NOMO Social Media

Trial Protocol Number: 2025023

Behavioural Insights Team UK

Administration

Trial Number: 2025023

Ethics classification: medium risk

Ethics process complete: Yes

Planned start of intervention: 03/11/2025 (data collection); 17/11/2025 (intervention)

Date protocol was finalised (must be before intervention delivery starts!): 31/10/2025

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PICOS Statement

What is the problem?	The primary objective of this project is to evaluate the effectiveness of the NOMO smartphone application (henceforth "NOMO") in reducing social media use in a sample of UK schools. This evaluation seeks to generate evidence to inform potential scale-up of the NOMO app. The research is motivated by evidence that excessive social media use is harming young people's learning and reducing their life satisfaction. Whilst school smartphone bans may help, they don't address the problem of social media usage outside school hours. The NOMO app uses collective action by combining peer support, shared challenges, and positive reinforcement to help young people spend less time using social media.
Population: Who are the participants?	The population for the impact evaluation (IE) is any person (school pupil) who is: • In Year 9 or Year 10 in a participating UK school • Has not been withdrawn from the evaluation by their parent or guardian • Voluntarily completes a baseline survey in November 2025 **Estimated n: 14,000 - 15,750 pupils at baseline; 10,500 - 12,600 pupils at endline** The population for surveys within the implementation and process evaluation (IPE) is any person who is: • Any **teacher** in any a participating UK school who chooses to take part in the optional 5-minute teacher survey taking place in February 2026 (**estimated n: 40-200**) • Any **parent or guardian** of a participating pupil in a participating UK school who chooses to take part in the optional 5-minute parent/guardian survey taking place in February 2026 (**estimated n: 235 - 700**) The population for qualitative interviews within the IPE is any person who is: • Any **participant (pupil)** from the IE who gives assent, and receives opt-in parent/guardian consent, to take part in a voluntary interview taking place at the time of endline data collection (**estimated n: 15-20**) • Any **teacher** in a participating UK school who gives consent, and receives agreement from the participating school, to take part in a voluntary interview taking place at the time of endline data collection (**estimated n: 5-10**) • Any **parent or guardian** of a participating pupil in a participating UK school who took part in the IPE endline survey for parents/guardians, and who gives consent to take part in a voluntary interview taking place at the time of endline data collection (**estimated n: 5-10**) **Estimated total n: 25-40 interviewees**
Comments	N/A
Intervention:	The IE consists of a two-arm waitlist design RCT for pupils in Years 9 and 10 (roughly 13-15 years old). Randomisation will occur at the school level, whereby

What are we doing?	all participating pupils within a school will be within the same trial arm, with schools randomly assigned to one of two trial arms: • **Treatment arm** (all eligible and consenting pupils are invited to use the app in November 2025); • **Comparison arm (control)** (During the trial period (November 2025 - February 2026), pupils will not be invited to use the app and are therefore expected to continue with their business-as-usual social media practices. All eligible and consenting pupils are invited to use the app in March 2026). The IPE is a 'light touch' qualitative evaluation accompanying the main IE evaluation, consisting of voluntary surveys for teachers and parents/guardians, and voluntary interviews for pupils, teachers, and parents/guardians.
Outcomes (quantitative analysis):	**Primary outcome:** Social media usage (self-report), measured by the question *"Thinking about your last full school day, how much time in total do you think you spent using social media apps (like TikTok, Instagram, etc.) over the entire 24-hour day?"* **Secondary outcome:** Distraction (self-report), measured by the question "*I stop my homework to check my social media (e.g., Instagram, TikTok)*" **Exploratory outcomes:** • Life satisfaction, measured by "*I am satisfied with my life*" question from the Satisfaction with Life Scale (SWLS) • Sleep (self-report), measured by the question "*Thinking about the **past 7 days**, how would you rate the quality of your sleep overall?*" Outcomes measured at baseline (November 2025) and endline (February 2026).
Setting:	The daily lives of participating pupils in and outside of school hours; the daily lives of parents/guardians (as they observe their child(ren); the professional (school) setting for teachers

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Introduction

01 / Context

This research is motivated by evidence that excessive social media use can harm young people's learning and reduce their life satisfaction.[1] Whilst school smartphone bans may help, they don't address the problem of social media usage outside school hours. Many young people feel trapped, using social media not by choice, but out of a fear of missing out.[2] The NOMO smartphone application (henceforth "NOMO") uses collective action by combining peer support, shared challenges, and positive reinforcement to help young people spend less time scrolling on social media and more time engaged in real-world activities. The impact of NOMO has been evaluated in a pilot experiment[3] within US universities, but never in a UK setting.

In October 2024, a pilot experiment testing the impact of NOMO was implemented at the University of Chicago with 808 participants. The primary goal was to curb student usage of Instagram and TikTok by imposing a combined daily usage cap of 60 minutes, for two weeks. Challenge participants substantially reduced their daily usage of TikTok and Instagram by 30.6 minutes or around 50% compared to the baseline ($p < 0.01$). After completing the two-week long NOMO challenge, the incidence of feeling depressed nearly halved, dropping from 38.7% to 20.7% (a 47% reduction in depressive symptoms; p-value < 0.001). Reports of anxiety also eased modestly, and the share of participants who felt easily distracted fell from 47.9% to 36.8% (p-value < 0.01). At the same time, life-satisfaction incidence climbed from 61.1% to 70.6% (p-value < 0.02). Together, these shifts suggest that reducing social media helped participants feel healthier, happier and more focused.

In this context, the Behavioural Insights Team (BIT) will conduct a **mixed methods evaluation** of the impact of NOMO on certain pupil outcomes (detailed below). The primary component of this evaluation is an **impact evaluation (IE)**, specifically a two-arm waitlist randomised controlled trial (RCT) for UK pupils in Years 9 and 10 (roughly 13-15 years old). This will be supported by a complementary **implementation and process evaluation (IPE)** consisting of voluntary surveys and interviews.

02 / Research aims

The primary objective of the research is to evaluate the effectiveness of NOMO in reducing

[1] Riehm et al. (2019); Purba et al. (2023); Kuş (2025); Nagata (2025)
[2] Bursztyn et al. (2023)
[3] https://yesnomo.com/study

social media use in UK schools. This evaluation seeks to generate evidence to inform potential scale-up of the NOMO app, and aims to answer **one primary research question**:

- *How effective is introducing the NOMO smartphone app in schools, and encouraging pupils to use it, in reducing social media usage of Year 9 and 10 pupils?*

The study also seeks to address **one secondary research question**:

- *How effective is introducing the NOMO smartphone app in schools, and encouraging pupils to use it, in reducing distraction for Year 9 and 10 pupils?*

The study further seeks to address **two exploratory research question**s:

1. *How effective is introducing the NOMO smartphone app in schools, and encouraging pupils to use it, in improving life satisfaction for Year 9 and 10 pupils?*
2. *How effective is introducing the NOMO smartphone app in schools, and encouraging pupils to use it, in improving the quality of sleep of Year 9 and 10 pupils?*

03 / Social impact

This intervention and evaluation are motivated by the growing body of evidence suggesting that excessive screen time and social media use is harming young people's learning and reducing their life satisfaction (*see footnotes 1-3 above*). For example:

1. A meta-analysis of 45 studies over 153,000 young people aged 10-19 found a significant association between increased social media use and increased depression (r = 0.12), anxiety (r = 0.10), and loneliness (r = 0.15), and decreased self-esteem (r = -0.08).[4]
2. A longitudinal cohort study found that young people aged 12-15 spending more than 3 hours per day on social media were twice as likely to experience adverse mental health outcomes, including anxiety and depression.[5]
3. A meta-analysis of 30 studies found a small, negative overall correlation between social network site use and academic achievement. The effect was stronger for duration of use vs. frequency.[6]
4. An OECD study found that pupils spending more than an hour per day on digital devices for leisure at school scored more than 9 points lower in maths scores and reported a lower sense of belonging at schools than pupils who spend no time on digital activities for leisure.[7]

While certain interventions, such as school-wide smartphone bans, address usage during school hours, they do not provide a solution for the continuing challenge of social media usage outside of the educational environment. While other OECD peer countries such as Australia[8] and New Zealand[9] have either enacted or debated legislation preventing young people below a certain age from accessing social media, as of October 2025, there are no public plans for similar legislation forthcoming in the UK. There is therefore a clear social need for effective, scalable interventions that address these out-of-school challenges and improve pupil outcomes.

