

# Send Me a Pic? RCT evaluation protocol

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# Study rationale and background

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## Context to the development of the ‘Send Me a Pic?’ lessons

### Nude image based sharing among young people

A number of reports containing data on the prevalence of nude image based abuse among young people indicate that sharing nude images and being asked to share nude images is quite common. For example, a 2017 report from the National Crime Agency (NCA) and Brook examined the role of digital technology in young people’s sexual and romantic relationships and found that among a large UK sample of 14-17 years olds, 26% had sent a sexual or nude image to someone they like romantically.<sup>1,2</sup>

More recently, a 2022 survey by the research organisation Revealing Reality captured data on the experiences and consequences of nude image sharing from 5,197 UK school children aged 14-18. Analysis of the survey data found that 60% of girls and 31% of boys had been asked to share a nude or semi-nude image of themselves, 54% of girls and 30% of boys had been sent a nude or semi-nude image, and 20% of girls and 13% of boys had shared a nude or semi-nude image of themselves.<sup>3</sup> The majority of respondents who had shared an image had sent it to someone they were in a romantic relationship with (72% of girls and 76% of boys). Of the respondents who had shared an image of themselves, 24% of girls and 9% of boys reported that their image had then be sent to others without their consent.

A similar picture is found in a report by Ringrose, Regehr, and Milne (2021), which presents findings from a study of image based sexual harassment and abuse among young people aged 12-18 in the UK.<sup>4</sup> Analysis of survey data collected from 336 young people showed that 41% of girls and 17% of boys who completed the survey had been asked to share a nude or semi-nude image. The majority of

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<sup>1</sup> McGeeney, E., & Hanson, E. (2017). *Digital Romance: A research project exploring young people’s use of technology in their romantic relationships and love lives*. London: National Crime Agency and Brook.

<sup>2</sup> Note: data obtained via an online survey. The full sample was 2,135 young people aged 14-24. The number of young people in the sub-sample of 14-17 year olds is not specified in the report.

<sup>3</sup> Revealing Reality (2022). *Not just flirting: The unequal experiences and consequences of nude image-sharing by young people*. London: Revealing Reality.

<sup>4</sup> Ringrose, J; Regehr, K; & Milne, B; (2021). *Understanding and combatting youth experiences of image-based sexual harassment and abuse*. Department of Education, Practice and Society, UCL Institute of Education: London, UK.

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requests made to girls were from romantic or sexual partners (39%) – data for boys is not reported. The authors also report that 37% of girls and 20% of boys had received an unwanted sexual image.

Data from the 2019 Cybersurvey carried out by researchers from Youthworks and Kingston University indicates that prevalence of nude image sharing increases with age.<sup>5</sup> The 2019 survey collected data from 14,994 young people aged 11-17 years in the UK but asked respondents aged 13 and over (n = 6,045) to answer questions on relationships, sharing nudes, and 'meetups'. While 4% of 13-year-olds and 7% of 14-year-olds had shared a nude image, 17% of respondents aged 15 years and older had shared an image. Of those who had shared nudes, 17% had their image shared without their consent.

While a range of motivations for sharing nude images have been reported in the literature, such as flirting, a need for validation,<sup>6</sup> and sharing of nudes being seen as part of being in a relationship,<sup>7</sup> pressure from others is a prevalent theme. In the survey of 5,197 young people aged 14-18 conducted by Revealing Reality, of the 513 girls who had sent an image, 46% reported that they had felt pressured to do so; by comparison, 10% of the 279 boys who had shared an image reported that they felt pressured.<sup>8</sup> The survey data collected as part of the research by Ringrose et al. (2021) found that of those who had been asked to send a sexual image, 44% of girls and 12% of boys felt under pressure.<sup>9</sup> Of the respondents to the 2019 Cybersurvey who had shared a nude image, 18% reported that they had felt pressured or blackmailed to share the image.<sup>10</sup>

More broadly, pressure to share nude images appears to be pervasive among school-aged children. A 2021 Ofsted rapid review of sexual abuse in schools and colleges included 32 site visits and interviews with over 900 children and young people.<sup>11</sup> The review found that 40% of boys and 80% of girls reported that being pressured to provide sexual images of themselves happens 'a lot' or 'sometimes'.

### **The catalyst for creating the 'Send Me a Pic?' lessons**

The research on young people's use of online platforms and digital technology in romantic relationships undertaken in 2017 by Brook and the NCA identified ways in which technology can impact young people's relationships.<sup>12</sup> While positive impacts included facilitating connections and friendships, negatives included facilitating abusive and controlling behaviour, sexual coercion, and

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<sup>5</sup> Katz, A. & El Asam, A. (2020). *Look at me: Teens, sexting and risks*. London: Internet Matters.

<sup>6</sup> Revealing Reality (2022). *Not just flirting: The unequal experiences and consequences of nude image-sharing by young people*. London: Revealing Reality.

<sup>7</sup> Katz, A. & El Asam, A. (2020). *Look at me: Teens, sexting and risks*. London: Internet Matters; Revealing Reality (2022). *Not just flirting: The unequal experiences and consequences of nude image-sharing by young people*. London: Revealing Reality; Ringrose, J., Regehr, K., & Milne, B. (2021). *Understanding and combatting youth experiences of image-based sexual harassment and abuse*. Department of Education, Practice and Society, UCL Institute of Education: London, UK.

<sup>8</sup> Revealing Reality (2022). *Not just flirting: The unequal experiences and consequences of nude image-sharing by young people*. London: Revealing Reality.

<sup>9</sup> Ringrose, J., Regehr, K., & Milne, B. (2021). *Understanding and combatting youth experiences of image-based sexual harassment and abuse*. Department of Education, Practice and Society, UCL Institute of Education: London, UK.

<sup>10</sup> Katz, A. & El Asam, A. (2020). *Look at me: Teens, sexting and risks*. London: Internet Matters.

<sup>11</sup> Ofsted (2021). Review of sexual abuse in schools and colleges. <https://www.gov.uk/government/publications/review-of-sexual-abuse-in-schools-and-colleges/review-of-sexual-abuse-in-schools-and-colleges#methodology>

<sup>12</sup> McGeeney, E., & Hanson, E. (2017). *Digital Romance: A research project exploring young people's use of technology in their romantic relationships and love lives*. London: National Crime Agency and Brook.

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nude image based abuse. In addition, the research identified gaps in adequate education on healthy relationships that includes and recognises the role of digital technology and online platforms.

These findings, combined with evidence of the prevalence of nude image sharing among young people and the number of young people who experience pressure to share nude images, provided the catalyst for the NCA to create the 'Send Me a Pic?' (SMaP) education resource. The resource aims to develop young people's knowledge and awareness of what nude image based abuse is, its impacts on victims / survivors, and appropriate strategies to respond to these situations.

### **Description of the SMaP education resource**

The SMaP education resource is a classroom-based programme comprised of a series of four structured lessons to be delivered by teachers. The choice to adopt a classroom-based approach was informed by evidence that classroom-based prevention education, when taught in line with best practice, can have a sizeable positive impact across a range of behaviours, including behaviours related to online safety.<sup>13</sup> It has also been found that while assemblies can have the benefit of reaching large numbers of pupils, they provide limited opportunities for engagement.<sup>14</sup> Research has shown that prevention education is more effective when it incorporates active skills-based learning rather than passive knowledge acquisition; therefore, lessons have been recommended as the preferred mode of delivery for prevention education.<sup>15</sup>

A report by the Personal, social, health, and economic (PSHE) Association suggests that young people's decision to share nude images is influenced more by their understanding of consent, healthy relationships and resisting peer pressure than it is an understanding of the law.<sup>16</sup> It follows that the content of the SMaP lessons has been designed to raise awareness of these issues alongside supporting young people to develop skills and strategies to help them navigate potentially abusive situations.

Each lesson is designed to help young people achieve the following objectives:

- **Lesson 1:** To recognise healthy and unhealthy behaviour when sharing nude images and learn about the services and people to contact if in need of support.
- **Lesson 2:** To recognise situations of nude image based abuse and identify strategies to resist peer pressure to engage in this behaviour.

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<sup>13</sup> PSHE Association (2016). *Principles of effective prevention education*. London: National Crime Agency and PSHE Association.

<sup>14</sup> *ibid*

<sup>15</sup> PSHE Association and the Nation Police Chiefs Council (nd). *Child centred policing. Police in the classroom: A handbook for the police and PSHE teachers*. London: PSHE Association and the Nation Police Chiefs Council

<sup>16</sup> *ibid*



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- **Lesson 3:** To identify the pressures and influences people may experience when sharing nudes in relationships and understand that it's abusive to pressure or manipulate someone into sharing a nude image.
  - **Lesson 4:** To challenge views and behaviours relating to non-consensual nude image sharing in groups and support the person in the image and to seek help.

Each lesson should last 45 minutes, and it is recommended by the NCA that lessons are delivered across four consecutive weeks.

The lessons are delivered by teachers who have responsibility for relationships and sex education (RSE) and uses simulated text-based conversations between young people, presented as short film clips to introduce and navigate the issues.

Schools are provided with detailed lesson plans for each of the four lessons. The education resource includes all materials needed for lesson delivery, including:

- Five bitesize training videos for teachers on how to deliver the lessons effectively.<sup>17</sup>
- Resource pack including introduction and guidance for safe delivery, four lesson plans and accompanying worksheets.
- Four PowerPoint presentation packs (one per lesson) with 9 short film clips embedded.

