

# TEENSLEEP: Improving educational attainment through delayed school start time and sleep education

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| <b>Submission date</b><br>01/04/2015   | <b>Recruitment status</b><br>No longer recruiting | <input checked="" type="checkbox"/> Prospectively registered<br><input type="checkbox"/> Protocol |
| <b>Registration date</b><br>21/04/2015 | <b>Overall study status</b><br>Completed          | <input type="checkbox"/> Statistical analysis plan<br><input checked="" type="checkbox"/> Results |
| <b>Last Edited</b><br>10/05/2021       | <b>Condition category</b><br>Other                | <input type="checkbox"/> Individual participant data  |

## Plain English summary of protocol

### Background and study aims

During adolescence the biological clock changes. This change means that teenagers find it difficult to fall asleep early in the evening, and difficult to get up in the morning. Pilot work in the U.K. suggests that delaying the school start time until 10am improves performance in GCSE grades. This is likely to be due to the teaching is happening when teenagers are biologically more alert and able to engage in learning. As well as biological changes, teenagers face a lot of social pressures. Using electronic devices late into the evening may impact on sleep. This is also a time when teenagers are facing the stress of examinations and the pressure to perform well. Alongside the delayed school start time we will also be delivering a sleep education package, to teach teenagers how to get good sleep, and maintain it during periods of stress. There is strong evidence that sleep quality impacts on learning. The aims of this study are to investigate the impact, primarily on pupils' GCSE grades, of improving sleep through sleep education and introducing a later school day for GCSE students. We are also interested in how these interventions affect sleep, mood and well-being.

### Who can participate?

Year 10 and year 11 students attending a state school in England.

### What does the study involve?

Participating schools are randomly allocated to one of four groups. The students attending the schools in group 1 start their lessons later in the day, with the school day being from 10am to 4pm. The students attending the schools in group 2 are given sleep education classes, which will teach them about sleep, how to get good night's sleep and how to get a good night's sleep when feeling stressed. These sessions take place over a period of 5 weeks and are from one hour a week. Those students in schools in group 3 start their school day at 10am and have the sleep education lessons. Those students attending schools in group 4 are used as controls and do not receive either intervention. The performance of the interventions are measured according to GCSE performance, sleep quality, day time sleepiness and general well-being experienced by all students taking part.

What are the possible benefits and risks of participating?

All schools involved in the study will be offered the sleep education package at the end, which will involve training teachers to deliver this engaging topic. There are no risks to taking part.

Where is the study run from?

The study is run from the University of Oxford and evaluated by the University of York and the University of Durham, but schools anywhere in England can participate.

When is the study starting and how long is it expected to run for?

February 2015 to September 2018

Who is funding the study?

1. The Wellcome Trust (UK) (grant code: 105428)
2. The Education Endowment Fund (UK)

Who is the main contact?

Dr Christopher-James Harvey  
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### **Study website**

[www.teensleep.org.uk](http://www.teensleep.org.uk)

## **Contact information**

### **Type(s)**

Public

### **Contact name**

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### **Contact name**

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## **Additional identifiers**

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

N/A

## **Study information**

### **Scientific Title**

Comparing the effect of a delayed school start time, sleep education, both and teaching-as-usual on examination performance in 14 to 16 year olds: a factorial cluster randomised controlled trial

### **Study objectives**

There are 3 primary hypotheses:

1. Delaying the school start time will lead to an improvement in GCSE performance, relative to sleep education and no intervention
2. Sleep education will lead to an improvement in GCSE performance relative to no intervention
3. A delayed start-time and sleep education will lead to greater improvement in GCSE performance relative to individual interventions or no intervention

The secondary hypothesis are:

1. Sleep education will lead to an improvement in sleep knowledge, better sleep, mood and well-

being compared to baseline

2. A delay in the school start time will lead to a decrease in sleepiness and an improvement in mood and well being compared to baseline
3. Combined interventions will lead to an improvement in sleepiness, sleep, mood and wellbeing compared to baseline
4. Improvements in sleep will mediate improvements in GCSE performance

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

Oxford central ethical committee., 16/04/2015, ref: MS-IDREC-C1-2015-076

### **Study design**

This is an interventional study with a two by two factorial pragmatic field design.