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[4] Gabrielle et al. (2025)
[5] Riehm et al. (2019)
[6] Liu et al. (2017)
[7] Organisation for Economic Co-operation and Development (2024)
[8] The 'Online Safety Amendment (Social Media Minimum Age) Bill 2024' introduces a mandatory minimum age of 16 for accounts on certain social media platforms, effective December 2025.
[9] The 'Social Media (Age-Restricted Users) Bill (2025)' "*seeks to protect young New Zealanders from the harms of social media by regulating access for individuals under the age of 16*".

The NOMO smartphone app is designed to meet this challenge by utilising collective action principles to help young people spend less time using social media and build a healthier relationship with digital platforms. These include:

1. **Peer support.** Users are encouraged to connect with peers and then support each other to meet their goals. For example, users can add peers as friends on the app. Friends can then support each other in meeting their usage goals. For example, friends can use the virtual fistbump feature to block access to Instagram and TikTok for 30 minutes - 1 hour for both users. The inclusion of peer support features and shared challenges is designed to remove the 'Fear of Missing Out' that might be experienced by young people attempting to use social media less on their own.
2. **Shared challenges.** In addition to the platform's default challenge of less than 3 hours of use of TikTok and Instagram per day, users are encouraged to undertake additional shared social media usage goals with their peers. For example, friends can create a group competition, complete with a leaderboard, to see who can reduce their social media screen time the most over a week.
3. **Positive reinforcement.** Users earn in-game points called 'moments' for reducing their social media use. These can be redeemed for rewards, including access to perceived healthier screen time replacement activities such as the paid premium version of the language-learning app Duolingo, or real-world events, including tickets to concerts and Premier League football matches.

The primary objective of this project is to evaluate the effectiveness of the NOMO app in reducing social media use and improving life satisfaction, reducing distraction, and improving sleep amongst 13-15 in UK schools. By generating robust evidence through a two-arm RCT, the research seeks to inform potential further trials or scale-up of the NOMO app.

The findings from this evaluation will be published publicly by Nesta and BIT, ensuring policymakers, schools, and caregivers can use the evidence to inform policies, curriculum decisions, and approaches to children's social media usage.

Intervention

04 / Description

The intervention under evaluation is NOMO, a gamified smartphone app designed to help users reduce social media use and foster a healthier digital relationship. The app's design leverages collective action principles, incorporating peer support, shared challenges, and positive reinforcement, to help young people reduce the time they spend on social media. The evaluation is the first of its kind in a UK context, and focuses on pupils in Years 9 and 10.

Core mechanisms

The NOMO app rewards users for spending less time on social media and incentivises healthier usage behavior through several core mechanisms:

- **Collective action**: The app uses peer support and shared challenges to encourage a group approach to screen time reduction, which helps to reduce the fear of missing out ('FOMO').
- **Incentives and positive replacement**: Users earn points, or "moments," by completing screen-time challenges and engaging in in-person activity with other users. These moments are redeemable for real-world prizes and perks, such as access to the paid premium version of the language-learning app Duolingo, concert tickets, or Premier League football tickets.
- **Change norms**: By encouraging young people to replace social media use with real-world activities (via access to concerts, yoga, outdoor activities etc.), the app aims to shift social norms by making "real life the new normal" among peer groups.

Intervention delivery and duration

The trial design is a two-arm waitlist design RCT, with a treatment arm, and a control arm which receives the intervention after the trial period has ended. The overall intervention period for pupils in the treatment arm runs from November 2025 to February 2026 (approximately three months).

- **Treatment arm:** The NOMO app is introduced and encouraged by school staff to all eligible[10] pupils within the school.
- **Comparison arm (control):** Pupils in schools in this arm are introduced to the app via school staff, but on a delayed basis starting in March 2026. During the trial period (November 2025 - February 2026), pupils in schools in the control arm will not be invited to use the app and are therefore expected to continue with their business-as-usual social media practices. It is possible that pupils in schools in this arm

[10] Pupils whose caregiver(s) have withdrawn them from the evaluation will not be actively encouraged by school staff to download the app, and will not partake in the evaluation.

may access the NOMO app (as the app is publicly available), but they will not be told about it by the research team or by their school.

Once schools have been recruited, they will be randomised by BIT into one of the two trial arms, with the next steps for recruitment dependent on which of the arms the school has been assigned to. All schools (i.e. regardless of trial arm) will be asked to share an information sheet (containing an **opt-out** withdrawal form) with caregivers of their Year 9 and Year 10 pupils. After the withdrawal period of 7 days has elapsed, all non-withdrawn Year 9 and Year 10 pupils will be considered as participating in the evaluation (though caregivers can still withdraw their child(ren) from the evaluation by emailing BIT at socialmedia@bi.team at any point during the trial).[11]

05 / Mechanism for impact

The NOMO app is hypothesised to reduce social media use, reduce distraction, improve life satisfaction, and improve sleep quality, by directly intervening in social media use

[11] Withdrawal from the evaluation will mean in practice that we rely on schools not to administer the baseline and endline surveys to those pupils whose parents/guardians have either informed the school directly (via the withdrawal form) or who have notified the BIT project team (who will then inform the school) via socialmedia@bi.team. Given that we are not collecting any identifiable personal data within surveys (i.e. we are not assigning trial IDs, nor are we collecting name, Unique Pupil Number, or any other direct identifier), we cannot delete the data of specific pupils after we have collected it (as we won't be able to identify the individual each survey belongs to). We have no way of preventing any specific individual from downloading or using the NOMO app itself.

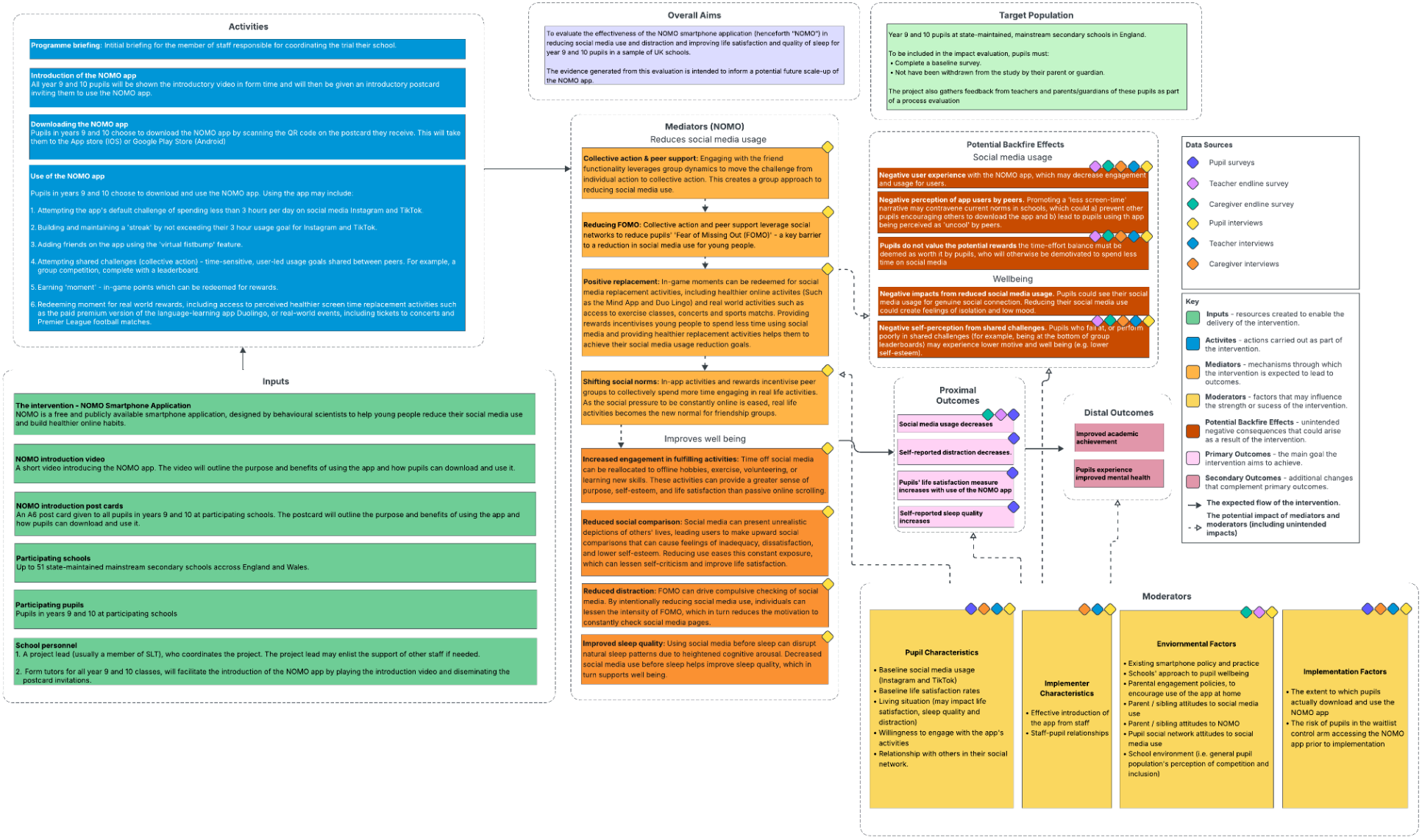
behaviour through the application of behavioral science principles. The core mechanism centers on mitigating the negative impacts of excessive screen time and 'FOMO' through a strategy of collective action and positive reinforcement.