### **Rationale for the evaluation**

The PSHE Association have noted that there is a lack of evaluation work in the online safety education space.<sup>18</sup> This study contributes to efforts to address the gap in the evidence base and builds on an earlier pilot study conducted by NatCen in which the feasibility of a full randomised control trial (RCT) of the SMaP education resource was explored.<sup>19</sup> The pilot study was a small-scale qualitative and quantitative evaluation of the delivery of SMaP in schools; teachers' and pupils' views and experiences of the resource; whether the resource improves teachers' and pupils' understanding of the issues around nude image sharing; and how impact could be most effectively evaluated as part of an RCT. Data was gathered from pre-and-post-delivery questionnaires and lesson observations, as well as interviews with teachers and discussion groups with pupils after delivery of the lessons was completed.

Below is a summary of **key findings** from the **pilot study**:

- Teachers appreciated the clear and comprehensive lesson guidance provided by the NCA and thought that the lesson plans were well structured. However, teachers found the length of the

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<sup>17</sup> The total playback time for all five videos is approximately 25 minutes.

<sup>18</sup> PSHE Association (2016). *Principles of effective prevention education*. London: National Crime Agency and PSHE Association.

<sup>19</sup> Barton-Crosby, J., MacNaboe, L., Roberts, E., Sciarra, A., Duysak, E., Fugard, A., Phillips, D., & DeMarco, J. (2022). Send me a pic? Pilot evaluation report. Report can be accessed here: [https://natcen.ac.uk/sites/default/files/2023-06/SMaP%20pilot%20report\\_June%202023.pdf](https://natcen.ac.uk/sites/default/files/2023-06/SMaP%20pilot%20report_June%202023.pdf)

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lessons was too long, which meant that some SMaP content couldn't be covered and/or content was covered in less depth than intended.

- Pupils described the lessons as enjoyable and informative, and they found the open discussion element of the SMaP lessons to be valuable.
- Evidence of promise analysis of pupil questionnaire responses showed a statistically significant decrease in victim blaming following the SMaP lessons. However, none of the other outcomes showed any statistically significant change.
- Within the qualitative data, pupils also reported a greater awareness of the impacts that non-consensual nude image sharing can have on victims, including negative impacts on mental wellbeing and complications with future relationships.
- Following the SMaP lessons, pupils described feeling more confident to tell someone (such as a friend or adult) if they experienced non-consensual nude image sharing, and reported an improved awareness of the organisations available to individuals who may require support. They also explained how, as part of SMaP lessons, they had learnt to identify healthy and unhealthy relationships.
- Drawing on findings from the pilot evaluation, we proposed a cluster RCT, randomising at the level of schools. For the control group, we recommended relationships and sex education as usual, with the option of the control group delivering SMaP material after endpoint data collection.

Since its completion, the NCA's CEOP Education Team has worked to implement recommendations from the pilot study to improve the SMaP education resource, and has commissioned NatCen to carry out a full RCT of the updated suite of SMaP lessons.<sup>20</sup>

## Overview of evaluation design

The trial will assess the impact of SMaP delivered to Year 8 and Year 9 pupils in secondary schools in England during the spring and summer terms of the 2023/4 school year.

Our research design, closely informed by the SMaP pilot evaluation, comprises a two-arm cluster RCT in which schools will be randomly allocated to one of two groups to assess the causal impact of SMaP on key outcomes. Group 1 ('treatment') will receive SMaP materials and deliver the lessons in the spring term of the 2023/2024 academic year; Group 2 ('control') will deliver RSE as usual and will receive the SMaP lessons in the summer term. Following the trial, the refreshed SMaP lessons will be made available across schools in the UK via the CEOP Education website.

The trial will include two strands: an impact evaluation (IE) and an implementation and process evaluation (IPE). The combination of an IE and IPE will provide evidence to address the full range of research questions. The IE will provide a robust assessment of whether SMaP has a causal impact on young people's knowledge of appropriate strategies to respond to the situations of nude image based abuse. It will also explore the causal impact of the programme on young people's confidence in

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<sup>20</sup> Following the pilot study, the SMaP resource has been refreshed by the NCA, which has included increasing the number of lessons from three to four but reducing the length of each lesson. Each lesson should now take 45 minutes to deliver.

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supporting peers and victim blaming attitudes towards peer victims of nude image based abuse. This will be achieved by comparing outcomes for young people in schools who receive the SMaP lessons compared to young people in control schools receiving RSE as usual.

The IPE element of the evaluation will explore implementation and delivery of the updated SMaP resource. It will also provide contextual understanding to aid interpretation of the IE findings and ensure that any factors that may influence outcomes, but which are not the focus of the IE, are considered.

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# Logic model

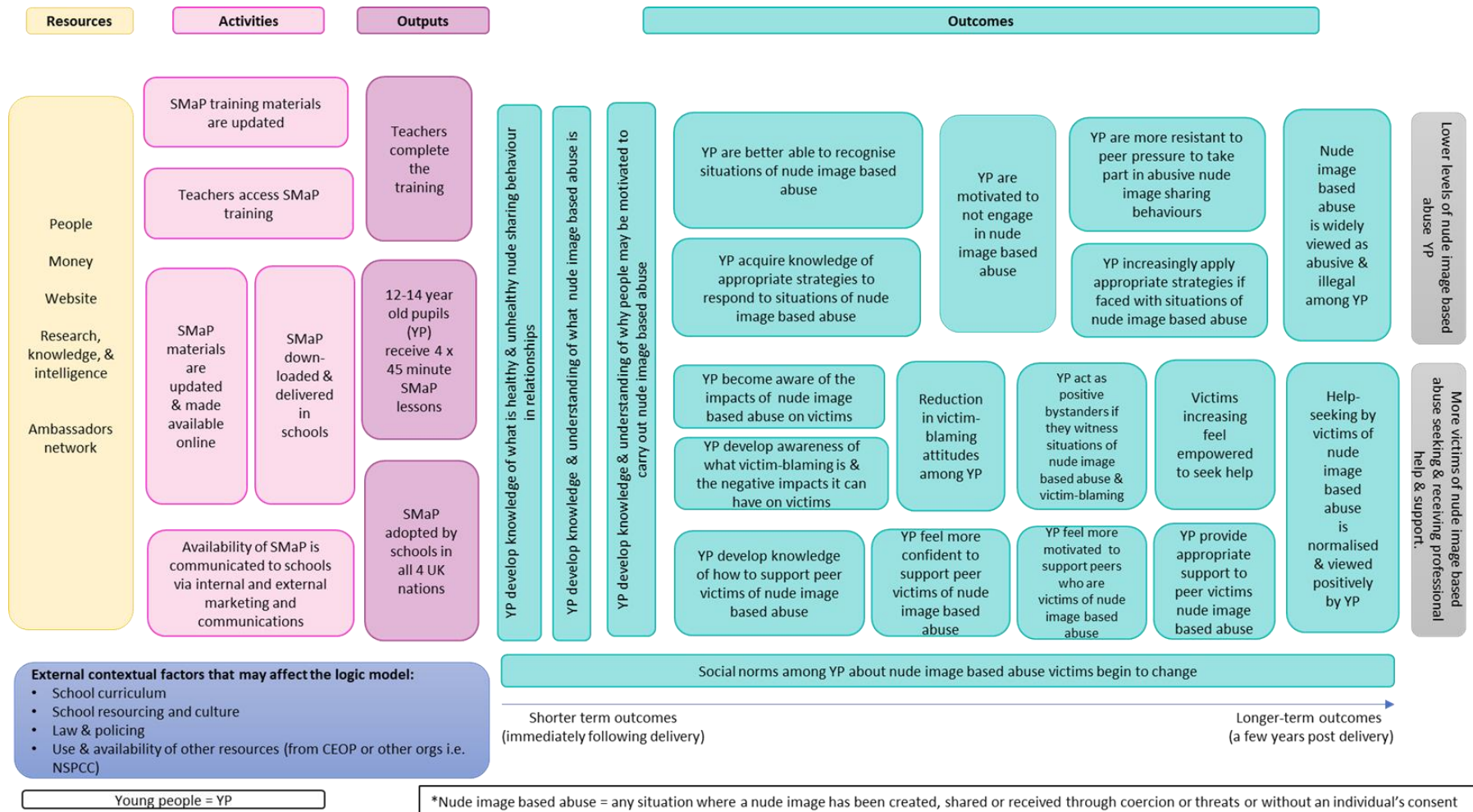
The logic model from the pilot study has been updated following a workshop with the NCA and is presented in Figure 1.

## Explanatory notes

- Moving from left to right you have the components of the logic model:
  - The **yellow box** contains the **resources** required to develop and deliver SMaP.
  - The **pink boxes** contain the **activities** that represent the work required to implement SMaP delivery.
  - The **purple boxes** contain the **outputs**; outputs are what you achieve as a result of your activities.
  - The **green boxes** represent a series of **outcomes**; namely, what you achieve as a result of outputs.
  - The elongated **grey boxes** at the end of the model represent the intended **impacts** of SMaP, which are the long-term benefits to society that you hope to see as a result of SMaP (or that you hope SMaP will contribute to).
- Defining the **outcomes** and **impacts**: organised around how long they should take to achieve as well as the type of change that should occur:
  - **Short-term outcomes** occur in the first year following programme delivery and refer to changes in awareness, knowledge, skills, motivations, and/or aspirations.
  - **Medium-term outcomes** occur after 1-3 years of implementation, and relate to changes in behaviours, practices, decisions, and/or policies.
  - **Impacts** are more aspirational and are what you hope to achieve in the longer term (i.e. after 5 or 10 years). Impacts refer to bigger social and systemic changes that occur as a result of your intervention/programme. Impacts are harder to measure and are more likely to be influenced by external factors.
  - As you move from left to right, you move from shorter to longer term outcomes and impacts.

