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UNIVERSITY OF CAMBRIDGE

Cambridge Mind-App (CaM-App):
Mental health, loneliness, everyday behaviours and technology use during COVID-19

Dear Parent/Guardian/Caregiver,

We would like to invite your child to participate in our research project, which is being conducted by researchers at the MRC Cognition and Brain Sciences Unit and the Department of Psychology at the University of Cambridge. This project, led by Professor Sarah-Jayne Blakemore, aims to investigate how **social isolation** affects **mental health and loneliness**, and how this is **related to everyday behaviours such as digital technology use.** This study is planned to run **for approximately 8 weeks.**

This study has been reviewed by the University of Cambridge Research Ethics Committee [Project ID Number: PRE.2020.048].

Participation is entirely **voluntary**. Before you decide whether your child may take part, we would like to tell you why the research is being done and what it will involve. **Please take time to read the following information carefully**. A member of the team can be contacted if there is anything that is not clear or if you would like more information (contact details below).

What is this study about?

We are interested in examining how social distancing measures experienced during COVID-19 affect mental health, and how this may be related to other behaviours. We will use information collected from your child's mobile phone using a specific app called 'EARS' (Effortless Assessment Research System) developed by The Center for Digital Mental Health at the University of Oregon.

Why are we doing this study?

The reduction of social contact is impacting all of our lives. This research aims to understand these impacts and how things like social media use, digital communication and physical activity may relate to any consequences of social distancing.

Who can take part in the study?

Anyone in the UK aged 12 or over who speaks English, and who uses an iPhone (iPhone 7 or newer with iOS 13+) or Android (Android OS version 6.0 or greater) can take part in this research.

What will happen in the study?

If you agree to your child participating in this study, we will ask your child to do the following things:

Install the EARS app using in-app instructions. This app will collect several types of data from your child's phone (detailed below). This data will be encrypted (stored in password protected files) on a secure server. This app can be downloaded on iPhone and Android devices.

Give a Daily Status Report. Each day your child will be asked a set of short question about their general well-being over the past day. Opening the application to answer these questions helps make sure the application stays active on their phone. If your child decides not to answer these questions, we ask that they open the application to keep it running.

Weekly and Monthly Reports. At the end of each week, we will send your child a link to a slightly longer questionnaire asking questions about their social interactions in the past week, their current feelings of loneliness, and questions about their mood.

Participate in Snapshot Surveys. On a small number of randomly selected days, your child will be asked to complete a short survey up to seven times a day between 9am and 11pm. These one-minute surveys will appear on your child's phone every couple of hours and ask a set of questions about how they are feeling. If your child needs to have their phone

turned off (for example in school), they will not need to answer these questions. They may decline to answer any of the surveys or questions.

In total, this study will **run over the course of approximately 8 weeks**. If you agree to follow up studies, your child may be asked to fill in some follow-up questionnaires for up to six months after the study. **Your child can choose to stop their participation at any time**.

What type of information will be collected via the EARS application?

Phone Usage. EARS will collect different information about how your child uses their phone, including how much they use certain phone applications, call statistics (duration and frequency), and how long they spend on their phone per day. EARS will not collect the names of the people your child calls or interacts with, nor the content of what they type or say during phone or video calls.

Keyboard Data. EARS will install a specialized keyboard on your child's phone, which records *when* they are typing into an app. EARS will not record the exact words or letters they type, but rather stores **when** your child was typing and **which app** they were using at that time.

Physical Activity. EARS will collect accelerometer data from your child's phone to understand their physical activity (e.g. duration of light/ moderate/ intense activity). The app will not store location (i.e. GPS coordinates).

Other data on phone use. The app will also collect data on when the phone is charging and how much light the phone is exposed to in order to understand things like basic sleep routines.

What are the risks of taking part?

There are no direct risks associated with taking part in this study. Although data collection of this type may raise privacy concerns because of the sensitivity of mobile phone data, the data collection over the EARS app is designed so that the risk of sharing identifiable data is minimised.