NOMO is designed to change behaviour by:

1. **Shifting social norms:** By encouraging a collective action approach to reducing screen time, the intervention seeks to establish "real life as the new normal", thereby reducing the 'FOMO' that encourages excessive social media use.
2. **Providing positive replacement:** The app utilises a gamified approach in which users earn positive reinforcement (points/"moments") for successfully reducing screen time on social media apps and engaging in healthier alternative activities. This mechanism aims to replace the addictive reward pathway of social media with real-world, positive incentives, which in turn is expected to reduce feelings of distraction and improve sleep.

By successfully reducing the time young people spend using social media and fostering healthier social media habits through collective action, the overall effect is hypothesised to be an increase in time available for productive and restful activities, leading to an increase in reported life satisfaction and sleep quality; and a decrease in reported distraction and social media usage.

Figure 1: NOMO intervention Theory of Change



Evaluation Design

06 / Study type

Our **mixed methods evaluation** will be composed of two complementary parts in attempting to address the stated research aims.

The first component is an **impact evaluation (IE)** in the form of a **2-arm RCT with a waitlist encouragement design**, with randomisation occurring at the school level. All participating pupils within a school will be within the same trial arm, with schools randomly assigned to one of two trial arms described above. This design is the most robust method for establishing a causal link between the intervention and observed pupil outcomes, and for examining any differential impact of the two methods of introducing the app within schools. For ethical reasons, we will provide control group schools with the intervention after the evaluation ends. Data collection will occur via a short (under five minutes) anonymous online pupil survey (details below), administered at baseline (prior to intervention launch) and at endline (following the three-month intervention period). Our quantitative analysis will be conducted on an **intention-to-treat (ITT)** basis.

In addition to the RCT, our evaluation includes a complementary **implementation and process evaluation (IPE**) using mixed methods (voluntary surveys and voluntary interviews). Quantitative data will be collected through voluntary surveys for caregivers and teachers, described below. Qualitative data will be collected through voluntary interviews with pupils, caregivers, and teachers, which are also described below. This approach is designed to provide rich, in-depth insights into how the intervention was implemented (or not) in each trial arm condition, what factors influenced its effectiveness, and how pupils, caregivers, and teachers perceived its impact. We aim to use insights generated to determine whether it is feasible, acceptable, and desirable to implement an intervention like this in UK schools. We also aim to assess whether key actors like the young people themselves, their teachers, and their parents, think the intervention has been impactful or not. We will incorporate the findings from these qualitative and quantitative activities into our overall report, highlighting the feasibility, acceptability, desirability, and perceived impact of the intervention (i.e. survey results, qualitative feedback from young people).

07 / Sample selection

BIT will recruit up to 51 schools across England and Wales to participate in this study. To be

eligible to participate, schools must:

- Be a state-maintained, mainstream secondary or all through school with pupils in years 9 and 10.
- Be located in England or Wales.

We have restricted the number of schools joining the study from a single multi-academy trust to 5, to limit the likelihood of spillover effects and increase the generalisability of the findings.

The population for the RCT is any person who is:

- A pupil in Year 9 or Year 10 in a participating school in the 2025/2026 academic year
- Has not been withdrawn from the evaluation by their caregiver (parent or guardian)
- Voluntarily completes a baseline survey in November 2025

Estimated pupils at baseline/endline: n = [10,500 - 14,000 pupils]
We estimate each participating school will have an average of 362 Year 9 and Year 10 pupils (combined) (based on publicly available information).[12] Therefore the maximum estimate for potential pupil sample size of 18,462 pupils. For conservatism in estimating our sample of pupils completing baseline surveys, we round this down to 50 schools with 350 pupils across Years 9 and 10. Based on our experience in conducting similar evaluations in school settings, and the pupil-level participation that is observed, we assume for **both baseline and endline surveys** a maximum average survey completion rate of 80%, and a minimum completion rate of 60%. This implies an anticipated baseline pupil sample size of between 10,500 and 14,000 pupils.[13]

The population for the surveys within the IPE is any person who is:

- Any **teacher** in any participating UK school who chooses to take part in the optional 5-minute teacher survey taking place at the time of endline data collection (**estimated n: 40-200**)
- Any **caregiver** of a participating pupil in a participating UK school who chooses to take part in the optional 5-minute parent/guardian survey taking place at the time of endline data collection (**estimated n: 235 - 700**)

The population for qualitative interviews within the IPE is any person who is:

- Any **participant (pupil**) from the IE who gives assent, and receives opt-in caregiver consent, to take part in a voluntary interview taking place at the time of endline data collection (**estimated n: 15-20**). We will seek to interview pupils with a range of engagement levels with the NOMO app, and will aim for some diversity in gender, school-level FSM eligibility, and location (England and Wales). The sampling criteria

[12] The evaluation team is in the process of individually asking schools to confirm this information.
[13] We also conservatively assume in our power calculations that only 60-80% of endline pupil survey data will be matchable to baseline data. See section 12 'Power' for details.

below includes our target quotas for each criteria.

Primary sampling criteria		Target minimum quota
Engagement with the NOMO app	Continued engagement (described as using the app multiple times per week)	At least 2
	Some engagement (described as having used the app fortnightly - monthly)	At least 2
	No engagement (described as having never used the NOMO app)	At least 2
Secondary sampling criteria		**Target minimum quota**
Gender	Male	At least 2
	Female	At least 2
School-level FSM eligibility	Above average (>25.7% of pupils eligible for FSM)	At least 5
	Below average (>25.7% of pupils eligible for FSM)	At least 5
School location	England	At least 3
	Wales	At least 3

- Any **caregiver** of a participating pupil in a participating UK school who took part in the IPE endline survey for parents/guardians, and who gives consent to take part in a voluntary interview taking place at the time of endline data collection (**estimated n: 5-10**). We will seek to interview caregivers responsible for pupils with a range of engagement levels with the NOMO app, and will aim for some diversity in gender, school-level FSM eligibility, and location (England and Wales). The sampling criteria below includes our target quotas for each criteria.