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- Finally, external contextual factors that may influence the programme are listed in the blue box at the bottom of the model.

**Figure 1: Logic Model**



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## Description of the logic model

The logic model begins with the resources required for the activities in the model. These are:

- **People:** this includes internal NCA staff involved in the development of SMaP; external stakeholders who contribute to and critique SMaP materials; teachers to deliver SMaP.
- **Money:** required to finance the development and roll-out of the SMaP programme and related materials (e.g. lesson plans, videos, training materials).
- **Website (CEOP Education website):** required to host the SMaP materials.
- **Research, knowledge, & intelligence:** required to inform the development of the SMaP materials.
- **Ambassadors network:** contributes to raising awareness of SMaP via training activities.
- When we have the above resources, we are able to carry out the planned **activities** (the core work/actions needed to implement SMaP), which results in a series of **outputs**:
  - We begin with SMaP training materials being updated and teachers accessing SMaP training – from these activities the intended output is that teachers complete the training.
  - Moving down the list of activities there are two sequential activities: SMaP materials are updated and made available online, which should lead to SMaP being downloaded and delivered in schools. The intended output of these activities is that 12-14 year old pupils receive 4 x 45 minute SMaP lessons. In addition, these activities should contribute to SMaP being adopted by schools in all 4 UK nations.
  - Finally, the output of SMaP being adopted in all 4 UK nations is achieved by the availability of SMaP being communicated to schools across the UK via NCA internal and external marketing and communications.
- As a result of the outputs, it is intended that **three core short-term outcomes** are achieved: **1.** Young people (YP) develop knowledge of what is healthy and unhealthy nude sharing behaviour in relationships; **2.** Building on this knowledge, YP develop knowledge and understanding of what nude image based abuse is; **3.** As part of this, YP also develop knowledge and understanding of why people may be motivated to carry out nude image based abuse. From here, **two outcomes pathways** that lead towards each of the long-term impacts are specified.
- The **first outcomes pathway** leads towards the intended impact of 'lower levels of nude image based abuse among YP'. To get to this long-term impact, as a result of attending SMaP lessons, YP are better able to recognise situations of nude image based abuse. Simultaneously, YP learn appropriate strategies to respond to situations of nude image based abuse. It is intended that this

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combined knowledge gained from completing the SMaP lessons motivates YP to not engage in nude image based abuse. This motivation should translate into YP being more resistant to peer pressure to take part in abusive nude image sharing behaviours and YP increasingly applying appropriate strategies if faced with situations of nude image based abuse. It is intended that the cumulative effect of these outcomes is a gradual but persistent change in social norms around abusive nude image sharing among YP (i.e., it is seen as wrong), which feeds into the outcome of nude image based abuse being recognised as abusive and illegal. In turn, it is hoped that the long-term cumulative effect of these outcomes will be lower levels of nude image based abuse among YP.

- The **second outcomes pathway** leads towards the intended long-term impact of more victims of nude image based abuse seeking and receiving professional help and support. To get to this impact, the pathway is **organised around two sub-pathways**. The **first** centres on short- and medium-term outcomes related to the impacts of nude image based abuse on victims; the **second** is focused more on supporting victims of nude image based abuse.
  - **Sub-pathway 1:** Participating in the SMaP lessons should lead to YP developing awareness of the impacts of nude image based abuse on victims. Additionally, it is intended that YP understand what victim-blaming is and the negative impacts this can have on victims. As a result of these two outcomes, it is hoped that there is a reduction in victim-blaming attitudes among YP, which should translate into YP increasingly acting as positive bystanders if they witness situations of nude image based abuse and victim-blaming. As a result of this shift away from victim-blaming attitudes and behaviours, it is hoped that victims of nude image based abuse feel empowered to seek help.
  - **Sub-pathway 2:** As a result of the SMaP lessons, YP should develop knowledge of how to support peer victims of nude image based abuse. Equipped with this knowledge, the intention is that YP feel confident to support victims of nude image based abuse, which should feed into YP feeling motivated to support peers who are victims. As a result, if YP are in a situation where a peer has been the victim of nude image based abuse, they provide appropriate support.
- The aim is that from these two sub-pathways, help-seeking by victims of nude image based abuse is normalised and viewed positively by YP.
- The cumulative effect of the outcomes of the second pathway is also a gradual change in social norms in relation to how victims of nude image based abuse are viewed (i.e. there is a reduction in stigma). This change in social norms feeds into help-seeking by victims of nude image based abuse becoming normalised and viewed positively. In turn, the long-term impact of more victims of nude image based abuse seeking and receiving professional help and support should be realised.



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# Impact evaluation

## Description of the IE design and method

### Research Question

The impact evaluation (IE) of SMaP aims to answer the following primary and secondary research questions:

#### Primary research questions

1. What is the impact of SMaP on Year 8 and 9 pupils' knowledge of appropriate strategies to respond to the situations of nude image based abuse?

#### Secondary research questions

1. What is the impact of SMaP on Year 8 and 9 pupils' victim blaming attitudes towards victims of nude image based abuse?
2. What is the impact of SMaP on the confidence of Year 8 and 9 pupils to support peer victims of nude image based abuse?

### Design

The evaluation of SMaP is designed as a two-arm cluster randomised control efficacy trial. This efficacy trial will randomise at the school level, with schools randomised to one of two groups. Schools allocated to Group 1 (i.e. treatment group) will receive SMaP materials and deliver the lessons in the spring term of the 2023/2024 academic year, whereas schools allocated to Group 2 (i.e. control group) will deliver RSE as usual in the spring term of the 2023/2024 academic year. Following the final data collection, the SMaP materials will be made available to schools allocated to Group 2 and they will deliver them in the summer term of the 2023/2024 academic year.

The main determining factor for this cluster randomised design is that the SmaP education resource is designed as a classroom-based programme, where teachers deliver the lessons to all pupils in a class as part of the curriculum. This prevents us from randomising at the pupil level. Furthermore, it reduces the potential spill-over effects in which effects of the programme on pupils receiving the SmaP lessons also reach peers who are randomly allocated to the group that receives the usual teaching practice. Reducing the spill-over effects improves our ability to measure the true impact of the programme. On the other hand, cluster RCTs usually have lower statistical power than individual-level RCTs and hence require larger sample size.

SmaP is an education resource that aims to develop young people’s knowledge of what nude image based abuse is, its effects on victims and appropriate strategies to respond these situations. The primary outcome of interest for this evaluation is YP’s knowledge of appropriate strategies to respond to the situations of nude image base abuse. Furthermore, the secondary outcomes include victim blaming attitudes towards victims of nude image base abuse and YP’s confidence to support peer victims of nude image based abuse. To measure both primary and secondary outcomes, NatCen’s Questionnaire Development Hub (QDT) developed a bespoke survey. More details on the outcome measures are provided on p. 21. This bespoke survey will be completed by pupils in all participating schools both before and after programme implementation.

As an incentive to increase the participation in the evaluation of SmaP, a package of incentives will be given to all participating schools. The incentives are also intended to mitigate the risk that schools initially sign-up to the evaluation but choose not to participate once assigned to groups. This package will include the following incentives:

- Receipt of the SmaP lessons and its training for free.
- A payment of £500 for completion of evaluation activities.
- Three complimentary places on the [Understanding Online Child Sexual Abuse \(UOCSA\) course](#) for teachers.
- One place for a teacher who has completed the UOCSA course to attend a CEOP Education Ambassador training course.

Schools that do not complete the evaluation activities (i.e. baseline and endline data collection) will not receive these incentives.

An overview of the trial design can be found in **Error! Reference source not found.** below.

**Table 1: Trial design**

Trial design, including number of arms		Two-arm, cluster randomised control trial
<b>Unit of randomisation</b>		School
<b>Stratification variable(s)</b>		School type
<b>Primary outcome</b>	<b>Variable</b>	Young people’s knowledge on appropriate strategies to respond to situations of nude image-based abuse
	<b>Measure</b>	Knowledge score, (0-23), a bespoke measure
<b>Secondary outcome(s)</b>	<b>Variable(s)</b>	Young people’s victim blaming attitudes towards victims of nude image based abuse
		Young people’s confidence to support victims of nude image based abuse

	<b>Measure(s)</b>	Victim blaming score, (1-5), a bespoke measure Confidence score, (1-5), a bespoke measure
<b>Baseline for secondary outcome</b>	<b>Variable</b>	Young people's knowledge on appropriate strategies to respond to situations of nude image-based abuse
	<b>Measure</b>	Knowledge score, (0-23), a bespoke measure
<b>Baseline for secondary outcome</b>	<b>Variable(s)</b>	Young people's victim blaming attitudes towards victims of nude image based abuse
		Young people's confidence to support victims of nude image based abuse
	<b>Measure</b>	Victim blaming score, (1-5), a bespoke measure Confidence score, (1-5), a bespoke measure

## School recruitment

NatCen was responsible for identifying and recruiting eligible schools for this trial. Schools were recruited into the trial by opting in after receiving information about the study. School recruitment was completed by the end of October 2023. Information about the trial was disseminated to secondary schools via two main routes.

