The effect of drifting temperature on thermal perception and comfort

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we hypothesize that thermal comfort and sensation will stay within similar ranges in both conditions (based on a previous study);

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON20038

Bron
Nationaal Trial Register

Verkorte titel
EDT

Aandoening

none

Ondersteuning

Primaire sponsor: Maastricht University
Overige ondersteuning: TKI Urban Energy

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

thermal perception and comfort; Difference in thermal sensation as indicated by the maximal difference in finger temperature between the two ambient temperature conditions

Toelichting onderzoek

Achtergrond van het onderzoek

Humans tend to spend most of their time indoors. Nowadays temperatures in many buildings such as dwellings and offices are controlled very tightly determined by the ASHRAE Standard 55 and ISO Standard 7730. However, these standards are calculated around the assumption of an 'average occupant' to maximize thermal comfort and minimize health risks. Whereas, in reality there is a large individual variation with respect to comfort and sensation. Additionally, due to the application of these standards there is little to no variation in indoor climate and thus the human thermoregulatory system is less challenged to maintain a constant temperature. Therefore, it is likely to assume that occupants become more vulnerable to sudden fluctuations in temperatures.

Doel van het onderzoek

we hypothesize that thermal comfort and sensation will stay within similar ranges in both conditions (based on a previous study);

Onderzoeksopzet

none

Onderzoeksproduct en/of interventie

2 experiments are part of this study; In experiment 1, participants will reside in the respiration chamber for two measurement days (9.5 hours each). During these measurement days participants will be exposed to either a drifting temperature protocol or a fixed temperature. Drifting temperature protocol: upon entering the respiratory chamber (± 8:15 AM) the temperature will be at 17 degrees celsius. After 45 minutes room-temperature will gradually increase to 25 degrees celsius (± 2.3 degrees C/Hour) and reach the temperature at about 12:30 PM. after 30minutes of remaining at 25 degrees the temperature will gradually decrease again to 17 degrees celsius (±2.3 degrees C/hour) and reaches 17 degrees at about 16:30 PM. The temperature will remain at 17 degrees for 45minutes after which the experiment ends (17:15PM). Constant temperature protocol: upon entering the chamber the temperature will be 21 degrees celsius and remain at this temperature throughout the full day. (from 8:15 AM until 17:15 PM) In experiment 2, participants will be instructed to perform several activities (lying down in bed, sitting, standing and walking at 3km/h). Environmental temperatures will be kept constant at 21 degrees celsius.

Contactpersonen

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Male gender, Caucasian race, age 20-40 years, BMI between 18 and 27.5 kg/m2, non-smoking, steady dietary habits, generally healthy, no medication use that interferes with metabolism.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Cardiac problems and cardiovascular diseases, such as angina pectoris, cardiac infarction and arrhythmias; any medical condition requiring treatment and/or medication that might interfere with the investigated parameters; unstable body weight (weight gain or loss >3kg in the past month); participation in another biomedical study within 1 month prior to screening visit; participants, who do not want to be informed about unexpected medical findings, or do not wish that their treating physician will be informed, cannot participate in this study; presence of Raynaud's phenomenon

Onderzoeksopzet

Opzet

Type: Interventie onderzoek

Onderzoeksmodel:	Cross-over
Toewijzing:	Gerandomiseerd
Blindering:	Enkelblind
Controle:	Actieve controle groep

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	05-04-2018
Aantal proefpersonen:	18
Type:	Werkelijke startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Ethische beoordeling

Positief advies

Datum:	03-04-2019
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL7638

Register	ID
Ander register	METC azM/ UM : METC183004

Resultaten