Primary sampling criteria	Target minimum

		quota
Caregiver's child's engagement with the NOMO app	Continued engagement (described as using the app multiple times per week)	At least 2
	Some engagement (described as having used the app fortnightly - monthly)	At least 1
	No engagement (described as having never used the NOMO app)	At least 1
Secondary sampling criteria		**Target minimum quota**
Gender	Male	At least 2
	Female	At least 2
School-level FSM eligibility	Above average (>25.7% of pupils eligible for FSM)	At least 2
	Below average (>25.7% of pupils eligible for FSM)	At least 2
School location	England	At least 2
	Wales	At least 2

- Any **teacher** in a participating UK school who gives consent, and receives agreement from the participating school, to take part in a voluntary interview taking place at the time of endline data collection (**estimated n: 5-10**). We will seek to interview teachers with a range of seniority (including headteachers, senior leaders and non-senior leaders), and will aim for some diversity in gender, school-level FSM eligibility, and location (England and Wales). The sampling criteria below includes our target quotas for each criteria.

Primary sampling criteria	**Target minimum quota**

Teacher seniority within school	Headteacher	At least 1
	Senior leader (not headteacher)	At least 1
	Non-senior leader	At least 1
Secondary sampling criteria		**Target minimum quota**
Gender	Male	At least 2
	Female	At least 2
School-level FSM eligibility	Above average (>25.7% of pupils eligible for FSM)	At least 2
	Below average (>25.7% of pupils eligible for FSM)	At least 2
School location	England	At least 2
	Wales	At least 2

Estimated total n: 25-40 interviewees

Sample representativeness: For pragmatic reasons, we will not impose recruitment restrictions based on geography or on the proportion of pupils eligible for free school meals ('FSM') in the school. However, we are confident that our recruited sample of schools will not be geographically concentrated in a manner that would compromise the external validity of the evaluation. Our final report will note the proportion of schools in each region of England and the proportion that are in Wales. We will not be seeking to draw inferences from the sample to the population of all schools in the UK.

Our final report will note the average proportion of FSM-eligible pupils across participating schools (and whether this deviates significantly from the national average of 25.7%),[14] and will also note balance checks for this proportion across the trial arms post-randomisation. While we will not be collecting data on the FSM-eligibility of individual pupils, our quantitative analysis of the RCT will also control for the proportion (%) of pupils within each

[14] Gov.UK (2025)

school that are FSM-eligible, which may provide an estimate for any mediating or moderating effect that FSM-eligibility has on NOMO's impact on pupil outcomes.

In addition, our final report will note the proportion of schools that:

- Are academies and local authority maintained,
- Are selective,
- Received Outstanding, Good, Satisfactory, Inadequate or Requires Improvement in their most recent Ofsted inspection.

We will report any evidence that the study sample is statistically significantly different from the larger population of schools on characteristics that may impact the effectiveness of the intervention tested.

08 / Methodology

Quantitative research activities

Pupil surveys

All participating pupils (i.e. those whose caregivers have not withdrawn them from the evaluation) will be invited to complete an almost identical (the one exception is that at endline, pupils will be asked "*Have you used the NOMO app in the past 3 months*?") short (<5 minute) pupil-completed survey at both baseline (early-mid November 2025) and endline (early-mid February 2026) data collection points. Each school will be responsible for disseminating the survey to pupils, with the required materials and guidance having been provided by BIT to each school in October 2025. Surveys will be conducted using the SmartSurvey platform (the surveys will ask pupils to confirm their school via a drop-down list of participating schools).

To align with best practices, we will only collect the personal data required for the research. To increase data protection for participants, we only collect anonymised data from participating pupils. We will **not** collect identifiable pupil data such as name, date of birth, address/postcode, or unique pupil number; **nor** will we collect sensitive data such as EAL (English as an Additional Language) or FSM (eligibility for Free School Meals) at the individual level. Instead, our short survey consists of the following items:

- **Unique identifier (secret phrase; baseline only)**[15]: "*Create your memorable secret phrase. This survey is anonymous. Create a secret phrase that isn't about you (no names, birthdays, usernames). Your secret phrase must contain exactly three words followed by one number, all separated by single spaces. Use the same phrase when we ask you to complete this survey again in February, so we can link your answers. If you forget it, we can't recover it.* "
    - "*Please enter your own secret phrase below. Please avoid using your real name, birthday or anything that identifies you. Example: lemon train owl 42*" [Text box with regular expression (Regex) validation]
    - "*Please enter your own secret phrase again. Please make sure it matches exactly!*" [Second text box asking for confirmation of the secret phrase, with no "paste" option]

[15] Due to our inability to collect identifiable pupil data as part of the trial, this use of a chosen 'secret phrase' to link baseline and endline pupil survey data was identified as the 'least worst' option available. SmartSurvey has the capability to enforce regular expression (Regex) validation on text answers, ensuring that the chosen phrase matches the required format exactly before allowing the survey respondent to proceed. We conservatively assume in our power calculations that only 60-80% of endline pupil survey data will be matchable to baseline data. See section 12 'Power' for details.

- **Unique identifier (prompt; baseline only)**: "*Email yourself your memorable secret phrase. Your secret phrase is: [Respondee's secret phrase]. Click the button below to email your secret phrase to yourself. This will open your email app on this computer. We won't see your email.*
    - Button "*Click here to email your secret phrase to yourself" Opens email on respondee's computer with*
        - *Pre-filled subject line: "my secret phrase for social media"*
        - *Pre-filled email content "My secret phrase is: [secret phrase]"*

      If that button doesn't work, copy your secret phrase above and paste it into an email to yourself. Use this subject line: "my secret phrase for social media" so you can find it easily in February.

      "Thank you for completing this survey!"
    - Compulsory question: "*I confirm I have emailed myself my secret phrase"* Single option response *'Yes'*
- **Unique identifier (recall; endline only)**: "*Please enter the secret phrase we asked you to create the first time you took this survey a few months ago (November 2025). As a reminder, this was a phrase containing exactly three words followed by one number, all separated by single spaces, like the examples below. We asked you to email it to yourself at the time. Search your inbox for "my secret phrase for social media" to find it. It's really important for our understanding of how things have changed for you over time that we're able to link your responses to this survey and the one you took in November 2025*".
    - [Text box with regular expression (Regex) validation]
    - [Second text box asking for confirmation of the secret phrase, with no "paste" option]
    - [I am not able to remember or find my secret phrase]
- **School**: "*What school do you attend?*"
    - [drop down list of schools]
- **Year group**: "*Which year group are you in?*"
    - [ ] Year 9
    - [ ] Year 10
- **Gender**: "*Which of the following best describes your gender?*"
    - [ ] Female
    - [ ] Male
    - [ ] Non-binary / Prefer not to say
- **Primary outcome (social media usage)**: "*Thinking about your last full school day, how much time in total do you think you spent using social media apps (like TikTok, Instagram, etc.) over the entire 24-hour day?" As a reminder, your response is*

completely anonymous - no one will know what you personally say. You can use Apple Screen Time or Android Digital Wellbeing (checking the data for that specific day) to help you answer as accurately as possible, if your school allows you.

