%	
Missing	56	8.8%		47	8.3%	
Parent/guardian in paid work						
Yes	519	81.1%		487	86.0%	
No	24	3.8%		29	5.1%	
Don't know	76	11.9%		39	6.9%	
Missing	21	3.3%		11	1.9%	
FAS						
Total score	8.4	2.35	0.64	8.5	2.68	0.72
Missing	107	16.7%		18	3.2%	

a Due to study school 2 dropping out of the study after the baseline survey, schools included in the baseline survey are different to schools included in the follow-up survey. Schools surveyed in the baseline are study schools 1, 2, 3 and 4. Schools surveyed at follow-up are study schools 1, 3, 4 and 5.

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orientation, ethnicity, parental working and FAS but not family structure.

Indicative outcome measures

The majority of indicative outcome measures had < 10% missing data at baseline or follow-up (*Table 4*), with most students participating in the survey completing items included under each measure. Items or scales which reported missing data above 10% were self-harm, GBS, SMFQ and Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS). For all these scales, missing data were higher among year-7 than year-10 students. The study's indicative primary outcome measure, the total difficulty score of the SDQ, was well completed, with only approximately 4% students not completing this scale in baseline or follow-up surveys.

Generally, scales demonstrated good inter-item reliability, with the majority having Cronbach's alpha values of 0.8 or higher (a value at or above 0.7 is generally regarded as indicating good inter-item reliability). GBS and the SDQ subscales were the only scales with a Cronbach's alpha value lower than 0.7. The total difficulty score for the SDQ had a Cronbach's alpha value of approximately 0.8 at baseline and 0.7 at follow-up, suggesting reasonably good inter-item reliability.

Discussion

Summary of key findings

Trial and survey operating procedures, as well as indicative outcome measures, were feasible to implement and acceptable to year-7 and year-10 students, teachers and parents. We achieved the relevant progression criterion in terms of three of four schools at baseline and two of four schools at follow-up having responses rates above 60%. With the exception of challenges identified with the year-7 consent form, consent procedures in general worked well. This approach to consent is in line with MRC guidance[47] and common law.[48] It adds to a growing evidence base, indicating an opt-out parental consent approach is both feasible and acceptable to students and schools.[26,46] The revised consent form used during the follow-up survey performed better than the one used for the baseline survey. As found with other school-based survey research,[29,49] the use of paper-based questionnaire surveys was feasible to implement and appeared acceptable to students and teachers. Minimal distress was observed among year-7 students at baseline and no distress observed among year-10 students at follow-up.

In general, survey instruments performed well at baseline and follow-up. Proportions of missing data were generally low, including for the indicative primary outcome measure. Scales with missing data of 10% or higher at baseline included the FAS, SWEMWBS, EDE-QS, GBS and SMFQ. Fieldworker notes indicate that some year-7 students were confused by some of the language in the FAS and EDE-QS scales. Scales generally demonstrated good inter-item reliability.

Limitations

The feasibility study involved a small, purposive sample of schools and students which are not representative of those in England. We cannot assume that trial procedures would be as feasible in other schools, particularly those with lower inspection ratings or higher rates of FSM eligibility. The study did involve PPIE reported elsewhere, but this did not focus on measures or trial procedures. The study did not aim to assess effectiveness and did not follow a cohort of students from baseline to follow-up.

Implications for research and policy

Rail strikes delayed some baseline data collection at one school. Timetabling issues impeded follow-up surveys at another school. These and other challenges which resulted in low response rates in some schools can be avoided in a future Phase III trial by conducting surveys earlier in the school year. Surveys held towards the end of the school year in July tended to have higher rates of absenteeism and opting out among students. In particular, the baseline survey at school 4 and follow-up surveys at schools 4 and 5 were all held in the last five days of term in late July with 22%, 41% and 24% of students absent from class, respectively, at the time of these surveys. Year-10 students surveyed in the last 5 days of term at schools 4 and 5 were generally unsettled, with relative higher rates of students opting out of the survey. Attendance data from primary and secondary schools in England indicates absenteeism is highest on Fridays and in the last week of the autumn term;[50–52] however, attendance has been worse generally since the COVID-19 pandemic and has not yet fully returned to pre-pandemic levels.[52] Scheduling surveys for year-10 students was particularly challenging due to busy end-of-term schedules and further complicated at school 4 due to mock General Certificate of Secondary Education (GCSE) exams being held. Response rates could be improved if baseline and follow-up surveys were not scheduled in the last weeks of term, on Fridays or near mock GCSE exams. Our revised consent form used with year-10 students with simpler box ticking should be used for all students in any future Phase III trial. Where there were challenges with student understanding and completion of some items, such as FAS and EDE-QS, it may be useful to refine question wording and to use cognitive testing and piloting to assess the impact of this. Data management procedures, including the use of self-report data linked to