The EARS app has been made as lightweight as possible on your child's phone. Memory usage is minimised to about 1-2% of memory in both the Android and iOS versions. In addition, the app

moves most Cloud uploads to late at night and when the device is connected to a Wi-Fi network, so the tool consumes no more than 15% of the battery over a 16-hour period.

Some of the questions we will ask your child will be about their psychological well-being (for example, how lonely they feel). If your child feels stressed about answering these questions, **they can stop the surveys at any time**. Because many of the questions we ask are related to mental health, we provide a list of mental health support contacts in your country that your child can contact in case they feel unwell.

What are the benefits of taking part?

While there are no immediate benefits nor compensation for taking part in the study, this research might help us develop new interventions to improve mental health and provide recommendations for those who are undergoing social distancing.

What will happen to my child's personal information?

The data will be **stored securely** in compliance with the General Data Protection Regulation. **Your child's name and other contact information will be stored separately from EARS app data** and will be kept in locked, password-protected databases at the University of Cambridge. Only a set of **unique IDs will connect your child's identifiable data to de-identified mobile phone data** collected through EARS. Identifiable data will be retained for about 10 years to allow us to contact your child if we want to understand how they are doing some time after the pandemic.

All your child's mobile phone data and survey responses will be encrypted (locked) after being uploaded to GDPR-compliant cloud servers for storage and processing. The upload process uses secure methods as well, so their data is protected in transfer. The data collected through the EARS app will be managed by Ksana Health, the developer of EARS app. This data will be stored, transferred and used in accordance to GDPR standards. More information about Ksana Health can be found here.

Only GDPR-trained researchers associated with this research project will have access to your child's personal data to ensure its privacy.

Completely de-identified, anonymized data files will be stored and shared online in accordance with open-science practices. Once de-identified data have been shared, it may be difficult or impossible for you to withdraw consent for your child's anonymous data to be used.

What will happen to the results of this research?

The study results might be published in scientific journals and/or presented at scientific conferences. **Your child's name and identity will not be revealed in any publications.** We will provide a summary and a final report to participants upon request. In this summary your child's identity will not be used.

Can my child change their mind?

Participation is **completely voluntary**. Choosing not to take part will not disadvantage your child in any way. They **can withdraw from the study at any time without giving a reason**.

If at any time after the application is installed your child wishes to discontinue the study, **please have your child contact us to make sure the tool is completely uninstalled from their phone.** At that time, your child can let us know whether they want us to delete their data.

What if I or my child feel something went wrong?

If you or your child have any concerns about any aspect of the study, please contact Professor Blakemore, Dr Orben or Dr Tomova (contact details below). If you or your child feel the research team has not dealt with your concerns to your satisfaction, you may lodge a complaint with the Information Commissioner's Office at https://ico.org.uk/.

Local Data Protection Privacy Notice

The controller for this project will be University of Cambridge. The data protection officer provides oversight of the University's activities involving the processing of personal data and can be contacted at dpo@admin.cam.ac.uk. Further information on how the University of Cambridge uses participant information can be found here.

How do I find out more about the study?

You can email questions to or call any member of our research team:

CaM-App Team: cam.app@psychol.cam.ac.uk

Professor Sarah-Jayne Blakemore: sjblakemore@psychol.cam.ac.uk

Dr Roger Kievit: rogier.kievit@radboudumc.nl

Dr Livia Tomova: lt503@cam.ac.uk

Dr Amy Orben: aco35@cam.ac.uk

Dr Lydia Speyer: ls945@cam.ac.uk

Would you like your child to participate in the study?

If your child is interested in participating, you will be required to complete a Parental Consent form. Your child will also be required to complete a Participant Assent form and a short quiz to ensure they have understood the information provided to them. You can complete these online following a link that will be provided to you by your child's school.

Please contact one of the research team if you need any assistance.