- [ ] None
- [ ] Less than 30 minutes
- [ ] 30 minutes to 1 hour
- [ ] 1-2 hours
- [ ] 2-3 hours
- [ ] 3-4 hours
- [ ] 4-5 hours
- [ ] 5-6 hours
- [ ] More than 6 hours

- **Secondary outcome (distraction)**: *"I stop my homework to check my social media (e.g., Instagram, TikTok)."*
  - 7-point scale [Never, Rarely, Occasionally, Sometimes, Often, Very often, Constantly]
- **Exploratory outcome #1 (life satisfaction)**: *"I am satisfied with my life."*
  - 7-point scale [Strongly disagree, Disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Agree, Strongly agree]
- **Exploratory outcome #2 (sleep)**: *"Thinking about the past 7 days, how would you rate the quality of your sleep overall?"*
  - 11-point scale ["Terrible" (0) to "Excellent" (10)]
- **NOMO usage (endline only)**: "*Have you used the NOMO app in the past 3 months*?"[16]
  - [ ] Yes
  - [ ] No

Teacher and caregiver surveys

Short (<5 minute) surveys will be developed for both teachers and caregivers, to be administered at endline only, to capture their reflections. These materials will *be designed* to assess key constructs including: (a) perceived feasibility of the app, (b) acceptability to parents/teachers, and (c) perceived impact on pupil concentration and life satisfaction. In order to encourage completion of the surveys by both teachers and caregivers, we plan to

[16] This question is included at endline only, asking whether pupils actually used NOMO (rather than simply downloading it). The question also serves as a check for adherence to randomisation allocation, allowing us to perform a 'Complier Average Treatment Effect'' (CACE) analysis alongside our primary analysis (see section '11 / Statistical Approach') .

enter those who complete the respective surveys into two separate lotteries to win a £100 voucher. These surveys will be clearly framed as optional/voluntary, and will not capture personal demographic information, as we are conscious of minimising any burden placed on caregivers and teachers especially.

- We intend on asking teachers to confirm the participating school they work for, as well as whether they teach Year 9, Year 10, or both.
- We intend on asking caregivers to confirm the participating school their child attends, as well as their child's gender and school year (*if a caregiver has more than one child taking part in the evaluation, we will ask them to complete the survey for as many participating children as they have*).

Qualitative research activities

Pupil interviews

A small number **(i.e. n < 20)** of **optional** pupil interviews will take place at endline, to gather pupil reflections on using the NOMO app. We aim to interview only pupils from the treatment condition (*the "control" arm is essentially the treatment arm simply delayed by ~5 months, so we will not interview pupils from schools in this arm*). These interviews will be framed as entirely voluntary, with both **explicit school and caregiver consent, *and* pupil assent sought**. We will ensure that these voluntary interviews are short, focused only on our research questions, and avoid questions that probe more sensitive issues related to social media usage (e.g. body image, harmful content, etc.). We intend to offer remuneration in the form of £40 vouchers. We will offer these voluntary interviews both online and in-person at the pupil's school.

Only BIT researchers with experience of conducting interviews with vulnerable groups (such as pupils) will facilitate the interviews. For each interview, where possible (i.e. if in-person or where a pupil has chosen to share their video during a video call), researchers will be alert to non-verbal signs of distress or discomfort and check with the participant whether they wish to move on to a new topic, take a break, or end the interview at any given time. After each pupil interview, researchers will confirm with the relevant (as determined by the pupil's school) staff member in each case, and will at this point share any concerns about pupil (or others') welfare that have emerged during the interview. Researchers will also have the opportunity to debrief after the sessions to discuss anything that may have caused distress or raised concerns.[17]

[17] Researchers will follow the Nesta/BIT EMEA Internal Ethics Review Policy (January 2025) if they are concerned about a pupil's welfare or believe there is a risk of harm, with the designated safeguarding leads for this project being Dr. Patrick Taylor and Dr. Clare Tanton.

Teacher interviews

A small number **(i.e. n <10)** of **optional** teacher interviews will take place at endline, to gather Year 9 and Year 10 teacher reflections on pupil life satisfaction and learning outcomes (and related concepts such as pupil attentiveness). We aim to interview teachers at schools in the treatment condition and with responsibility for both years Year 9 and Year 10. These interviews will be framed as entirely voluntary, with both explicit school and teacher consent sought. We will ensure that these voluntary interviews are short and focused only on our research questions. We will offer a £40 voucher to each teacher who completes a teacher interview. We will offer these voluntary interviews online only. As above, researchers will also have the opportunity to debrief after the sessions to discuss anything that may have caused distress or raised concerns.

Caregiver interviews

A small number **(i.e. n <10)** of **optional** caregiver interviews will take place at endline, to gather caregiver reflections on the intervention and its impact on pupil life satisfaction. We aim to interview caregivers of pupils in the treatment condition in both Years 9 and Year 10, recruiting these caregivers from those who complete the caregiver survey (see above). These interviews will be framed as entirely voluntary, with explicit consent sought. We will ensure that these voluntary interviews are short and focused only on our research questions. We will offer a £40 voucher to each caregiver who completes a caregiver interview. We will offer these voluntary interviews online only. As above, researchers will have the opportunity to debrief after the sessions to discuss anything that may have caused distress or raised concerns.

Data management and analysis

We will use the Framework approach to data management to prepare the data for detailed analysis. This will first involve identifying emerging themes through familiarisation with the data. Then, an analytical framework will be created and a series of matrices set up for summarisation. The columns in each matrix will represent the key sub-themes drawn from the findings and the rows will represent individual participants interviewed. The interview data will then be summarised in the appropriate cell, which means that all data relevant to a particular theme will be easily accessible. This will enable a systematic approach to analysis that is grounded in interviewees' accounts.

The next step of analysis will involve working through the managed data to draw out the range of experiences and views, while identifying similarities, differences and links between them. Thematic analysis (undertaken by looking down the theme-based columns in the Framework) will identify the range of concepts and themes from across the sample. Between-case analysis (undertaken by comparing and contrasting rows or groups of rows)

will allow for comparison and contrast between interviewees. Within-case analysis will allow us to explore how each participants' characteristics, views, and experiences interrelate.

Analytical Strategy (Quantitative component)

09 / Outcomes

Outcome	Outcome measure	Question wording	Type
Primary outcome	Social media usage	*"Thinking about your last full school day, how much time in total do you think you spent using social media apps (like TikTok, Instagram, etc.) over the entire 24-hour day?"*	9-point scale: • [ ] None • [ ] Less than 30 minutes • [ ] 30 minutes to 1 hour • [ ] 1-2 hours • [ ] 2-3 hours • [ ] 3-4 hours • [ ] 4-5 hours • [ ] 5-6 hours • [ ] More than 6 hours
Secondary outcome	Distraction, adapted from the Online Homework Distraction Scale (ODHS)[18]	*"I stop my homework to check my social media (e.g., Instagram, TikTok)."*	7-point Likert scale [Never, Rarely, Occasionally, Sometimes, Often, Very often, Constantly]
Exploratory outcome #1	Life Satisfaction, as measured by the third item from the 5-item Satisfaction with Life Scale (SWLS).	*"I am satisfied with my life."*	7-point Likert scale [Strongly disagree, Disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Agree, Strongly agree]
Exploratory outcome #2	Sleep, using the Single-Item Sleep Quality Scale (SQS)[19]	*"Thinking about the past 7 days, how would you rate the quality of your sleep overall?"*	11-point scale ["Terrible" (0) to "Excellent" (10)]

[18] See for instance Xu et al. (2020) and Esteban et al. (2022).
[19] See for instance Snyder et al. (2018).

10 / Interpretation

This table outlines the main conclusions and recommendations based on different combinations of findings for the primary and secondary outcomes. The interpretation will also be informed by the qualitative findings from the Implementation and Process Evaluation (IPE) and the exploratory outcomes.

- **Primary Outcome:** Social media usage
- **Secondary Outcome:** Distraction
- **Other Findings:** Feasibility, acceptability, and perceived impact from the IPE (pupil, teacher, and caregiver surveys and interviews), and exploratory outcomes (i.e. life satisfaction, sleep).

Primary Outcome: Social media usage	Secondary Outcome: Distraction	Other Findings (from IPE, exploratory outcomes)	Conclusion & Recommendation
Significant positive impact[20]	Significant positive impact	Any	**Strong evidence of success.** The intervention achieves its primary goal of reducing social media use *and* its secondary goal of reducing distraction. Recommend for future trials and/or scale-up, pending review of primary and secondary outcomes and IPE data for implementation refinements. Subsequent research could focus on whether the observed effects replicate at a larger scale, and/or whether they replicate with less involvement from the delivery team (BIT). Future research could also collect data on academic outcomes (e.g. GCSE results).
Significant positive impact	No impact	Any	**Evidence of success.** The intervention achieves its primary goal of reducing social media use, though the secondary outcome (distraction) was not measurably changed. Recommend for further trials or as a targeted tool for *usage reduction*.