TABLE 4 Indicative primary and secondary outcome measures at baseline (year-7 students) and follow-up (year-10 students)

Indicative outcome measures		Year-7 (baseline) survey			Year-10 (follow-up) survey		
		Number or mean	% or SD	Cronbach's alpha	Number or mean	% or SD	Cronbach's alpha
SDQ	'High' level of total problems (%)		24.3			20.5	
	Total score (mean, SD)	12.9	6.7	0.83	12.6	5.9	0.73
	Missing total score (*n*, %)	23	3.6		20	3.5	
	Prosocial subcale (mean, SD)	7.8	1.9	0.70	7.2	1.9	0.64
	Emotional subscale (mean, SD)	4.0	2.7	0.75	3.9	2.7	0.76
	Conduct subscale (mean, SD)	2.1	1.9	0.59	2.0	1.7	0.55
	Hyperactivity subscale (mean, SD)	4.7	2.7	0.78	4.7	2.5	0.74
	Peer subscale (mean, SD)	2.1	1.9	0.63	2.0	1.7	0.60
	Impact score (mean, SD)	1.1	1.9	0.78	1.0	1.8	0.77
Well-being: SWEMWBS	Total score (mean, SD)	22.0	5.1	0.85	21.8	5.2	0.88
	Missing (*n*, %)	77	12.0		48	8.5	
Depressive symptoms: SMFQ	Total score (mean, SD)	6.4	6.6	0.93	6.2	6.3	0.93
	High score – no (*n*, %)	451	70.5		414	73.1	
	High score – yes (*n*, %)	117	18.3		102	18.0	
	Missing (*n*, %)	72	11.3		50	8.8	
Anxiety: GAD-7 scale	Total score (mean, SD)	5.9	6.0	0.92	5.7	5.8	0.92
	High score – no (*n*, %)	447	69.8		401	70.8	
	High score – yes (*n*, %)	148	23.1		124	21.9	
	Missing	45	7.0		41	7.2	
Eating behaviour and cognitions: EDE-QS	Total score (mean, SD)	7.8	8.0	0.90	8.1	8.3	0.91
	High score – no (*n*, %)	465	72.7		407	71.9	
	High score – yes (*n*, %)	113	17.7		110	19.4	
	Missing (*n*, %)	62	9.7		49	8.7	

continued

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TABLE 4 Indicative primary and secondary outcome measures at baseline (year-7 students) and follow-up (year-10 students) (*continued*)

Indicative outcome measures		Year-7 (baseline) survey			Year-10 (follow-up) survey		
		Number or mean	% or SD	Cronbach's alpha	Number or mean	% or SD	Cronbach's alpha
Self-harm: HBSC measure	No (*n*, %)	467	73.0		451	79.7	
	Yes (*n*, %)	131	20.5		71	12.5	
	Missing (*n*, %)	42	6.6		44	7.8	
	If yes:						
	Every day/several times per week (*n*, %)	18	13.7		14	19.7	
	Once a week/a few times a month (*n*, %)	29	22.1		17	23.9	
	Once a month/several times per year (*n*, %)	53	40.5		31	43.7	
	Missing (*n*, %)	31	5.2		9	12.7	
Bullying victimisation: GBS	Total score (mean, SD)	0.4	0.5	0.66	0.3	0.5	0.72
	Missing (*n*, %)	120	18.8		79	14.0	
Cyberbullying: (DAPHNE II questionnaire)	No victimisation (*n*, %)	522	81.6		461	81.4	
	Any victimisation (*n*, %)	67	10.5		63	11.1	
	Missing victimisation (*n*, %)	51	8.0		42	7.4	
	No perpetration (*n*, %)	525	82.0		425	75.1	
	Any perpetration (*n*, %)	67	10.5		91	16.1	
	Missing perpetration (*n*, %)	48	7.5		50	8.8	
Substance use: smoking in last month	No (*n*, %)	584	91.3		496	87.6	
	Yes (*n*, %)	11	1.7		22	3.9	
	Missing (*n*, %)	45	7.0		48	8.5	
	If yes:						
	Once or twice (*n*, %)	1	0.2		13	2.5	
	About once a week or more (*n*, %)	1	0.2		5	1.0	
	Missing (*n*, %)	9	1.5		4	0.8	

TABLE 4 Indicative primary and secondary outcome measures at baseline (year-7 students) and follow-up (year-10 students) (*continued*)

