

# Trial to investigate the maintenance effects of yawning on salivary cortisol levels

<b>Submission date</b> 19/04/2012	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 26/04/2012	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 23/09/2015	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

There is considerable debate among scientists over why we yawn, and the mechanism of yawning is still not fully understood. About half of adults yawn after someone else yawns due to a phenomenon called contagious yawning. The aim of this study is to test whether levels of the hormone cortisol are higher during yawning and contagious yawning, just as cortisol levels are raised during stress and fatigue.

### Who can participate?

Volunteers aged 18-65 will be recruited from students at Bournemouth University.

### What does the study involve?

Participants are exposed to three conditions intended to provoke yawning – photos of people yawning, boring text about yawning, and a short video of a person yawning. We collect saliva samples from participants at the start and after yawning to measure saliva cortisol levels, and record the electrical activity of their jaw muscles via surface-placed electrodes. Questionnaires about yawning, anxiety and depression, general health, and demographic and health details are also collected from each participant.

### What are the possible benefits and risks of participating?

The results of this study may improve our understanding of yawning and its role in many neurological disorders, and allow us to develop a diagnostic tool for neurological disorders. There are no risks involved. All participants will have the right to withdraw at any time and will be debriefed. All data is anonymised.

### Where is the study run from?

Bournemouth University (UK).

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

June 2012 to December 2012.

### Who is funding the study?

Bournemouth University and Santander plc (UK).

Who is the main contact?  
Dr Simon Thompson  
simont@bournemouth.ac.uk

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Dr Simon Thompson

**Contact details**  
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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
BU-PS5/10/11-PS1/3/12

## Study information

**Scientific Title**  
Thompson Cortisol Hypothesis: trial to investigate the maintenance effects of Yawning on salivary Cortisol levels - an observational study

**Acronym**  
TCH-YawnCort

**Study objectives**  
Cortisol levels rise during the yawning episode

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**

Bournemouth University Research & Ethics Committee, 05/10/2011, ref: BU-PS5/10/11-PS1/3/12  
Amendments approved 01/03/2012

**Study design**

Observational study

**Primary study design**

Observational

**Secondary study design**

Cross sectional study

**Study setting(s)**

Other

**Study type(s)**

Other

**Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

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

Salivary cortisol levels

**Interventions**

Collection of saliva samples; collection of non-invasive surface-placed electrode data of electrical nerve impulses around jaw-line during yawning.

Observing participants' yawning, their level of saliva cortisol before and after yawning, and their electrical (nerve) activity around the jaw muscles at rest and during yawning. The duration of observation is determined by the time it takes to view the stimuli (about 20 minutes) and to yawn. If yawning occurs before all the stimuli have been viewed, then the observation period is shorter for the participant as the stimuli merely serve to elicit a yawn. We aim to conduct a longitudinal study at a later date once data has been analysed and results are known.

**Intervention Type**

Other

**Phase**

Not Applicable

**Primary outcome measure**

1. Salivary cortisol levels - collection of saliva deposited (spit into tube) by each participant into sample bottle at start of study then again immediately after yawning, or if no yawn elicited, at end of last stimuli presentation
2. Electrical nerve activity - non-invasive surface-placed electrodes around the jaw line receive data throughout the study (20 mins maximum), or only until yawning is elicited, whichever happens first

**Secondary outcome measures**

Demographic and descriptive details of participants age, gender, ethnicity

**Overall study start date**

01/06/2012

**Completion date**

31/12/2012

**Eligibility****Key inclusion criteria**

1. 100 male and female volunteers aged between 18-65 years will be recruited from students at Bournemouth University using the computerised recruitment system (SONA), and Facebook
2. All participants will be properly consented according to code of conduct and research guidelines

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Upper age limit**

65 Years

**Sex**

Both

**Target number of participants**

100

**Key exclusion criteria**

1. Chronic fatigue
2. Diabetes
3. Fibromyalgia
4. Heart condition
5. High blood pressure
6. Hormone replacement therapy
7. Multiple sclerosis
8. Stroke

**Date of first enrolment**

01/06/2012

**Date of final enrolment**

31/12/2012

# Locations

## Countries of recruitment

England

United Kingdom

## Study participating centre

**Bournemouth University**

Poole

United Kingdom

BH12 5BB

# Sponsor information

## Organisation

Bournemouth University (UK)

## Sponsor details

c/o Dr Simon Thompson

Associate Professor

Talbot Campus

Poole House (P315)

Fern Barrow

Poole

England

United Kingdom

TS17 6QQ

## Sponsor type

University/education

## Website

<http://home.bournemouth.ac.uk/>

## ROR

<https://ror.org/05wwcw481>

# Funder(s)

## Funder type

University/education

**Funder Name**

Bournemouth University (UK) ref: BU-26.08.11

**Alternative Name(s)**

BU

**Funding Body Type**

Government organisation

**Funding Body Subtype**

Universities (academic only)

**Location**

United Kingdom

**Funder Name**

Santander plc (UK) ref: SANTANDER-30.09

## Results and Publications

**Publication and dissemination plan**

Not provided at time of registration

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

Not provided at time of registration

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	20/09/2012		Yes	No