[20] A "Significant positive impact" on the Social media usage or Distraction outcome refers to a statistically significant *reduction* in the measured behavior.

No impact	Significant positive impact	Any	**Mixed/unclear mechanism.** The intervention reduced distraction but did not measurably reduce self-reported social media usage. This suggests a measurement issue or a psychological effect (e.g., pupils *feel* less distracted). Do not recommend for scale-up *for usage reduction*, but investigate IPE data.
No impact	No impact	**Positive IPE findings** (e.g., high acceptability, perceived as feasible and desirable by pupils/teachers).	**No evidence of impact, but implementation is promising.** We cannot be confident of any impact on usage or distraction. However, stakeholders support the app. Recommend as an optional tool, but do not recommend for scale-up *for impact* without further modification and re-testing.
No impact	No impact	**Negative IPE findings** (e.g., high burden, low uptake, poor pupil/teacher feedback).	**No evidence of impact and implementation is challenging.** The intervention had no measurable effect and was not well-received. Do not recommend for further trials or scale-up without significant changes. Investigate IPE data to understand why uptake was low.
Significant negative impact	Any	Any	**Evidence of harm.** The intervention is associated with an *increase* in social media use. Do not recommend scaling up this intervention. Very significant changes to the intervention would be needed before any re-testing.

11 / Statistical Approach

Analysis

The primary objective of the quantitative analysis is to estimate the causal impact of the intervention arm (*T*) relative to the comparison arm (*C*: delayed roll-out). The analysis will be conducted on an **Intention-To-Treat (ITT)** basis, meaning all participants will be analysed according to the arm to which their school was originally randomised, regardless of their compliance with the intervention. To maximise statistical power, we will use an analysis of covariance (ANCOVA) framework via Ordinary Least Squares (OLS) regression. This approach uses the baseline measure of the outcome variable as a covariate, which is the most efficient way to control for pre-intervention differences in RCTs. Given that randomisation will occur at the school level (cluster randomisation), we must account for the non-independence of observations within the same school. This is achieved by calculating **cluster-robust standard errors** at the school level to ensure valid statistical inference.

Coding the primary outcome

Given the ordinal nature of the response options to our primary outcome question (*"Thinking about your last full school day, how much time in total do you think you spent using social media apps (like TikTok, Instagram, etc.) over the entire 24-hour day?"*), we will re-code the answer categories as numeric values (i.e. minutes) using the **midpoint** of each answer option. That is, for each answer option in the 9-point scale, the pupil will be assigned a numeric value for social media usage:

- None = 0 minutes
- Less than 30 minutes = 15 minutes
- 30 minutes to 1 hour = 45 minutes
- 1-2 hours = 90 minutes
- 2-3 hours = 150 minutes
- 3-4 hours = 210 minutes
- 4-5 hours = 270 minutes
- 5-6 hours = 330 minutes
- More than 6 hours = 390 minutes (*noting that this is not a strict midpoint*)

This will allow us to present changes in self-reported social media usage in practical terms, whilst noting the assumptions made in converting the ordinal answers into numeric values. To address this limitation, we also plan to analyse answers to this question as a binary outcome, see '*Robustness checks*' below.

Model Specification

The ITT effect for all outcomes (Social media usage, Distraction, Life Satisfaction, and Sleep) will be estimated using the following OLS specification:

$$Y_{ij} = \alpha + \beta_1 T_j + \gamma Ybaseline_i + \delta FSM_j + \varepsilon_{ij} \quad \textbf{(1)}$$

where:

- Y_{ij} is the endline outcome measure for pupil *i* in school *j*;
- α is the intercept, representing the adjusted mean outcome for pupils in the comparison arm (control);
- T_j is a binary indicator variable (dummy) for schools randomised to the treatment (NOMO) arm , taking a value of 1 if the pupil is in a school assigned to the 'treatment arm, and a value of 0 otherwise;
- β_1 is the average treatment effect of treatment arm relative to the comparison arm (control);
- $\gamma Ybaseline_i$ is the coefficient and value of the pupil's baseline outcome score;
- δFSM_j is a the school's proportion of FSM-eligible pupils;
- ε_{ij} is the error term, clustered at the school level.

CACE analysis

We will conduct a 'Complier Average Treatment Effect'' (CACE) analysis using an instrumental variables (IV) approach, specifically two-stage least squares (2SLS). This approach is necessary to account for non-compliance (i.e., those in the treatment arm who do not use NOMO, and those in the control arm who access and use it). We will use the randomisation assignment variable as the instrument for the binary measure of *actual NOMO usage*, derived from the endline survey question: "*Have you used the NOMO app in the past 3 months*?". The two stages are:

1. **First stage:** Regress the binary outcome of **self reported NOMO usage** on the randomisation assignment variable(s). This step will confirm whether the instrument (randomisation) is a strong predictor of actual treatment.
2. **Second stage:** Regress the given outcome on the predicted NOMO usage (from the first stage).

The resulting coefficient will estimate the effect of **using** the NOMO app (i.e., the CACE effect), thereby providing a more internally valid estimate of the intervention's potential impact, accounting for the selection bias of those who choose to use it.

Given that NOMO usage is self-reported (as we are unable to link individual pupil app data to pupil survey responses), we have identified two sources of 'back-end' app data that the NOMO team will share with us for the purposes of monitoring usage and compliance as best we can (i.e. at the school level). We will report these school-level statistics alongside the CACE results:

- The proportion of registered NOMO users in the school (relative to the total combined number of Year 9 and Year 10 pupils in the school);[21]
- The mean total hours of social media usage 'saved' (i.e. 'prevented') by pupils within the school by using NOMO during the evaluation period (i.e. aggregate total hours divided by the number of registered NOMO users linked to the school).[22]

Robustness checks

Baseline matching removed (linkage attrition)

We will also run the ITT analysis, but without the baseline score ($Ybaseline_i$) for the outcome being analysed. While this will reduce available statistical power by definition, it is important to compare the results of the two sets of analyses (with and without baseline outcome data as a covariate) to obtain a sense of whether those pupils who could not link their baseline and endline surveys (See 'Pupil surveys' in section '08 / Methodology') were characteristically different to those pupils who *were* able to link their two surveys. While we do not formally hypothesise a direction of bias here, it is reasonable to expect that any "linkage attrition" will not be random. It may be the case that pupils who are more likely to not email their codes to themselves, or search and find their code when asked to do so, are less organised or less engaged, and may also be the pupils most (or least) affected by the intervention.

Social media usage as a binary variable

Given our imperfect use of 'midpoints' in converting the outcome scale for our primary outcome (social media usage) from ordinal (9-point scale) into numeric, we will re-analyse this outcome as a binary variable for presentational purposes. Specifically, we will re-code answers from the 9-point scale as binary (0,1), whereby a pupil is deemed to have "low" usage (0) if they report having used social media for fewer than 3 hours on the original

[21] N.B. This data will only be available/relevant for schools in the treatment arm. Each treatment arm school will have a unique QR code for downloading the app, which will allow the NOMO team to track registrations and app usage at the school level. Given we cannot track registrations at the individual level (beyond the endline survey question asking pupils whether they have used the app), this data provides some indication of this at the school level.

[22] Similarly, this data will only be available/relevant for schools in the treatment arm. Given we cannot track app usage at the individual level (beyond the endline survey question asking pupils whether they have used the app), this data provides some indication of this at the school level.

scale, and deemed to have "high" usage (1) otherwise.[23] While we acknowledge the potential loss of statistical power in re-specifying the model in this way, it may make presentation and interpretation of this result more intuitive. In this case, the model specification and interpretation becomes:

$$logit(P(Y_{ij} = 1)) = \alpha + \beta_1 T_j + \gamma Ybaseline_i + \delta X_j + \upsilon_{ij} \textbf{ (2)}$$

where:

- $logit(P(Y_{ij} = 1))$ is the natural logarithm of the odds of the pupil's endline binary outcome being 1;
- All other variables are as defined for model (1) above;
- The coefficient (β_1) represents the change in the log-odds of the outcome occurring for pupils in the treatment arm relative to the comparison arm. Results will be reported as odds ratios for ease of interpretation;
- υ_{ij} is the error term, clustered at the school level.