Indicative outcome measures		Year-7 (baseline) survey			Year-10 (follow-up) survey		
		Number or mean	% or SD	Cronbach's alpha	Number or mean	% or SD	Cronbach's alpha
Substance use: drunk alcohol in last month	No (*n*, %)	570	89.1		467	82.5	
	Yes (*n*, %)	23	3.6		49	8.7	
	Missing (*n*, %)	47	7.3		50	8.8	
	If yes:						
	Once or twice (*n*, %)	12	2.0		33	6.4	
	About once a week or more (*n*, %)	3	0.5		11	2.1	
	Missing (*n*, %)	8	1.3		5	1.0	
Substance use: offered drugs	No (*n*, %)	549	85.8		403	71.2	
	Yes, but didn't try (*n*, %)	33	5.2		83	14.7	
	Yes and did try (*n*, %)	8	1.3		23	4.1	
	Missing (*n*, %)	50	7.8		57	10.1	
Substance use: cannabis	Tried in the last month (*n*, %)	1	0.2		13	2.6	
	Tried longer than last month (*n*, %)	1	0.2		4	0.8	
	Not selected (*n*, %)	6	1.0		6	1.2	
Substance use: glue/solvent	Tried in the last month (*n*, %)	2	0.3		9	1.8	
	Tried longer than last month (*n*, %)	2	0.3		5	1.0	
	Not selected (*n*, %)	4	0.7		9	1.8	
Substance use: other drugs	Tried in the last month (*n*, %)	4	0.7		6	1.2	
	Tried longer than last month (*n*, %)	0	0.0		6	1.2	
	Not selected (*n*, %)	4	0.7		11	2.2	
BBSCQ	Total score (mean, SD)	3.1	0.4	0.93	2.9	0.5	0.92
	Missing (*n*, %)	6	0.9		7	1.2	

This article should be referenced as follows:
Lloyd-Houldey O, Sturgess J, Sundaram N, Hope S, Michalopoulou S, Allen E, *et al.* Learning together for mental health: feasibility of measures to assess a whole-school mental health and wellbeing intervention in secondary schools [published online ahead of print June 25 2025]. *Public Health Res* 2025. https://doi.org/10.3310/GFDT2323

unique identification codes, were feasible, indicating that in a Phase III trial, it would be feasible to link baseline and follow-up data.

Conclusion

Our study successfully piloted trial and survey operating procedures, as well as indicative primary and secondary outcome measures at baseline and follow-up to be used in a potential future trial to evaluate the effectiveness of LTMH intervention. The methods and these measures used could be feasibly scaled up to use within such a larger study. We found, broadly, that these were feasible to implement and acceptable to students, teachers and parents. With some minor amendments, these should be applied in a future Phase III effectiveness trial of the LTMH intervention. The progression criterion for trial feasibility was surpassed, in that three of four schools at baseline and two of four schools at follow-up had responses rates > 60%. Response rates in a future Phase III trial of the LTMH intervention could be improved if surveys are not scheduled in the last weeks of term, on Fridays or near mock GCSE exams. Understanding and completion rates of some survey items, such as FAS and EDE-QS, may be improved for year-7 students if question wording was more tailored to their level of reading comprehension.

Additional information

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Data-sharing statement

All data requests should be submitted to the corresponding author for consideration. Access to all anonymised data may be granted following review.

Ethics statement

Ethics approval for the Learning Together for Mental Health study UCL Research Ethics Committee (REC) on 30 March 2022 (UCL Ethics Project ID Number: 21179/001) and the London School of Hygiene & Tropical Medicine REC 26 August 2022 (ref. 27994).

Information governance statement

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Disclosure of interest statement

Full disclosure of interests: Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/GFDT2323.

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Study registration

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List of supplementary material

Report Supplementary Material 1
Baseline year-7 student questionnaire

Supplementary material can be found on the NIHR Journals Library article page (https://doi.org/10.3310/GFDT2323).

Supplementary material has been provided by the authors to support the report, and any files provided at submission will have been seen by peer reviewers, but not extensively reviewed. Any supplementary material provided at a later stage in the process may not have been peer reviewed.

List of abbreviations

BBSCQ	Beyond Blue School Climate Questionnaire
DBS	Disclosure and Barring Services
EDE-QS	Eating Disorders Examination – Questionnaire Short
FAS	Family Affluence Scale
FSM	free school meal
GAD-7	Generalised Anxiety Disorder-7
GBS	Gatehouse Bullying Scale
GCSE	General Certificate of Secondary Education
HBSC	Health Behaviour in School-aged Children
LSHTM	London School of Hygiene and Topical Medicine
LT	Learning Together
LTMH	Learning Together for Mental Health
MH	mental health
MRC	Medical Research Council
PPIE	patient and public involvement and engagement
REC	Research Ethics Committee
RP	restorative practice
SAE	serious adverse event
SDQ	Strengths and Difficulties Questionnaire
SEL	social and emotional learning
SMFQ	Short Moods and Feelings Questionnaire
SOP	standard operating procedure
SWEMWBS	Short Warwick-Edinburgh Mental Well-being Scale
UCL	University College London

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