## Dissemination of information to a sampling frame of schools via email and telephone

For this route, we created a sampling frame from which schools have been recruited. To create this sampling frame, we used publicly available data from the Department for Education (DfE). The data covers every education setting in the UK and includes information about their address, phone number, and certain school characteristics. Secondary schools are eligible for the trial if they satisfy the following conditions:

- They are located in England.
- They teach Year 8 and Year 9 age groups.
- They are not a school for pupils with special educational needs and disabilities.<sup>21</sup>
- They had not previously downloaded the original version of the SMaP education resource.<sup>22</sup>

After applying these inclusion criteria, the information about the trial was emailed to a sample of 2,689 eligible secondary schools in England by NatCen.<sup>23</sup> This was followed up with telephone calls to recruit schools for the trial. The information provided to schools at this stage included an overview of both the IE and IPE strands of the trial, setting out the aims of the research and what participation

<sup>21</sup> Schools for special educational needs were excluded from the sampling frame because SMaP has not been designed for children with special educational needs.

<sup>22</sup> Data from the NCA on schools that had previously downloaded the original version of the SMaP education resource was obtained and used to refine the sampling frame. Schools that had already downloaded SMaP resources were excluded from the sampling frame, as they had already been exposed to the programme.

<sup>23</sup> School email addresses were obtained from BuzzEducation which provides a UK GDPR compliant database of schools and teachers

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would entail, including the roles and responsibilities of the schools (including teachers and pupils) in the evaluation.

Recruitment of schools took place between April and October 2023. Schools that wished to participate in this trial were asked to sign a Memorandum of Understanding (MoU) confirming their commitment to delivering the programme as required and taking part in evaluation activities. The MoU provided more detail on the data collection activities, as well as the roles and responsibilities of the NatCen research team and the school.

### **Dissemination of information via professional networks**

Information about the trial was also disseminated through relevant professional organisations and networks that agreed to share information via email and/or social media. Email text and social media text explaining the study and providing links to the information sheet for schools and MoU were provided to each organisation by NatCen.

In addition to the inclusion criteria used for the recruitment via a sampling frame, schools that were recruited via this method could sign-up to take part in the trial if the previous version of the SMaP lessons had been delivered in the school, but they agreed to the following:

- They would not deliver the previous SMaP resources during the 2023/2024 academic year.
- Only year groups that have not received the previous SMaP lessons would take part in the evaluation.

If schools agreed to these conditions and the other requirements of participation, they were invited to complete and submit an MoU via the link provided to them.

## **Participants**

### **Class and teacher recruitment**

As part of completing the MoU, each school has been asked to identify the eligible classes in Years 8 and 9. The evaluation team will randomly select up to two classes per year group to be included in the trial.<sup>24</sup>

Schools will support the research as gatekeepers, facilitating access to pupils and teachers for all strands of the trial via a designated contact. The teachers who deliver RSE lessons to these classes and who will be delivering the SMaP lessons will be provided with a tailored information sheet. The information sheet describes the evaluation, what participation will involve, and will make clear that participation is voluntary. Information sheets will also explain the efforts that NatCen will take to anonymise data, detail data protection protocols as per UK General Data Protection Regulation (GDPR), and provide details on how to opt out of the evaluation if they do not wish to participate.

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<sup>24</sup> The participating schools will be free to use the SMaP resources for as many other classes they wish when the resources are shared with them by NatCen.

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## Pupil recruitment

We will ask schools to disseminate the information sheets to parents/carers of pupils in classes that are randomly selected by the evaluation team. The information sheet for parents/carers will describe the evaluation (including the IE and IPE elements) and what their child's participation will involve. As part of this, we will inform parents/carers that their child's name, surname, date of birth (DoB), Unique Pupil Number (UPN), gender, year group, and class name will be shared with NatCen.

Parents/carers will have a period of two weeks to opt their child out of the evaluation. We will also advise them of their rights under GDPR. Parents/carers will have the right to object to their child's details being processed for the purposes of the evaluation, but not from receiving the programme. After this period, schools will be asked to list all eligible Year 8 and Year 9 pupils in their school whose parents/carers did not opt them out of the evaluation using a secure platform.

Schools will then be asked to disseminate a tailored pupil information sheet to potential participants. The information sheet describes the evaluation, what participation will involve, and will make clear that participation is voluntary. Information sheets will also explain the efforts that NatCen will take to anonymise their data, detail data protection protocols as per GDPR, and provide details on how to opt out of the evaluation if they do not wish to participate. Information will be set out in clear, accessible language with age-appropriate explanations for pupils.

All information materials will describe both the IE and IPE strands of the evaluation. We will explain that a small number of schools randomly allocated to the group that delivers the SMaP lessons in the spring term of 2023/2024 will be invited to take part in the IPE activities. If selected, they will be provided with more detailed information nearer the time. Please see the IPE section below for more information on pupil recruitment for the IPE activities.

## Outcome measures

### Primary and secondary outcomes

In collaboration with NatCen, the NCA identified the following outcomes from the logic model as the outcomes of interest for the trial:

- **Primary outcome:** Young people acquire knowledge of appropriate strategies to respond to situations of nude image based abuse.
- **Secondary outcome 1:** Young people feel more confident to support peer victims of nude image based abuse.
- **Secondary outcome 2:** Reduction in victim blaming attitudes towards victims of nude image based abuse among young people.

We carried out a literature review to identify suitable surveys for primary and secondary outcome measures. Based on a search of academic databases, Google Scholar, and charity websites, we did

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not find existing instruments that could be used to measure the outcomes of interest for this trial. Therefore, we worked with NatCen's Questionnaire Development and Testing Hub (QDT) to develop a bespoke measure.

The researchers within the QDT drafted questions for our outcome measure after reviewing all proposed questions against a standardised checklist of quality criteria based on the Question Appraisal System 99.<sup>25</sup> This standardised checklist consisted of checks for common question issues, such as missing instructions, technical terms, double-barrelled questions, incomplete response option list, and leading questions. All questions were also checked for suitability for our target age group by checking the reading age of all questions using the Flesch Reading Ease scale and Flesch-Kincaid readability scores. Finally, the measure underwent a process of cognitive testing in order to improve the quality of data collected by identifying sources of noise and bias in questions and by improving the face-validity of questions based on user-feedback. Cognitive testing took place in July 2023 with a purposively selected sample of ten Year 8 and 9 pupils aged 12-14.

The final measure contains five scenarios in which different types of nude image based abuse are presented to respondents. Following each scenario, respondents are asked a series of questions to capture their understanding of whether the situation is abusive, their confidence in knowing what to do if faced with the situation, their confidence in supporting a friend in the situation, and knowledge of appropriate strategies for responding to the situation. The final measure will be published in the final evaluation report for reference after completing the endline data collection.

We will use all questions asked for capturing young people's knowledge of appropriate strategies for responding to nude image based abuse to measure our primary outcome. For each scenario, appropriate strategies have been identified by NCA and shared with NatCen. We will create a total score by counting the number of appropriate strategies identified correctly by young people across all five scenarios (referred to as total knowledge score from hereon in). The score will range from 0 to 23. This trial will use the raw score for the primary outcome analysis.

We will use all questions asked to capture young people's confidence in supporting peer victims of nude image based abuse to measure our secondary outcome. For these questions, respondents are asked to indicate how confident they are on a 5-point Likert scale (ranging from completely confident to not confident at all). We will create a *confidence score* by taking the average of responses given to this question across all five scenarios. The confidence score will range from 1 to 5.

In addition to the scenarios, the survey contains a measure of victim blaming attitudes adapted from the victim blaming element of the Sexual image-based abuse myth acceptance (SIAMA) scale.<sup>26</sup> For this measure, respondents are presented with five statements and asked to indicate how strongly they agree or disagree on a 5-point Likert scale. For measuring young people's victim blaming attitudes

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<sup>25</sup> Willis, G. & Lessler, J. (1999). Question Appraisal System QAS-99.

<sup>26</sup> Payne, D. L., Lonsway, K. A., & Fitzgerald, L. F. (1999). Rape myth acceptance: Exploration of its structure and its measurement using the *Illinois Rape Myth Acceptance Scale*. *Journal of Research in Personality*, 33(1), 27–68. <https://doi.org/10.1006/jrpe.1998.2238>

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towards victims of nude image base abuse, we will create a victim blaming score by averaging responses given to these five statements (referred as the victim blaming score from hereon in). The victim blaming score will range from 1 to 5.

Pupils will complete the survey online at two points during the 2023/2024 academic year. Baseline data will be collected in the autumn term and endline data collected in the summer term. Teachers will be emailed survey links and asked to facilitate survey completion under test conditions (i.e. each pupil completing their own survey without sharing answers). The survey should take up to 10 minutes to complete.

## **Randomisation**

Every school involved in this trial will be randomly allocated to one of two groups. Schools that are randomly allocated to Group 1 will deliver the SMaP lessons in the spring term of 2024 while schools that are randomly allocated to Group 2 will deliver RSE as usual during the spring term and will be able to deliver the SMaP lessons in the summer term of 2024.