[23] The UK's Office for National Statistics has previously used a 3-hour threshold for problematic social media usage in analysis (ONS, 2015).

12 / Power

Table 1: Summary of Power Calculation assumptions & inputs (for primary outcome only)

Parameter	Bottom of range	Top of range	Explanation / justification
Significance level (alpha)	***N/A (0.05)***	***N/A (0.05)***	(Standard modelling)
Power (1 - β)	***N/A (0.8)***	***N/A (0.8)***	(Standard modelling)
Assumed **mean** for primary outcome	**4.6 (hours)**	**4.6 (hours)**	Based analysis by Olivares-Guido et al. (2024).
Assumed **standard deviation** for primary outcome	**3.6 (hours)**	**3.6 (hours)**	Based on analysis by Olivares-Guido et al. (2024).
Total number of schools [number of schools per arm] at endline	40 [20]	**50 [25]**	51 schools recruited as of 31st October 2025; we model 50, 46, and 40 schools at endline as low (2%), medium (~10%), and high (~22%) school-level drop-out scenarios respectively. **Our central estimate is 46 schools (23 per arm)**. See the Annex for full power calculation output.
Number of pupils per school (endline data)	**210**	280	This is based on the estimated average number of combined Year 9 and Year 10 pupils per school (based on publicly available information) being 362, with assumed endline completion rates of either **60% (conservative central estimate)** or 80%.[24]
Proportion of pupils at endline with data matched to baseline	**0.6**	0.8	Given our requirement that pupils themselves match their baseline and endline data (through the use of a unique code generated for each individual), we assume matching rates of either **60% (conservative central estimate)** or 80%.
Correlation between baseline and endline primary outcome score	0.5	**0.8**	Based on meta-analysis by Pavot & Diener (1993), with supporting evidence from Fujita & Diener (2005), we model for both 0.5 and **0.8 (central estimate)**.
Intra-cluster correlation (school-level; for primary outcome)	0.01	**0.03**	Based on meta-analysis by Parker et al. (2023) and supporting evidence from Oberle et al. (2025), we model for both 0.01 and **0.03 (conservative central estimate)**.
MDES (raw) range (hours)	0.232	0.547	*(See Annex below); central estimate is **0.434 hours (26.04 minutes)***
MDES (Cohen's d) range	0.064	0.152	*(See Annex below); central estimate is **0.121***

[24] For both conservatism and mathematical simplicity, we assume a slightly lower combined average of 350 pupils across Years 9 and 10 in participating schools, from which we calculate our modelled endline completion rates of 60% (conservative central estimate) and 80%. Our central estimate for assumed endline sample in terms of pupils is therefore 45 * 210 = 9,450.

Our primary outcome is **social media usage**, operationalised in the question "*Thinking about your last full school day, how much time in total do you think you spent using social media apps (like TikTok, Instagram, etc.) over the entire 24-hour day?*" measured using a 9-point scale. Given the range of calculated MDES (*Cohen's d*) [0.064, 0.152] for the anticipated sample, we believe that the evaluation is powered based on a plausible and meaningful effect (while acknowledging that there is no guarantee this is the case). Our central estimate for the MDES, based on mostly conservative assumptions (especially in relation to the number of pupils per school with data at endline; proportion of pupils at endline with data matched to baseline; and intra-cluster correlation (school-level; for primary outcome)), is **0.121** (*Cohen's d*). We anticipate a lower rate of school-level attrition than the ~10% we have modelled in our central estimate, and therefore, we are relatively confident in achieving this MDES.

It is worth noting that the UK current usership of the NOMO app (as of 30th October 2025) is fewer than 1000 downloads, as the app has not been formally launched in the UK at this point (*it can still be searched for within the Google or Apple smartphone app stores*). We therefore consider the baseline usage rates of the NOMO app in both the control and treatment arms to be effectively 0% at baseline, and for this to remain the case for the control group schools.

While we have expressed the central estimate for the MDES in both raw (0.434 hours (~26 minutes)) and standardised (*Cohen's d* of 0.121) terms here, this does not necessarily provide a full picture of how achievable this effect size is in practical terms. It is useful to consider that this MDES of ~26 minutes represents a modest 9.4% reduction in reported social media usage when compared with the anticipated baseline mean of 276 minutes (4.6 hours; see Table 1 above)). This compares favourably to the 50% reduction in social media usage reported in the US pilot study of NOMO conducted in October 2024 (see section '01 / Context' above). We are satisfied therefore that the study is powered to detect an effect that is both statistically and practically achievable.

Implementation

13 / Ethical issues & review

This trial was self-assessed as being:	Medium
The reason for assessment was...	Children without vulnerable characteristics in a setting where there is wider responsible adult supervision (school)
Link to completed ethics review form (if medium or high level risk)	Here

What were the key ethical considerations for the project?

The primary ethical considerations for the NOMO project centered on the involvement of a somewhat vulnerable population: pupils in Years 9 and 10 (approximately 13-15 years old). This requires a layered consent process, ensuring full compliance with requirements for research involving minors, including obtaining (opt-out) consent from caregivers. A key technical consideration was managing **anonymity** in the surveys; since no direct identifiable data (like names or UPNs) is collected, a unique 'secret phrase' is used. This process ensures individual responses cannot be directly traced back to a specific pupil, but necessitates clear communication that post-collection withdrawal of data is impossible, as the data cannot be identified for deletion.

Did you seek informed consent from participants?

Yes, a layered consent and assent model is employed. Caregivers are provided with an information sheet and an **opt-out** withdrawal form for general participation in the baseline and endline surveys. However, for participation in the qualitative interviews, **explicit opt-in caregiver consent** is required. Additionally, **pupil assent** is sought for all voluntary qualitative interviews, ensuring that participants actively agreed to take part, regardless of parental consent. For teachers and caregivers participating in the separate endline surveys and interviews, explicit informed consent is also required.

Have you considered whether harms to participants might arise and how you will deal with them?

Potential harms are considered and mitigated. Given the topic of social media and its links to wellbeing, there is a risk of psychological distress or discussion of sensitive topics. The qualitative interview guides will be designed to be short and focused only on the two research questions, **explicitly avoiding questions that probe sensitive issues** such as body

image or harmful content. Furthermore, all researchers conducting pupil interviews have been trained in working with vulnerable groups, and clear protocols will be in place for identifying and responding to non-verbal signs of distress, including the option for the participant to take a break or end the interview immediately, and for researchers to make a welfare referral to designated safeguarding leads within the school.

14 / Risks

Risk	Strategy to mitigate risk	Responsibility	Timeframe (if applicable)
1. Data: Low baseline-endline pupil matching Low matching rates due to pupils forgetting their "secret phrase" will prevent linking data and severely reduce statistical power for the primary ANCOVA analysis.	1. Re-emphasise the email prompt in the endline survey instructions. 2. Provide schools with a clear script for survey administration, instructing teachers to explicitly tell pupils to search their email inbox for the subject line: "my secret phrase for social media".	**BIT:** Project Delivery (Callum O'Mahony, Lily Margaroli)	March
2. Attrition: High pupil drop-out at endline A high volume of pupils who completed the baseline survey fail to complete the endline survey, reducing the final sample size below the 10,500 minimum required for adequate power.	1. Maintain regular, positive communication with school administrative contacts via the Project Delivery team. 2. Provide schools with all comms materials (e.g., email templates) well in advance to make survey administration as low-burden as possible. 3. Monitor completion rates in real-time during the first 3 days of the endline survey window and target follow-up comms to under-responding schools.	**BIT:** Project Delivery	February
3. Contamination: High app uptake in Control arm A significant number of pupils in the Comparison (control) arm hear about and download the publicly available NOMO app,	1. This risk cannot be fully prevented. The primary mitigation is analytical, as planned in the protocol (ToT analysis via 2SLS). 2. The endline survey question "Have you used the NOMO app in the past 3 months?" will be used to quantify the contamination rate and will be explicitly reported.	**BIT:** Research Lead	February - March