### **Primary study design**

Interventional

### **Secondary study design**

Cluster randomised trial

### **Study setting(s)**

School

### **Study type(s)**

Other

### **Participant information sheet**

Not available in web format. Please use contact details to request participant information sheets

### **Health condition(s) or problem(s) studied**

Academic performance in year 10 and 11 pupils.

### **Interventions**

There are 3 intervention arms:

1. One arm will receive a delay in the school start day, starting at 1000 and finishing at 1600. This will be implemented in the academic year 2016/17.
2. One arm will receive sleep education, which will teach about sleep, how get good sleep and how to maintain sleep during periods of stress. Teachers will be trained in delivering this curriculum. It will be delivered over 5 weeks, 1 hour per week. This will be delivered to year 10 and 11 pupils in academic year 2015/16 and to year 10 in academic year 2016/17.
3. One arm will receive both interventions.

There is also a control arm. Schools in the control arm will receive no intervention.

### **Intervention Type**

Behavioural

### **Primary outcome measure**

GCSE scores

## **Secondary outcome measures**

Secondary measures will look at sleep quality, sleepiness, chronotype and general well-being. This data will be gathered via survey comprising 4 questionnaires.

1. Sleep quality will be measured using the Sleep Condition Indicator (SCI)
2. Daytime sleepiness will be measured using the Cleveland Adolescent Sleepiness Questionnaire
3. Chronotype will be measured using the Munich Chronotype Questionnaire (MCTQ)
4. Well-being will be measured using Kidscreen-27

Ideally these will be delivered online, but paper versions will be available. These questionnaires will be administered twice in the first year of the study (once in January 2016 and again in June 2016) and 3 times in the following years in September, April and June. At the end of each academic year we will be asking schools to provide data on attendance, reason for non-attendance, disruptive behaviour/ exclusions and number of pupils requiring additional support.

The following will be collected from a sub-sample of pupils (20 pupils from each school) via bracelet sleep monitors:

1. Heart-rate
2. Temperature
3. Sleep-wake patterns

## **Overall study start date**

01/02/2015

## **Completion date**

30/09/2018

## **Eligibility**

### **Key inclusion criteria**

Secondary schools across England will be eligible to take part in the study if they agree to all of the study requirements.

### **Participant type(s)**

Mixed

### **Age group**

Child

### **Sex**

Both

### **Target number of participants**

100 schools in total, 25 in each cluster.

### **Total final enrolment**

2

### **Key exclusion criteria**

In the sub-sample of 20 pupils in each school, pupils will be excluded if they report a sleep disorder, any other psychological disorder, physiological disorders which may interfere with sleep, heart-rhythm abnormalities, excessive caffeine consumption or use of drugs known to affect sleep or the central nervous system.

**Date of first enrolment**

22/04/2015

**Date of final enrolment**

30/09/2015

## **Locations**

**Countries of recruitment**

England

United Kingdom

**Study participating centre**

**University of Oxford**

United Kingdom

OX1 2JD

**Study participating centre**

**University of York**

United Kingdom

YO10 5DD

**Study participating centre**

**University of Durham**

United Kingdom

DH1 3LE

## **Sponsor information**

**Organisation**

University of York

**Sponsor details**

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**Sponsor type**  
University/education

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<http://www.york.ac.uk/>

**ROR**  
<https://ror.org/04m01e293>

**Organisation**  
University of Oxford

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**Sponsor type**  
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**ROR**  
<https://ror.org/052gg0110>

## **Funder(s)**

**Funder type**  
Charity

**Funder Name**  
Wellcome Trust (grant code: 105428)

**Alternative Name(s)**

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

International organizations

**Location**

United Kingdom

**Funder Name**

Education Endowment Foundation

**Alternative Name(s)**

EducEndowFoundn, Education Endowment Foundation | London, EEF

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Trusts, charities, foundations (both public and private)

**Location**

United Kingdom

## Results and Publications

**Publication and dissemination plan**

The evaluators will publish a report on the main outcome measures (academic outcomes) which will be available through the Education and Endowment Fund. The secondary measures and how these interact with the primary outcomes measures will be published in academic peer-reviewed journals, yet to be identified.

**Intention to publish date****Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not expected to be made available

**Study outputs**

| Output type                     | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---------------------------------|---------|--------------|------------|----------------|-----------------|
| <a href="#">Results article</a> |         | 01/08/2019   | 10/05/2021 | Yes            | No              |