Schools will be stratified by school type, which will be categorised as maintained schools (by a local authority) and non-maintained schools. Non-maintained schools will include academies, free schools, and independent schools. Based on these school types, two strata will be constructed and schools within each stratum will be randomly allocated to one of two groups. Stratification will ensure that similar type of schools will be evenly allocated to two groups.

Random allocation of schools to groups will take place in the autumn term of 2024 and include all schools that signed the Memorandum of Understanding (MoU). We will randomise before baseline data collection to allow time for teachers to prepare for the delivery of the SMaP lessons. We recognise that randomising before baseline data collection is completed may present an additional risk of schools dropping out; however, to mitigate for this, we have recruited additional schools. This will create a buffer for school withdrawal between randomisation and baseline data collection or school attrition between baseline and endline data collection. Our power calculation assumes an overall attrition rate of 10%. Furthermore, all participating schools irrespective of their allocated groups will receive financial incentives upon completion of all evaluation activities as explained above. The evaluation design is a waitlist design where all participating schools receive the programme. Some schools will receive the SMaP education resources earlier than others. These features of the trial will help minimise the risk of school withdrawal.

Randomisation will be undertaken in Stata 17 by NatCen researchers, and both *do* and *log* files will be used to record the randomisation process. At the time of randomisation, the researchers will be blinded to the schools' identity.

## **Sample size**

We are aimed to recruit at least 60 secondary schools; at the time of writing, a sample of 71 schools has been achieved. Half of the schools will be randomly allocated to Group 1 (delivering the SMaP lessons in the spring of 2024) and half randomly allocated to Group 2 (delivering RSE as usual during

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the spring term). Within each school, two classes per year group will participate in the evaluation. If there are more than two classes per year group, then we will randomly select two classes per year group. Within randomly selected classes in each setting, pupils whose parents did not opt them out of the evaluation will be asked to complete the baseline and endline surveys.

Table 2 shows the sample size calculation for the trial after accounting for expected attrition at both the school and pupil-level. We assume 10% of schools dropping out ahead of the analysis.<sup>27</sup> It is also been assumed that 27% of pupils drop out from the trial before the analysis. This is a very conservative scenario based on the pilot evaluation of SMaP. Given that the pilot evaluation took place during the Covid-19 pandemic, we expect to have lower pupil-level attrition for the evaluation of SMaP.<sup>28</sup>

Based on statistics published by the DfE, we assume an average of 22.5 pupils per class.<sup>29</sup> Following the random selection of classes per year group from every participating schools, we expect to have, on average, 90 pupils per secondary school (across Years 8 and 9) included in the trial. Furthermore, we assume an intra-cluster correlation (ICC)<sup>30</sup> of 0.05. Our assumptions for the ICC are informed by our work on the pilot evaluation of SMaP.<sup>31</sup> We use a conservative assumption of no correlation between the main outcome measure at baseline and endline. If there is a correlation, our trial will then have more power and hence be able to detect a smaller MDES with the proposed sample size. A Type I error rate of 0.05 and a Type II error rate of 0.20 (a power of 0.80) will be used. The power calculation was conducted using PowerUp! (Dong & Maynard, 2013).<sup>32</sup>

**Error! Reference source not found.** on the following page shows that a school-level randomised control trial with a sample of at least 60 secondary schools should be able to detect an effect of 0.2 standard deviations or higher on the primary outcome measure. Given these assumptions, the anticipated sample for the analysis will consist of around 5,400 Years 8 and 9 pupils across 60 secondary schools.

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<sup>27</sup> In the pilot evaluation, it was not possible to identify the exact school-level attrition due to the nature of the recruitment process. Our assumption of 10% attrition for these power calculations is in line with norms for other schools-based researches.

<sup>28</sup> Barton-Crosby, J., MacNaboe, L., Roberts, E., Sciarra, A., Duysak, E., Fugard, A., Phillips, D., & DeMarco, J. (2022). Send me a pic? Pilot evaluation report. Report can be accessed here: [https://natcen.ac.uk/sites/default/files/2023-06/SMaP%20pilot%20report\\_June%202023.pdf](https://natcen.ac.uk/sites/default/files/2023-06/SMaP%20pilot%20report_June%202023.pdf)

<sup>29</sup> For more information, please see the report published about schools, pupils, and their characteristics from the following link: <https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics>

<sup>30</sup> The ICC is a measure of the degree of similarity in outcomes between pupils from the same school, due for example to similarities in their learning environment. All else equal, the higher the ICC, the higher the sample size would need to be to achieve a given MDES, since each additional pupil included in the sample from the same school contributes less unique information.

<sup>31</sup> Barton-Crosby, J., MacNaboe, L., Roberts, E., Sciarra, A., Duysak, E., Fugard, A., Phillips, D., & DeMarco, J. (2022). Send me a pic? Pilot evaluation report. Report can be accessed here: [https://natcen.ac.uk/sites/default/files/2023-06/SMaP%20pilot%20report\\_June%202023.pdf](https://natcen.ac.uk/sites/default/files/2023-06/SMaP%20pilot%20report_June%202023.pdf)

<sup>32</sup> Dong, N. and Maynard, R., 2013. PowerUp!: A Tool for Calculating Minimum Detectable Effect Sizes and Minimum Required Sample Sizes for Experimental and Quasi-Experimental Design Studies. *Journal of Research on Educational Effectiveness*, [e-journal] 6(1), pp.24-67. <https://doi.org/10.1080/19345747.2012.673143>.



**Table 2: Sample size calculations**

		Overall
<b>Minimum Detectable Effect Size (MDES)</b>		0.18
<b>Pre-test/ post-test correlations</b>	level 1 (pupil)	0.0
	level 2 (school)	0.0
<b>Intracluster correlations (ICCs)</b>	level 2 (school)	0.05
<b>Alpha</b>		0.05
<b>Power</b>		0.8
<b>One-sided or two-sided?</b>		2
<b>Average number of pupils per year group</b>		45
<b>Number of year groups per school</b>		2
<b>Average number of pupils per school</b>		90
<b>Sample Retention Rate: level 1 (pupil)</b>		73%
<b>Sample Retention Rate: level 2 (school)</b>		90%
<b>Number of schools</b>	Group 1	30
	Group 2	30
	<b>Total</b>	60
<b>Number of pupils</b>	Group 1	2,700
	Group 2	2,700
	<b>Total</b>	5,400

## Statistical analysis

### Primary outcome analysis

The evaluation of SMaP aims to estimate the impact of the programme on young people’s knowledge of appropriate strategies to respond to the situations of nude image based abuse, using an intention-to-treat (ITT) approach. The trial is designed as a two-armed cluster randomised control efficacy trial with pupils clustered within schools.

The primary outcome analysis will estimate the pooled impact of SMaP by including both Year 8 and Year 9 pupils. The impact will be estimated using a two-level linear regression model to account for the clustering of pupils (level 1) within schools (level 2).<sup>33</sup> The primary outcome measure will be based

<sup>33</sup> We will check whether the assumptions of linear regression model hold during our analysis. If the assumptions are not satisfied, we will explore additional sensitivity analysis.

on a bespoke measure (see Outcome Measures sections above for more detail) and formed as a total number of appropriate strategies identified by young people to respond to the situations of nude image base abuse (i.e. the total knowledge score). The model will have the total knowledge score measured at endline as the dependent variable, with a binary indicator of treatment allocation, the total knowledge score measured at baseline, a year group fixed effect, and the randomisation strata. School-level random effects will be included in the model by allowing the intercept to vary across schools.

The basic form of the model for pupils across both year groups is:

$$Knowledge_{ij} = \beta_0 + \beta_1 Baseline_{ij} + \beta_2 Intervention_j + \beta_3 Stratification'_j + \beta_4 YearGroup_{ij} + u_j + e_{ij}$$

where pupils (*i*) are clustered within schools (*j*).  $\beta_0$  is an overall intercept,  $\beta_1$  is a fixed gradient between the endline and baseline knowledge scores and  $\beta_2$  is the average effect of the intervention. The term  $u_j$  is a school-level random effect and  $e_{ij}$  is the error term, both assumed to be normally distributed and uncorrelated with all the covariates included in the model. The stratification variables used for randomisation and year group information will be included as fixed effects in this model. In line with the Education Endowment Foundation (EEF) analysis guidance (EEF, 2022)<sup>34</sup>, other additional covariates will not be considered at this stage. The analysis will be implemented in Stata 17/18 using the mixed command.

The impact of the intervention will be expressed as a standardised effect size as adapted from Hedges (2007)<sup>35</sup>:

$$ES = \frac{(\bar{Y}_1 - \bar{Y}_2)_{adjusted}}{\sqrt{\sigma_u^2 + \sigma_e^2}}$$

Where  $(\bar{Y}_1 - \bar{Y}_2)_{adjusted}$  is the mean difference between two groups adjusted for baseline characteristics, while  $\sqrt{\sigma_u^2 + \sigma_e^2}$  is an estimate of the population standard deviation.  $\sigma_u^2$  is the variance of school level intercept and  $\sigma_e^2$  is variance of residuals.

From the primary outcome model, we will take each group's adjusted mean and variance to calculate the effect size. The variance will be the total variance (across both pupil and schools, without any covariates, as emerging from a 'null' or 'empty' multi-level model with no predictors). A 95% CI for the effect size (ES), that takes account of clustering, will also be reported.

