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Social norm nudges in supermarket trolleys to promote vegetable purchases

Submission date
05/09/2018

Recruitment status
No longer recruiting

Registration date
13/09/2018

Overall study status
Completed

Last Edited
17/10/2025

Condition category
Nutritional, Metabolic, Endocrine

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Low vegetable consumption is a considerable health problem worldwide. A diet low in vegetables is associated with an increased risk of becoming overweight or obese, and other health related chronic diseases. Supermarkets have a major influence on daily food intake, because most foods are purchased in supermarkets. Therefore, supermarkets can be a suitable setting for health interventions to stimulate vegetable purchases. Nudging is an effective strategy to stimulate vegetable purchases. Nudging is simply defined as changes in the environment to alter people's behavior in a predictable way, without forbidding any options. In this study we investigated the effectiveness of two nudging strategies in supermarket trolleys to stimulate vegetable purchases among supermarket customers.

Who can participate?
Supermarket customers with a shopping trolley and a cash receipt can participate in this study.

What does the study involve?
The intervention in this study consists of a green inlay in shopping trolleys with social norm messages about vegetable purchases of other customers of the supermarket. This will cover the bottom half of each trolley, indicating a place to put vegetables. The intervention days of the study are the days on which the green inlay will be used in the shopping trolleys, and the control days will be the days where there are no inlays (regular shopping trolleys). Cash receipts will be collected and surveys will be conducted among customers after they have paid for their groceries.

What are the possible benefits and risks of participating?
There are no known benefits or risks to participants taking part in this study.

Where is the study run from?
Vrije Universiteit Amsterdam (The Netherlands)

When is the study starting and how long is it expected to run for?
January 2017 to June 2018

Who is funding the study?
Vrije Universiteit Amsterdam (The Netherlands)

Who is the main contact?
Marlijn Huitink
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
None

Study information

Scientific Title
Social norm nudges in shopping trolleys to promote vegetable purchases: a supermarket experiment in a deprived urban area in the Netherlands

Study objectives
We investigated the effectiveness of two nudging strategies in shopping trolleys on the amount of vegetables purchased in a Dutch supermarket in a disadvantaged urban area. The nudges are as follows:
1. A place for vegetables
2. Social norm communication

Ethics approval required
Old ethics approval format

Ethics approval(s)
The study was conducted according to the ethical standards declared in the Helsinki declaration of 1975, as revised in 2000. Active verbal informed consent was given by all customers. The Medical Ethics Committee of the Vrije Universiteit Amsterdam confirmed that this study does

not apply to the Medical Research Involving Human Subjects Act (WMO), due to the nature of the measurements (sales data and anonymous questionnaires distributed among adults). Therefore, approval was waived.

Primary study design
Interventional

Study design
Interventional non-randomised study

Study type(s)
Other

Health condition(s) or problem(s) studied
Vegetable sales

Interventions
The intervention consisted of three green inlays, indicating the space where customers can place their vegetables, each with a different social norm message about vegetable purchases of other customers from the participating supermarket. Customers on the intervention days received a shopping trolley with a green inlay with one of the three different social norm messages. The intervention was tested during two days (Friday evening and Saturday morning). The control days used the usual shopping trolleys with no green inlay. Cash receipts were collected and surveys conducted among customers after they had paid for their groceries.

Intervention Type
Behavioural

Primary outcome(s)
Vegetables purchased (in grams and in items), assessed at the end of each study day over the two-week study period using:
1. Examination of cash receipts
2. Surveys with customers after they had paid for their groceries

Key secondary outcome(s)
The following were assessed using oral surveys in the supermarket after customers had paid for their groceries over the two-week study period:
1. Customer characteristics:
1.1. Sex
1.2. Age category
1.3. Highest obtained education
2. Customer grocery behaviour characteristics:
2.1. Number of persons and days for which groceries were purchases
2.2. Use of a shopping list or not
2.3. Place customers purchased vegetables most often
2.4. If customers thought that they purchased less, more or the same amount of vegetables during this shopping trip as they usually would

Completion date
01/06/2018

Eligibility

Key inclusion criteria
Supermarket customers in Amsterdam with a shopping trolley and a cash receipt

Participant type(s)
All

Healthy volunteers allowed
No

Age group
All

Sex
All

Total final enrolment
244

Key exclusion criteria
1. Not willing to consent to having photograph of cash receipt taken
2. Purchased groceries for more than 12 persons for one day

Date of first enrolment
12/05/2018

Date of final enrolment
20/05/2018

Locations

Countries of recruitment
Netherlands

Study participating centre
Vrije Universiteit Amsterdam
De Boelelaan 1085
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Sponsor information

Organisation

Vrije Universiteit Amsterdam

ROR
https://ror.org/008xxew50

Funder(s)

Funder type
Not defined

Funder Name
Vrije Universiteit Amsterdam

Results and Publications

Individual participant data (IPD) sharing plan
The data sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/08/2020	27/07/2020	Yes	No
Other publications	Can nudge interventions targeting healthy food purchases in real-world grocery stores reduce diet-related health disparities? A pooled analysis of four controlled trials	03/12/2024	17/10/2025	Yes	No