ISRCTN77948572 https://doi.org/10.1186/ISRCTN77948572

SMART Schools Study: An evaluation of the impact of school policies restricting daytime use of smartphones and social media on adolescent mental wellbeing

Submission date
22/04/2022

Recruitment status
No longer recruiting

Registration date
12/07/2022

Overall study status
Completed

Last Edited
06/08/2026

Condition category
Other

[X] Prospectively registered
[X] Protocol
[X] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Most adolescents own a smartphone and many use social media. In moderation, these interactive technologies can be advantageous for mental wellbeing. Yet negative wellbeing tends to increase with the increasing amount of time adolescents spend using smartphones and social media. We do not know exactly how much time adolescents spend using smartphones and social media, but we know that use in most adolescents is likely to be at levels that are potentially detrimental to wellbeing. We also have little current understanding of the nature of phone/media use in this age group and how this relates to wellbeing.

Many secondary schools have introduced policies that restrict phone use during the school day, however some schools have a more permissive approach to phones, allowing use at break and lunchtimes. This provides an opportunity to examine the impact of these restrictive school policies by comparing phone use and mental wellbeing in pupils attending schools restricting phone use, with those attending schools which allow phone use.

School phone/media policies are a plausible mental wellbeing intervention. Prior research suggests that schools are effective contexts to deliver health interventions, positively impact mental wellbeing, and support phone/media use behaviours. In addition, the UK government recently reported that schools urgently need evidence-based guidance on phone/media use to help them make informed decisions about how better to support adolescents uses of phones /media and their mental wellbeing.

The SMART Schools study aims to evaluate the types of school policies and phone/social media use that are optimal for adolescent mental wellbeing. We will also explore the factors influence policy implementation and phone/wellbeing relationships by talking to adolescents, school senior leader staff, teachers, parents and governors. An economic evaluation will be completed to assess whether school phone policies are value for money in terms of improving adolescent mental wellbeing

Who can participate?
Secondary Schools (age 11-19 years) within a 100 mile radius of the University of Birmingham across the West Midlands, East Midlands, East, South East, South West and North West (Local Authority-maintained schools, community schools, foundation and voluntary schools, academies, and free schools and colleges)

What does the study involve?
The study will take place in 30 secondary schools across the West Midlands, East Midlands, South East, East, South West and North West with year 8 (age 12-13 years) and 10 (age 14-15 years) pupils. We will work closely with secondary schools, senior leaders, teachers, governors, parents, adolescents and key stakeholders so that across the two school groups (schools that do not permit smartphone use and schools that permit smartphone use) we can:

1. Compare the impacts of the two policy types on mental wellbeing
2. Compare differences in: adolescents' uses of phones/media (within school, over 24hrs and across 7 days); reasons why adolescents use their phones/media; and levels of addictive use
3. Compare behavioural outcomes that are often associated with mental wellbeing, including sleep, physical activity, classroom behaviour and attainment
4. Talk with school senior leader staff, teachers, parents, and governors to better understand the school phone/media policies that are implemented and what family/home factors influence policy implementation and phone/wellbeing relationships
5. Talk to adolescents to better understand how they experience relationships between their phone/media use, school policies and mental wellbeing
6. Assess the impact of these school policies on teachers' time use to provide evidence of their value for money in terms of improving adolescent mental wellbeing
7. Engage with policy makers, national agencies and local authorities to communicate the findings to inform national policy and guidance, school policy and curricula, and the design and implementation of future interventions to improve mental wellbeing.

What are the possible benefits and risks of participating?
This study will also give participating schools the opportunity to play a key role in the development of new guidelines for policy regarding smartphone and social media use in schools, and to identify how schools can support adolescent mental wellbeing. This study is a natural experiment exploring pupils' current phone/media use and mental wellbeing, and therefore any risk or harm to participants is not expected as a direct result of the research.

Where is the study run from?
University of Birmingham (UK)

When is the study starting and how long is it expected to run for?
April 2022 to July 2025

Who is funding the study?
National Institute for Health and Care Research (NIHR) (UK).