The intra-cluster correlations (ICCs) will be estimated directly from the primary analysis model, using the variance estimates for each level of clustering. The ICC for schools  $\rho_S$  will be estimated with the post-estimation command *estat icc* in Stata 17/18, using the following formula based on Hedges (2011):

<sup>34</sup> Education Endowment Foundation [EEF] (2022) *Statistical Analysis Guidance for EEF Evaluations* London: EEF

<sup>35</sup> Hedges, L. V. (2007) 'Effect Sizes in Cluster-Randomized Designs'. *Journal of Educational and Behavioral Statistics* 32(4): 341–370. <https://doi.org/10.3102/1076998606298043> ev

$$\rho_S = \frac{\sigma_{BS}^2}{\sigma_{BS}^2 + \sigma_{WS}^2} = \frac{\sigma_{BS}^2}{\sigma_{WT}^2}$$

where  $\sigma_{BS}^2$  the between-school variance,  $\sigma_{WS}^2$  is the within-school variance and  $\sigma_{WT}^2$  the total variance.

### Secondary outcome analysis

The secondary outcomes include young people's victim blaming attitudes towards victims of nude image based abuse and confidence to support peer victims of nude image base abuse. As mentioned in the outcome measures section above, we will measure young people's victim blaming attitudes as the average score of the responses given to the measure of victim blaming (i.e. victim blaming score). Similarly, we will measure young people's confidence as the average score of the responses given to the confidence questions after five scenarios for nude image base abuse (i.e. confidence score).

The secondary outcome analysis will follow the primary outcome analysis above and use an ITT approach. For each secondary outcome, the impact of the programme will be estimated for both Years 8 and 9 pupils using a two-level linear regression model to account for the clustering of pupils (level 1) within schools (level 2). The model will have the secondary outcome measures (i.e. victim blaming score or confidence score) measured at endline as the dependent variable, with a binary indicator of treatment allocation, the secondary outcome measures collected at baseline, a year group fixed effect, and the randomisation strata. School-level random effects will be included in the model by allowing the intercept to vary randomly across schools.

The basic form of the model for pupils across both year groups is:

$$\begin{aligned} \text{Secondary\_Outcome}_{ij} &= \beta_0 + \beta_1 \text{Baseline}_{ij} + \beta_2 \text{Intervention}'_j + \beta_3 \text{Stratification}'_j + \beta_4 \text{YearGroup}_{ij} + u_j \\ &+ e_{ij} \end{aligned}$$

where pupils (i) are clustered within schools (j).  $\beta_0$  is an overall intercept,  $\beta_1$  is a fixed gradient between the endline and baseline scores and  $\beta_2$  is the average effect of the intervention. The term  $u_j$  is a school-level random effect and  $e_{ij}$  is the error term, both assumed to be normally distributed and uncorrelated with all the covariates included in the model. The stratification variables used for randomisation and year group information will be included as fixed effects in this model. In line with the EEF analysis guidance (EEF, 2022)<sup>36</sup>, other additional covariates will not be considered at this stage. The analysis will be implemented in Stata 17/18 using the *mixed* command.

The impact of the intervention will be expressed as a standardised mean difference effect size. We will follow the effect size calculation explained in the Primary Outcome analysis section above for calculating the standardised effect size for the secondary outcome measures.

### Sensitivity analysis

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<sup>36</sup> Education Endowment Foundation [EEF] (2022) *Statistical Analysis Guidance for EEF Evaluations* London: EEF

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As sensitivity analysis, an alternative model will be estimated to assess whether the findings for the primary analysis differ by gender of pupils. We will estimate the impact of the programme with a two-level model reflecting pupils nested within schools, which additionally includes an interaction term between the treatment status and a binary variable for the gender of a pupil.

The basic form of the model for pupils across both year groups is:

$$Knowledge_{ij} = \beta_0 + \beta_1 Baseline_{ij} + \beta_2 Intervention_j + \beta_3 Gender_{ij} + \beta_4 Intervention_j Gender_{ij} + \beta_5 Stratification'_j + \beta_6 YearGroup_{ij} + u_j + e_{ij}$$

where pupils (i) are clustered within schools (j).  $\beta_4$  is the knowledge gap (i.e. difference in average effect of the intervention between boys and girls). The term  $u_j$  is a school-level random effect and  $e_{ij}$  is the error term, both assumed to be normally distributed and uncorrelated with all the covariates included in the model. The stratification variables used for randomisation and year group information will be included as fixed effects in this model. In line with the EEF analysis guidance (EEF, 2022), other additional covariates will not be considered at this stage. The analysis will be implemented in Stata 17/18 using the *mixed* command.

The impact of the intervention will be expressed as a standardised effect size. We will follow the effect size calculation explained in the Primary Outcome analysis section above for calculating the standardised effect size for the knowledge gap between boys and girls.

### Compliance analysis

The Complier Average Casual Effect (CACE)<sup>37</sup> will be estimated to show the impact of SMaP on the primary outcome, taking into account the level of compliance with SMaP. Three different compliance measures will be used for this analysis. The first compliance measure will be based on the number of lessons that a pupil attends. This information will be captured through the pupil endline survey which will be completed by all pupils in all participating schools. The number of lessons attended by each pupil will be used to create a compliance measure ranging from 0 to 4. The second compliance measure will come from the teacher endline survey. Teachers in both groups will be asked to indicate which lessons (out of 4 lessons) they were able to deliver for every class. This information will be used to create a compliance measure ranging from 0 to 4. Finally, teachers will also be asked whether they received the SMaP education resource and watched the training video for SMaP lessons in the teacher endline survey. If a teacher completes both activities, then they will be identified as compliant with the programme. This will be a binary measure, indicating whether a teacher was compliant or not.

For each compliance measure, we will estimate the CACE separately using a two-stage least square (2SLS) model (Angrist and Imbens, 1995)<sup>38</sup> with the treatment allocation as the instrumental variable (IV) for the compliance measure. The first stage of the model will be compliance regressed on all covariates that are used in the main primary outcome model and in addition, will include, as an IV, a

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<sup>37</sup> Corresponding to the average effect of the intervention for those pupils who have complied with the programme.

<sup>38</sup> Angrist, J. D. & Imbens, G. W. (1995). 'Two-stage least squares estimation of average causal effects in models with variable treatment intensity', *Journal of the American Statistical Association*. 90 (430), pp. 431–442. <https://doi.org/10.1080/01621459.1995.10476535>

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binary variable that indicates a pupil's pre-intervention treatment allocation. The first stage equation estimate is as follows:

$$Comply_{ij} = \beta_0 + \beta_1 Baseline_{ij} + \beta_2 Intervention_j + \beta_3 YearGroup_{ij} + \beta_4 Stratification'_j + e_{ij}$$

The second stage of the model will regress the primary outcomes on the covariates used in the main models and will also include a covariate representing the pupil's estimated level of compliance from the first stage of model and an interaction term between the estimated compliance and the pupil's pre-intervention treatment allocation. The estimation of the second stage equation is as follows:

$$Knowledge_{ij} = \beta_0 + \beta_1 Baseline_{ij} + \beta_2 YearGroup_{ij} + \beta_3 Stratification'_j + \beta_4 \widehat{Comply}_{ij} + e_{ij}$$

The coefficient ( $\beta_4$ ) is the CACE estimate of the compliance effect. In the event that there are no confounding factors affecting compliance and attainment the CACE estimate will be equal to the intention-to-treat estimate. IV regression will be conducted in Stata 17/18, using the *ivregress* command and the *cluster* option to control for clustering on schools.

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# Implementation and process evaluation

## Description of the IPE design and method

### Research Questions

Table 3 sets out the IPE dimensions and corresponding research questions to be addressed by the IPE.<sup>39</sup>

**Table 3: Research questions and IPE domains**

Research question	Dimension
To what extent to teachers deliver SMaP as intended?	Fidelity
What were the drivers and obstacles to implementation?	Fidelity
How well is SMaP delivered by teachers?	Quality
How, why, and to what extent are changes made to SMaP?	Adaptation
How well do teachers and pupils engage with the SMaP resource?	Responsiveness
Did the SMaP resource reach its intended population (i.e. 11-14-year olds)?	Reach
Do teachers deliver the intended dose of SMaP lessons?	Dosage
To what extent does SMaP differ to other RSE delivered in schools?	Differentiation

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<sup>39</sup>The following are definitions of the IPE dimensions:

- Fidelity: the extent to which implementers (e.g. teachers) adhere to the intended treatment model
- Dosage: how much of the intended intervention has been delivered and/or received
- Quality: how well different components of an intervention are delivered
- Reach: the scope of participation
- Responsiveness: the degree to which participants engage with the intervention
- Programme differentiation: the extent to which intervention activities can be distinguished from other, existing practice (i.e. 'business as usual').
- Adaptation – the nature and extent of changes made to the intervention

The above are taken from p. 6 of Humphrey, N., et al. (no date). *Implementation and process evaluation (IPE) for interventions in education settings: An introductory handbook*. Education Endowment Foundation. See:

[https://educationendowmentfoundation.org.uk/public/files/Evaluation/Setting\\_up\\_an\\_Evaluation/IPE\\_Handbook.pdf](https://educationendowmentfoundation.org.uk/public/files/Evaluation/Setting_up_an_Evaluation/IPE_Handbook.pdf)

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What outcomes do teachers and pupils perceive to result from SMaP?	Perceived impacts
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## Research methods

Informed by the pilot study, the IPE will use a qualitative case-study approach to explore implementation and delivery of the SMaP lessons from a range of perspectives and using a variety of qualitative methods.

