ISRCTN74601698 https://doi.org/10.1186/ISRCTN74601698

The influence of subtly encouraging individuals to choose less calorie-dense foods

Submission date	Recruitment status	[_] Prospectively registered
01/10/2020	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
02/10/2020	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
13/08/2021	Other	

Plain English summary of protocol

Background and study aims:
Many people exercise because they know it is good for their health. Although this is true, it can make us feel deserving of a reward and lead us to eat more indulgent, less healthy food than if we had not done any exercise. Generally, lower energy-dense (LED) foods are recognised as healthier choices than higher energy-dense (HED) options. Despite our intention to make healthy choices, seeing tempting higher-calorie foods on offer often side-tracks us. Priming is a psychological tool that makes specific changes to our environment that remind us of our motivation to be healthy. This makes it easier to choose a healthier option, by nudging us towards it without us even realising. Our study explores whether priming people to expect they will receive LED food leads them to make this healthier choice after exercise, even when also offered tempting less healthy HED foods at the moment of selection.

Who can participate?
Potential participants must be members of the University of St Andrews 1st or 2nd XI, male or female, football or hockey teams.

What does the study involve?
All participants complete three questionnaires: baseline, pre-match and post-match. In the pre-match questionnaire, only experimental group participants are supraliminally primed to select a low energy-dense food for post-exercise consumption. After the sports match (and post-match questionnaire completion), all participants are select one food item from three low energy-dense and three high energy-dense foods on offer. The frequency of low versus high-energy dense food selection between control and experimental groups is compared.

What are the possible benefits and risks of participating?
When participants are made aware of the study focus upon receiving the Participant Debrief Form, this knowledge may increase their awareness of the healthfulness of food choices after exercise and subsequently nudge them towards making healthier future choices.
The only potential risk is that of food allergies, hence we advise all participants to carefully consider this risk before participating. Foods provided avoided containing common allergens and all ingredient labels were clearly visible.

Where is the study run from?
University of St Andrews School of Medicine (Population and Behavioural Sciences division)

When is the study starting and how long is it expected to run for?
March 2019 to February 2020

Who is funding the study?
This study was funded by the University of St Andrews (UK)

Who is the main contact?
Isabelle Schlegel
ims5@st-andrews.ac.uk

Contact information

Type(s)
Scientific

Contact name
Miss Isabelle Schlegel

ORCID ID
http://orcid.org/0000-0003-1061-4527

Contact details
University of St Andrews
School of Medicine
North Haugh
St Andrews
United Kingdom
G4 9HT
+44 (0)1334 463599
ims5@st-andrews.ac.uk

Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
Nil known

Study information

Scientific Title

To what extent does priming individuals to select low energy-dense (LED) foods reduce their selection of high energy-dense (HED) items when faced with the temptation of more calorically dense visual cues?

Study objectives
Supraliminal priming increases individuals' tendency to select less energy-dense foods, rather than high energy-dense foods following exercise (compared to a control group not receiving a priming intervention).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 17/01/2020, University of St Andrews School of Medicine Research Ethics Committee (University of St Andrews School of Medicine, North Haugh, St Andrews, KY16 9TF, UK; +44 (0) 1334 461733; no email provided), ref: MND14700

Study design
Single-center interventional single-blinded randomized controlled trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Other

Study type(s)
Other

Participant information sheet
See additional files

Health condition(s) or problem(s) studied
Promotion of less energy-dense food selection following exercise in university-level student athletes, as part of promotion of an overall healthier lifestyle.

Interventions
Computer-generated randomisation into control and experimental groups.
All participants complete three questionnaires: baseline (one week before participants' sports match), pre-match (within one hour before the match) and post-match (immediately following the match).

Control group: no priming intervention applied.

Experimental group: The priming intervention is one question in the pre-match questionnaire, which asks participants to select a low energy-dense food for post-match consumption.

Post-match, following questionnaire completion, all participants are asked to select one food item from a selection of three low energy-dense and three high energy-dense foods visually displayed on offer (much to the surprise of the experimental group who have been primed to expect a choice of exclusively low energy-dense options).

Intervention Type
Behavioural

Primary outcome measure
Energy density of food item selected is measured by the researcher observing whether participants select a low energy-dense or high energy-dense food following post-match questionnaire completion (immediately following participants' sports match)

Secondary outcome measures
Self reported appetite is measured using a visual analogue scale (0-10) before exercise (pre-match questionnaire) and after exercise (post-match questionnaire)

Overall study start date
01/03/2019

Completion date
12/02/2020

Eligibility

Key inclusion criteria
Members of the University of St Andrews 1st or 2nd XI, male or female, football or hockey teams.

Participant type(s)
Healthy volunteer

Age group
Adult

Sex
Both

Target number of participants
120

Total final enrolment
128

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
27/01/2020

Date of final enrolment
06/02/2020

Locations

Countries of recruitment
Scotland

United Kingdom

Study participating centre
University of St Andrews Sports Centre
St Leonard's Rd
St Andrews
United Kingdom
KY16 9DY

Sponsor information

Organisation
University of St Andrews

Sponsor details
College Gate
St Andrews
Scotland
United Kingdom
KY16 9AJ
+44 (0)1334 46 3599
medicine@st-andrews.ac.uk

Sponsor type
University/education

Website
http://www.st-andrews.ac.uk/

ROR
https://ror.org/02wn5qz54

Funder(s)

Funder type

University/education

Funder Name
University of St Andrews

Alternative Name(s)

Funding Body Type
Government organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

Results and Publications

Publication and dissemination plan
This study is currently in the process of submission to the BMC Psychology journal.

Intention to publish date
12/04/2021

Individual participant data (IPD) sharing plan
All data generated or analysed during this study will be included in the subsequent results publication.

IPD sharing plan summary
Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	version v1.1	14/11/2019	08/10/2020	No	Yes
Results article		23/03/2021	13/08/2021	Yes	No