Who is the main contact?
Dr Victoria Goodyear, V.A.Goodyear@bham.ac.uk

Contact information

Type(s)

Public

Contact name
Dr Victoria Goodyear

ORCID ID
https://orcid.org/0000-0001-5045-8157

Contact details
School of Sport, Exercise and Rehabilitation Sciences
University of Birmingham
Edgbaston
Birmingham
United Kingdom
B15 2TT
+44 121 4144874
V.A.Goodyear@bham.ac.uk

Type(s)
Scientific

Contact name
Dr Miranda Pallan

ORCID ID
https://orcid.org/0000-0002-2868-4892

Contact details
Institute of Applied Health Research
University of Birmingham
Edgbaston
Birmingham
United Kingdom
B15 2TT
+44 121 4147990
m.j.pallan@bham.ac.uk

Additional identifiers

Central Portfolio Management System (CPMS)
52232

Study information

Scientific Title
Smartphones, social Media and Adolescent mental wellbeing: the impact of school policies Restricting dayTime use

Acronym
SMART Schools

Study objectives
Based on a review of existing evidence and our Patient and Public Involvement (PPI) activities, we suggest that school policies that do not permit smartphone use during the school day could lower the overall time adolescents spend on their phones and social media, and modify how and why they use these, thus impacting on their mental wellbeing. As a result, adolescents in schools that restrict phone/media use may have better mental wellbeing and lower levels of anxiety and depression. Furthermore, in these schools, mental wellbeing and mental health outcomes may be further strengthened because the reduced time spent on phones/media per day is likely to affect other mental wellbeing promoting behaviours, including: physical activity, sleep duration, disruptive classroom behaviour, attainment scores and the prevalence of addictive use. However, the relationship between phone/media use and mental wellbeing is highly complex and will be influenced by school, individual and family/home factors.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 08/07/2022, Science, Technology, Engineering and Mathematics (STEM) Ethics Committee University of Birmingham (University of Birmingham, Edgbaston, B15 2TT, UK; +44 121 4143344; s.l.cottam@bham.ac.uk), ref: ERN_22-0723

Primary study design
Observational

Study design
Observational cross-sectional

Study type(s)
Other

Health condition(s) or problem(s) studied
Smartphones, social media and adolescent mental wellbeing

Interventions
Current interventions, as of 24/02/2023:

This is a natural experimental study using mixed methods to compare the impact of school daytime restrictions on smartphone use on mental wellbeing in 2 secondary school contexts: schools that do not permit phone use (intervention) vs schools that permit phone use (control). The focus is on adolescents aged 12-13 years and 14-15 years (population). The primary outcome will be mental wellbeing, and we will measure secondary outcomes of anxiety, depression, classroom behaviour, attainment, physical activity, sleep, and addictive phone/media use. We will examine how the school environment, individual factors and family/home factors influence relationships between school policies, phone/media use and mental wellbeing.

Data will be collected from 30 schools (20 intervention, 10 control) and 1170 adolescents. To measure the primary and secondary outcomes we will collect data from a student online survey and accelerometers. We will conduct document/website analysis and teacher and senior leadership team surveys to understand how school policies are implemented and to support the economic analysis. Qualitative data will be collected from 6 case study schools (3 intervention, 3

control) to examine the influence of the school environment, individual factors and family/home factors. 36 focus group interviews will be completed with adolescents, school staff, and parents.

_____

Previous interventions:

This is a natural experimental study using mixed methods to compare the impact of school daytime restrictions on smartphone use on mental wellbeing in 2 secondary school contexts: schools that do not permit phone use (intervention) vs schools that permit phone use (control). The focus is on adolescents aged 11-12 years and 14-15 years (population). The primary outcome will be mental wellbeing, and we will measure secondary outcomes of anxiety, depression, classroom behaviour, attainment, physical activity, sleep, and addictive phone/media use. We will examine how the school environment, individual factors and family/home factors influence relationships between school policies, phone/media use and mental wellbeing.

Data will be collected from 30 schools (15, intervention, 15 control) and 750 adolescents. To measure the primary and secondary outcomes we will collect data from a student online survey and accelerometers. We will conduct document/website analysis and teacher and senior leadership team surveys to understand how school policies are implemented and to support the economic analysis. Qualitative data will be collected from 6 case study schools (3 intervention, 3 control) to examine the influence of the school environment, individual factors and family/home factors. 36 focus group interviews will be completed with adolescents, school staff, and parents.