### Overview of IPE methods

The IPE design comprises three strands of data collection, which will be phased to ensure activities are timed appropriately and build on one another while minimising burden on schools.

The three strands of data collection will be undertaken in six schools and involve the following:

- **Lesson observations:** Across the sample, we will observe three SMaP lessons for Year 8 and three for Year 9 to assess fidelity of implementation and quality of delivery, as well as any adaptations to delivery. We intend to carry out one observation in each school if possible, but will take a flexible approach as necessary. Observation data will be recorded in a pro forma template.
- **Teacher interviews:** Up to 12 teachers across six schools will take part in individual in-depth interviews of up to 60 minutes. Interviews will explore how SMaP is delivered in practice – including how lessons are incorporated into planning, support that is received or required, and the practicalities of delivering the lessons (i.e. any barriers or facilitators to implementation). Teachers' reflections on perceived impacts will also be gathered (including how different SMaP is to usual RSE taught in schools). Finally, interviews with teachers will capture an overview of the dosage and reach of delivery of SMaP in the sampled schools.
- **Pupil focus groups:** We will conduct up to 12 pupil focus groups across six schools, each lasting up to 60 minutes. Each group will be comprised of up to six pupils from the same year group and class, facilitated by two researchers. The focus groups with pupils will allow us to understand pupils' experiences of how SMaP is implemented and to explore how well implementation aligns with the intended delivery model (including dosage). Discussion topics will include views and experiences of the SMaP lessons, including how the SMaP lessons differ to standard RSE taught in schools, and perceived effects on pupils' understanding, awareness, and help-seeking behaviour about issues related to nude image sharing.

Lesson observations will occur during the SMaP delivery period, while interviews and focus groups will be carried out after the SMaP delivery period in each participating school. All research encounters will be scheduled to fit within schools' timetables to minimise burden. Where possible, we will seek to coordinate activities to complete focus groups and interviews on the same day. There is flexibility to conduct teacher interviews remotely (online via MS Teams/Zoom or telephone) if participants prefer.

Table 4 shows how our research activities will address these questions and domains.

**Table 4: IPE Matrix**

	Lesson observations	Teacher interviews	Pupil focus groups
Fidelity			
Quality			
Adaptation			
Responsiveness			
Reach			
Dosage			
Differentiation			
Perceived impacts			

### **IPE school sampling and recruitment**

The IPE will first be introduced to schools as part of the initial school recruitment process. Schools will be asked as part of the MoU to indicate interest in participating in the IPE, making clear that schools will not be obligated to take part, and that not all schools that express interest will be selected to participate.

The sampling frame for the IPE will be drawn once schools have been assigned to Group 1 ('treatment') and Group 2 ('control') for the RCT. The IPE sample will comprise schools in the IE that are receiving SMaP lessons and have indicated interest in taking part in this strand of the research. Schools will be purposively sampled using DfE data to achieve diversity across characteristics such as school size, school type, and region. To mitigate potential recruitment challenges, we will oversample 10 schools in order to achieve a sample of six for inclusion in the IPE.

Table 5 shows the number of encounters and participants for each IPE activity.

**Table 5: IPE Sample**

Encounter	Number of encounters	Participants per encounter	Total participants
Observations	6	N/A	6
Teacher interviews	12	1	12
Pupil focus groups	12	c.6	72
<b>Total</b>	<b>30</b>	<b>N/A</b>	<b>90</b>



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## **IPE recruitment**

The research team will contact schools sampled for the IPE in early November 2023 to begin recruitment of those willing to accommodate a SMaP lesson observation/visit, up to two teacher interviews (where more than one teacher delivers SMaP), and two pupil focus groups during the spring and summer terms of the 2023/2024 school year. Contact will be via email to the school's nominated lead in the first instance, with follow-up phone calls and emails as needed. The leads will be provided with an IPE-specific briefing sheet to remind them of the aims of the research and provide more detailed information about participating in this arm of the RCT. School leads will also be invited to have a briefing call with a NatCen researcher. On the call, a member of the research team will go through introductory information about the IPE in detail with them; the briefing will include the opportunity for leads to ask any questions.

## **Recruitment of school staff**

Schools will be asked to share information about the research with the teacher(s) delivering SMaP lessons to classes selected for inclusion in the RCT, who would be eligible to participate in an individual interview for the IPE. To support this, we will provide an IPE-specific information sheet for teachers. This will include information about the aims of the IPE, including what taking part would entail, its voluntary nature, and details of how data would be processed, used, and deleted. Teachers who are willing to participate will be asked to contact the research team directly to arrange an interview (but there will be the option for teachers to give consent for the lead contact to securely pass on their details if preferred). Information materials will include direct contact information for the research team, which teachers can also use to contact the team with any questions. We anticipate arranging interviews directly with teachers but with support from the SMaP school lead as needed.

## **Recruitment of young people/pupils at schools**

We will work closely with schools to ensure an appropriate sample of pupils whose parents have not opted them out of the RCT are invited to take part in a focus group. Focus groups will be composed according to year group. We will seek to obtain a mix of gender and ethnicity (depending on the classes' composition).

We will ask schools to disseminate a letter to parents/carers of the selected pupils. The letter will serve as a reminder of the RCT and will provide further details about the IPE research. The letter will provide parents/carers with details about how to opt their child out of the IPE research activities; the opt-out period will be up to two weeks.

Following the opt out period, school leads will be asked to share information about the IPE focus groups with selected pupils whose parents have not opted them out of the RCT or IPE. These pupils will be provided with tailored information materials, setting out information about the research in clear, accessible language, with age-appropriate explanations. Again, this will include information about the voluntary nature of the research, including that it is up to the young person whether or not they take part. Pupil information sheets will explain how pupils can opt out of the IPE research if they do not want to participate.

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We anticipate that schools will arrange the focus groups on our behalf. We will emphasise to schools that pupils should only take part in a focus group if they want to and that they are under no obligation to participate.

### **Data collection instruments**

Data collection instruments for the IPE comprise a topic guide for the teacher interviews, topic guide for the pupil focus groups, and an observation pro forma. These will be developed by the research team and reviewed by the NCA. In designing these materials, we will draw from the pilot fieldwork materials and recommendations, together with information on the SMaP resource provided by the NCA.

Observation data will be recorded in a template developed by NatCen to ensure consistency across data collection. The pro forma will capture fidelity of implementation and quality of delivery, as well as any adaptations to delivery. Observations will also allow researchers to assess teachers' and pupils' responsiveness.

Topic guides help to ensure consistent coverage of topics, while also allowing for a flexible approach to data collection that directly responds to the issues raised and language/terminology used by participants. Items are worded as short phrases, allowing the interviewer to formulate questions that are responsive to the situation and language/terminology participants use and are comfortable with. The experienced researchers carrying out each interview/focus group have extensive training in qualitative methods, including asking open, non-leading questions to minimise bias; a detailed fieldwork briefing prior to data collection will ensure shared understanding of the guides and aims for each encounter.

Rather than a formal pilot of the research materials, given the small number of data collection encounters, the research team will meet to debrief on early fieldwork, discuss how materials are working, and make any necessary adaptations/amendments.

### **Analysis**

All qualitative interviews and focus groups will be digitally recorded (with permission from participants) and transcribed verbatim. Written observation notes will be taken, using a pro forma template to ensure consistency across data collection.

The qualitative data will be managed and analysed using Framework, a case and theme-based approach developed by NatCen. Drawing from the themes set out in our fieldwork materials (topic guides and observation forms), as well as any additional themes emerging from the data, we will develop thematic frameworks into which interview, focus group, and lesson observation data can be organised. These will form the basis for framework matrices, in which columns represent subthemes, and rows represent individual cases (interviews, groups, or observations). The raw data will then be 'charted' – the verbatim text from transcripts and text from observation notes will be reviewed and summarised into the matrices according to theme, with verbatim quotations included where appropriate.

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Once data management has been completed, we will use a mixed deductive/inductive approach to thematic analysis, systematically reviewing all the summarised data from the framework. This will allow for the mapping of the full range of views and experiences and identifying commonalities and differences across research participants.

The data collected through the IPE will be triangulated and synthesised in line with the IPE research questions. In practice, when assessing an IPE dimension, we will bring together findings from our analysis of relevant qualitative data to identify convergent (or divergent) findings to strengthen our understanding and reduce bias. We will use these findings to answer the research questions for each IPE dimension (see Table 4 above) and determine the strength of evidence against elements of the logic model (explained in more detail below).

The findings from the IE and the IPE will be brought together as part of the final evaluation report. While the IE will seek to determine whether SMaP has an effect on pupils' scores on the primary and secondary outcome measure, the IPE will seek to strengthen these findings by providing a comprehensive assessment of the ways in which SMaP has been implemented and the ways in which this can affect outcomes. Findings across both evaluation strands will also be used to validate the logic model (theory validation), particularly the short and medium-term outcomes, and assessments on the strength of the data available for these validations will be made. The IE will investigate whether or not the intervention works, while the IPE will investigate how and why it did or did not work, and will also provide useful lessons for future delivery.

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# Ethics and registration

## Ethics

NatCen's Research Ethics Committee (REC) approved this project on 5 April 2023. The committee consists primarily of senior NatCen staff, with input from external experts where appropriate. The guidance and recommendations provided by the REC have been incorporated into the final research design/protocol.