Risk	Strategy to mitigate risk	Responsibility	Timeframe (if applicable)
diluting the treatment effect and biasing the ITT estimate towards zero.			
4. Ethical: Safeguarding issue arises The intervention inadvertently causes psychological harm (e.g., increased anxiety, fear of missing out).	1. Monitor feedback from schools during the first few weeks of implementation for any safeguarding issues. 2. Re-confirm the clear safeguarding referral pathway with the designated lead at each participating school before interviews begin. 3. All researchers conducting pupil interviews will be familiar with BIT's safeguarding protocols. 4. Monitor qualitative data for any emerging themes of harm.	**BIT:** Research Lead, Project Director (Lal Chadeesingh)	November - February
5. Logistical: School disengagement Schools become unresponsive or fail to administer surveys due to competing priorities or perceived burden, leading to high school-level attrition.	1. Ensure all interactions are streamlined through a single point of contact (Project Delivery). 2. Clearly communicate the minimal time burden (e.g., "<5 min survey") at every stage.	**BIT:** Project Delivery	November - February
6. IPE: Low recruitment for qualitative interviews Failure to recruit the target number of pupils (15-20), teachers (5-10), and caregivers (5-10) for	1. Clearly advertise the £40 voucher incentive in all recruitment materials for the interviews. 2. Utilise school contacts to help promote the teacher interviews. 3. If recruitment is low, broaden the	**BIT:** Research Lead	February - March

Risk	Strategy to mitigate risk	Responsibility	Timeframe (if applicable)
the IPE, limiting insight into the intervention's implementation and mechanisms.	sampling criteria (e.g., remove quotas) to ensure target numbers are met.		

Annex: Power calculation results

Total number of schools [number of schools per arm]	*Number of pupils per school (endline data)*	*Proportion of pupils at endline with data matched to baseline*	*Correlation between baseline and endline primary outcome score*	*Intra-cluster correlation (for primary outcome)*	*"Effective R^2" when accounting for matched proportion*	*Adjusted standard deviation (accounting for "Effective R^2")*	*MDES (raw)*	*MDES (Cohen's d)*
40 [20]	**210**	**0.6**	0.5	0.01	0.150	3.319	0.357	0.099
40 [20]	**210**	**0.6**	0.5	**0.03**	0.150	3.319	0.547	0.152
40 [20]	**210**	**0.6**	**0.8**	0.01	0.384	2.825	0.304	0.084
40 [20]	**210**	**0.6**	**0.8**	**0.03**	0.384	2.825	0.466	0.129
40 [20]	**210**	0.8	0.5	0.01	0.200	3.220	0.346	0.096
40 [20]	**210**	0.8	0.5	**0.03**	0.200	3.220	0.531	0.147
40 [20]	**210**	0.8	**0.8**	0.01	0.512	2.515	0.270	0.075
40 [20]	**210**	0.8	**0.8**	**0.03**	0.512	2.515	0.415	0.115
40 [20]	280	**0.6**	0.5	0.01	0.150	3.319	0.342	0.095
40 [20]	280	**0.6**	0.5	**0.03**	0.150	3.319	0.538	0.149
40 [20]	280	**0.6**	**0.8**	0.01	0.384	2.825	0.291	0.081
40 [20]	280	**0.6**	**0.8**	**0.03**	0.384	2.825	0.458	0.127
40 [20]	280	0.8	0.5	0.01	0.200	3.220	0.332	0.092
40 [20]	280	0.8	0.5	**0.03**	0.200	3.220	0.522	0.145
40 [20]	280	0.8	**0.8**	0.01	0.512	2.515	0.259	0.072

40 [20]	280	0.8	**0.8**	**0.03**	0.512	2.515	0.408	0.113
Total number of schools [number of schools per arm]	*Number of pupils per school (endline data)*	*Proportion of pupils at endline with data matched to baseline*	*Correlation between baseline and endline primary outcome score*	*Intra-cluster correlation (for primary outcome)*	*"Effective R^2" when accounting for matched proportion*	*Adjusted standard deviation (accounting for "Effective R^2")*	*MDES (raw)*	*MDES (Cohen's d)*
46 [23]	**210**	**0.6**	0.5	0.01	0.150	3.319	0.333	0.092
46 [23]	**210**	**0.6**	0.5	**0.03**	0.150	3.319	0.510	0.142
46 [23]	**210**	**0.6**	**0.8**	0.01	0.384	2.825	0.283	0.079
46 [23]	**210**	**0.6**	**0.8**	**0.03**	0.384	2.825	**0.434**	***0.121***
46 [23]	**210**	0.8	0.5	0.01	0.200	3.220	0.323	0.090
46 [23]	**210**	0.8	0.5	**0.03**	0.200	3.220	0.495	0.137
46 [23]	**210**	0.8	**0.8**	0.01	0.512	2.515	0.252	0.070
46 [23]	**210**	0.8	**0.8**	**0.03**	0.512	2.515	0.387	0.107
46 [23]	280	**0.6**	0.5	0.01	0.150	3.319	0.319	0.089
46 [23]	280	**0.6**	0.5	**0.03**	0.150	3.319	0.502	0.139
46 [23]	280	**0.6**	**0.8**	0.01	0.384	2.825	0.272	0.075
46 [23]	280	**0.6**	**0.8**	**0.03**	0.384	2.825	0.427	0.119
46 [23]	280	0.8	0.5	0.01	0.200	3.220	0.309	0.086
46 [23]	280	0.8	0.5	**0.03**	0.200	3.220	0.487	0.135
46 [23]	280	0.8	**0.8**	0.01	0.512	2.515	0.242	0.067

46 [23]	280	0.8	**0.8**	**0.03**	0.512	2.515	0.380	0.106
Total number of schools [number of schools per arm]	*Number of pupils per school (endline data)*	*Proportion of pupils at endline with data matched to baseline*	*Correlation between baseline and endline primary outcome score*	*Intra-cluster correlation (for primary outcome)*	*"Effective R^2" when accounting for matched proportion*	*Adjusted standard deviation (accounting for "Effective R^2")*	*MDES (raw)*	*MDES (Cohen's d)*
50 [25]	**210**	**0.6**	0.5	0.01	0.150	3.319	0.319	0.089
50 [25]	**210**	**0.6**	0.5	**0.03**	0.150	3.319	0.489	0.136
50 [25]	**210**	**0.6**	**0.8**	0.01	0.384	2.825	0.272	0.075
50 [25]	**210**	**0.6**	**0.8**	**0.03**	0.384	2.825	0.417	0.116
50 [25]	**210**	0.8	0.5	0.01	0.200	3.220	0.310	0.086
50 [25]	**210**	0.8	0.5	**0.03**	0.200	3.220	0.475	0.132
50 [25]	**210**	0.8	**0.8**	0.01	0.512	2.515	0.242	0.067
50 [25]	**210**	0.8	**0.8**	**0.03**	0.512	2.515	0.371	0.103
50 [25]	280	**0.6**	0.5	0.01	0.150	3.319	0.306	0.085
50 [25]	280	**0.6**	0.5	**0.03**	0.150	3.319	0.481	0.134
50 [25]	280	**0.6**	**0.8**	0.01	0.384	2.825	0.260	0.072
50 [25]	280	**0.6**	**0.8**	**0.03**	0.384	2.825	0.410	0.114
50 [25]	280	0.8	0.5	0.01	0.200	3.220	0.297	0.082
50 [25]	280	0.8	0.5	**0.03**	0.200	3.220	0.467	0.130
50 [25]	280	0.8	**0.8**	0.01	0.512	2.515	0.232	0.064
50 [25]	280	0.8	**0.8**	**0.03**	0.512	2.515	0.365	0.101