Intervention Type
Other

Primary outcome(s)
Mental wellbeing measured using the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) following data collection across 30 schools and by end of project 07/2024. Data collection will take place between 09/2022 and 02/2024

Key secondary outcome(s)
Data collection will take place between 09/2022 and 02/2024
1. Anxiety symptoms over the previous two weeks, measured using Generalized Anxiety Disorder Assessment (GAD-7; measured over the past 2 weeks)
2. Depressive symptoms over the previous two weeks, measured using the Patient Health Questionnaire (PHQ-9; measured over the past 2 weeks)
3. Addictive Use using the Problematic Social Media use Scale (measures mood regulation, cognitive preoccupation, compulsion, displacement).
4. Sleep (bed time, rise time, total time in bed and sleep efficiency [% of time in bed asleep vs awake] collected from accelerometers over 7 days
5. Physical activity (MVPA and overall PA) collected from accelerometers over 7 days
6. Attainment collected from form tutor (or equivalent) using an adapted Progress 8 questionnaire to determine whether students are working at expected grade in English and Maths
7. Disruptive Classroom Behaviour collected from form tutor (or equivalent) using the Pupil Behaviour Questionnaire

Completion date
31/07/2025

Eligibility

Key inclusion criteria
Current inclusion criteria as of 24/02/2023:

1. Secondary Schools (age 11-19 years) from local authorities within a 100 mile radius from the University of Birmingham (Local Authority-maintained schools, community schools, foundation and voluntary schools, academies, and free schools and colleges)
2. School Senior Leadership Team members, school teachers and parents/carers capable of giving informed consent
3. School pupils aged 12-13 years or 14-15 years capable of giving informed consent

_____

Previous inclusion criteria:

1. Secondary Schools (age 11-19 years) in the West Midlands (Local Authority-maintained schools, academies and free and private schools)
2. School Senior Leadership Team members, school teachers and parents/carers capable of giving informed consent
3. School pupils aged 11-12 or 14-15 years capable of giving informed consent

Participant type(s)
Mixed

Healthy volunteers allowed
No

Age group
Child

Lower age limit
12 Years

Upper age limit
15 Years

Sex
All

Total final enrolment
1227

Key exclusion criteria
Current exclusion criteria as of 24/02/2023:

1. Special Schools, Pupil Referral Units and Independent Schools: these schools are excluded from this project because in these schools it is expected that there would be additional influences on adolescent mental wellbeing, behaviour and attainment, that would affect comparisons of the 2 school policies. Furthermore, our website analysis identified that most

special schools do not permit phone use during the school day. It also identified that independent schools have different government funding and curriculum arrangements, different phone policies for year 8 and year 10 pupils, and additional phone policies for boarding pupils.
2. Secondary schools where school characteristics could not be accessed: these schools are excluded from this project because school characteristics (e.g. admissions policy, total pupil roll size) are required for propensity score calculations.
3. Secondary schools with different phone policy for year 8 and year 10 pupils: these schools are excluded from this project because we would be unable to clearly classify these schools into our intervention or control group.
4. Secondary schools that do not have both year 8 and year 10 classes, such as newly established schools.

_____

Previous exclusion criteria:

Special Schools: these schools are excluded from this project because in these schools it is expected that there would be additional influences on adolescent mental wellbeing, behaviour and attainment, that would affect comparisons of the 2 school policies. Furthermore, our website analysis identified that most special schools do not permit phone use during the school day.

Date of first enrolment
01/08/2022

Date of final enrolment
30/11/2023

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Secondary Schools within a 100 mile radius of the University of Birmingham across the West Midlands, East Midlands, East, South East, South West and North West.
-
-
England
-

Sponsor information

Organisation
University of Birmingham

ROR
https://ror.org/03angcq70

Funder(s)

Funder type
Government

Funder Name
NIHR Evaluation, Trials and Studies Co-ordinating Centre (NETSCC)

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request. After publication of the main findings of the study, the Chief Investigators will consider external requests to gain access to anonymised data. The dataset will be preserved and available for this purpose for a minimum of 10 years following the end of the study. Those requesting data will be asked to provide a brief research proposal including the objectives, timelines, intellectual property rights, and expected outputs, and a Data Sharing Agreement between the University of Birmingham and the requestor will be drawn up. Requestors will be required to acknowledge the research team and funders as a minimum and consider co-authorship of any publications arising from the data. Permission for anonymised data to be shared for the purpose of future academic research will be sought from all participants via the informed consent form.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		04/02/2025	05/02/2025	Yes	No
Results article		29/02/2024	06/08/2026	Yes	No
Protocol article		05/07/2023	06/07/2023	Yes	No
Participant information sheet	Information sheets for pupils, parents, schools, and staff		01/09/2022	No	Yes
Participant information sheet	Participant information sheet version 1.0	11/11/2025 29/11	11/11/2025 30/11	No	Yes

Statistical Analysis Plan		/2023	/2023	No	No
Study website	Study website	11/11 /2025	11/11 /2025	No	Yes