NatCen's ethics procedure meets the requirements of the UK Economic and Social Research Council (ESRC) and the UK Government Social Research (GSR) Professional Guidance. The evaluation will be undertaken according to NatCen procedures designed to ensure our research is conducted in line with five principles outlined by the GSR guidance:

- Sound application and conduct of social research methods and appropriate dissemination and utilisation of the findings;
- Participation based on valid informed consent;
- Enabling participation;
- Avoidance of personal and social harm;
- Ensuring participants are not identifiable in the outputs.

The procedures for obtaining agreement to participate in the evaluation have been set out in earlier sections of the protocol.

## Registration

The trial will be registered on an open registry and the International Standard Randomised Controlled Trial Number (ISRCTN) will be added to this evaluation protocol upon the completion of the trial registration. The trial registry will be updated with outcomes at the end of the project.

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# Data Protection

NatCen is the data controller for this research and will also be processing the data, with responsibility for deciding the purpose and legal basis for processing data. We recognise the need for data security and operate to extremely high standards.

The legal basis for processing personal data is covered by GDPR Article 6 (1) (f): “processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party, except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of personal data, in particular where the data subject is a child.”

NatCen’s assessment is that there is a genuine reason for us to process this data (to evaluate SMaP), this data is needed to fulfil this purpose (we could not evaluate SMaP without this information) and using this data will not interfere with individuals’ interests, rights or freedoms. NatCen has considered and balanced any potential impact on the data subjects’ rights and find that its activities will not do the data subject any unwarranted harm.

Procedures for ensuring data quality, anonymity and confidentiality can be found in the privacy notice for the study, which will be provided by NatCen to all participating schools, teachers, and pupils (including pupils’ parents/carers).

NatCen is fully accredited to ISO 27001 and subject to annual external audits of procedures to maintain accreditation. We also hold Cyber Essentials Plus Certification. We were previously registered under the Data Protection Act and are now fully GDPR compliant.

Rigorous data security is built into all stages of our research. All projects have a specified data security plan (DSP). The DSP details all data security procedures to be applied, including names of those who have access rights to respondent confidential data, details of third parties (e.g. transcribers) involved in the project and specific requirements for data destruction. The plan is updated throughout the project via regular monitoring and internal audits.

Data is stored securely on NatCen’s servers, and available only to the research team (including third parties for transcription purposes). Any data transfer to and from third party organisations takes place via a secure File Transfer Protocol (FTP) server.

Named individuals on the NatCen research team will have access to:

- Sample files provided by each school, containing information about all eligible pupils whose parents have not opted them out of the evaluation. For each pupil, this will include:

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- Unique Pupil Number (UPN)
  - Date of birth
  - First and last name
  - Gender
  - Year group
  - Class (if a multi-form-entry school)
- Teachers'/staff members' names and contact details provided by the school.
  - Audio recordings of pupil focus groups and teacher interviews
  - Pupil survey responses
  - Teacher survey responses
  - Lesson observation notes

*McGowan Transcriptions* transcribe our interviews and focus groups and will have access to audio recordings and transcripts from interviews and focus groups. McGowan Transcriptions is on our approved supplier list and compliant with all our information security policies.

Data collected will be used for research purposes only. All data collected will be handled in accordance with GDPR. The information schools and individual participants provide will be used to write research outputs (such as published and internal reports and presentations). All findings, including any verbatim quotations that are used will be anonymised: we will not include the names of any individuals or organisations in the research outputs.

# Risks and mitigations

We take a proactive approach to the management of risks, considering the likelihood and potential impact of key risk factors, as well as mitigations and contingencies.

**Table 6: Risk and mitigations**

Risk management table		
Risk	Assessment	Mitigation
Staff illness/ turnover/ unavailability	Likelihood: <b>Low</b> Impact: <b>Medium</b>	A large team of researchers to draw on if availability unexpectedly changes, so that suitable replacements can be made.  Project documents saved in shared team folder (with restricted access) so there is no loss of information if a team member is unavailable.  Documented handover procedures including briefing of new team members.
Timetable slippage	Likelihood: <b>Medium</b> Impact: <b>Medium</b>	Detailed project plan, including milestones and dependencies, agreed with the NCA at outset.  Close monitoring of progress against the timetable so that any potential slippage is detected early on.  Review the timetable with the NCA to identify any flexibility in the timing of the delivery.
Difficulty in recruiting enough secondary schools (for instance because many may be already using the free SMaP resources)	Likelihood: <b>Medium</b> Impact: <b>High</b>	Detailed and structured recruitment planning to facilitate timely recruitment.  Close monitoring of the recruitment timetable.  Additional staff deployed to assist with the recruitment of schools during critical periods.  Careful planning of incentives (e.g. providing updated SMaP, financial incentives to schools, free places on courses) during the set-up stage with the NCA to increase control schools' participation.

<p>Attrition of schools and pupils</p>	<p>Likelihood: <b>Medium</b> Impact: <b>Low</b></p>	<p>Incorporated school-level attrition (10%) and pupil-level attrition (27%) into power calculations.</p> <p>Reaching out to a large number of schools to ensure the recruitment of enough schools to have a well-powered study.</p> <p>Trial requirements clearly communicated in recruitment materials/MoU.</p> <p>Experienced team to schedule research activities.</p> <p>Incentives devised to recruit control groups.</p>
<p>Difficulty in scheduling fieldwork within required timescales</p>	<p>Likelihood: <b>Medium</b> Impact: <b>Medium</b></p>	<p>Data collection points specified clearly in recruitment materials.</p> <p>Online/telephone interviews to accommodate busy teacher schedules.</p> <p>Sufficient resource allocated to arranging visits.</p> <p>Large pool of researchers with relevant skills to draw on if required.</p>
<p>School leads do not engage with the evaluation / unable to access school staff</p>	<p>Likelihood: <b>Medium</b> Impact: <b>High</b></p>	<p>Ensure the MoU details evaluation requirements, so schools are aware of the evaluation timetable and requirements.</p> <p>Identify a key contact in each school to support the research and facilitate access.</p>
<p>Non-compliance with treatment assignment.</p>	<p>Likelihood: <b>Medium</b> Impact: <b>High</b></p>	<p>We will check at baseline and endpoint what treatment and control schools have done with respect to the standard RSE and whether that has changed.</p> <p>Schools' standard RSE practice will be checked during recruitment, including whether schools have been exposed to SMaP resources.</p>
<p>The survey response rates may be low.</p>	<p>Likelihood: <b>Low</b> Impact: <b>Medium</b></p>	<p>We will use short online surveys to increase take-up.</p> <p>We will carefully develop the survey questions to decrease attrition.</p> <p>We will follow-up with school contacts to increase response rates and offer flexibility in how pupils complete surveys.</p>
<p>Difficulties in identifying validated and peer-reviewed survey items for outcomes</p>	<p>Likelihood: <b>High</b> Impact: <b>Low</b></p>	<p>NatCen will review the learning aims of the SMaP programme and the revised logic model for SMaP.</p> <p>NatCen (with its QDT Hub) will conduct a rapid review of existing measures.</p>



		<p>NatCen’s researchers and QDT Hub will identify survey items for outcomes and the QDT Hub refine and test them.</p> <p>The NCA will review and approve the survey items for outcomes.</p>
Covid-19 disruption	<p>Likelihood: <b>Low</b></p> <p>Impact: <b>Medium</b></p>	We can undertake elements of the evaluation flexibly, including remote programme delivery and data collection.
Issues with data protection	<p>Likelihood: <b>Low</b></p> <p>Impact: <b>High</b></p>	NatCen has a range of policies and practices in place to ensure secure data handling.
Pupil enumeration collection is slow/delayed	<p>Likelihood: <b>Medium</b></p> <p>Impact: <b>Medium</b></p>	NatCen will work closely with schools so that they are aware of that information is required and when.

# Timeline

The timeline for the evaluation can be found in Table 7.

**Table 7: Timeline**

Dates	Activity
April – October 2023	Schools agree to participate and sign a Memorandum of Understanding (MoU).
October – November 2023	<p>The NatCen evaluation team randomly selects up to two classes per year group per school to take part in the evaluation.</p> <p>Schools share evaluation details with parents/carers of eligible pupils in classes selected for the evaluation.</p> <p>Schools securely share required pupil information with NatCen (for pupils whose parents have not opted their child out of the evaluation).</p> <p>NatCen randomises schools into treatment or control groups and informs schools.</p>
November – December 2023	<p>Schools disseminate tailored information sheets to pupils and teachers.</p> <p>NatCen contacts a small sample of schools in the treatment group to invite them to take part in the additional evaluation activities for the IPE (lesson observations, teacher interviews, and pupil focus groups).</p> <p>Teachers complete the baseline (online) teacher survey.</p> <p>Pupils complete the baseline (online) survey.</p>
December 2023 – January 2024	NatCen shares the SMaP education resource to schools randomly allocated to the treatment group.
January – March 2024	<p>Schools randomly allocated to the treatment group deliver the SMaP education resource.</p> <p>NatCen visits some schools to conduct lesson observations.</p>
February – May 2024	<p>NatCen visits some schools to conduct pupil focus groups.</p> <p>NatCen visits some schools to conduct teacher interviews.</p>
April – May 2024	<p>Pupils complete second (online) survey.</p> <p>Teachers complete second (online) survey.</p>
June 2024	NatCen shares the SMaP education resource to schools randomly allocated to the control group.



