

AN OFFICE THAT FEELS LIKE HOME

The influence of the home work environment on perceived productivity



Bernice Kieft | 28 June 2021

Delft University of Technology | Graduation company: Aestate/ontrafelexperts

TABLE OF CONTENT



Introduction



Methodology



Results



Conclusion



Recommendations

‘Major advantages for the employer are access to an expanded labor supply, a means of hiring part-time staff for cyclical work, and **increased employee productivity.’**

- Pratt (1984, p. 1)

‘The public discourse suggests a **‘win- win’ situation** in which **both employers and employees** gain.’

- Felstead & Henseke (2017, p. 197)

‘These alternative work forms bring both **benefits and challenges** to **organizations, individuals, and society.**’

- Kurland and Bailey (2000, p. 57)

BACKGROUND INFORMATION

Organizational advantages and challenges



Increase in productivity



Harder to measure and monitor performance

Source: Kurland & Bailey (2000)

BACKGROUND INFORMATION

Individual advantages and challenges



Better work-life balance



Less informal social
interaction

Source: Kurland & Bailey (2000)

BACKGROUND INFORMATION

Societal advantages and challenges



Less traffic congestion



Loss of ability to interact
with others

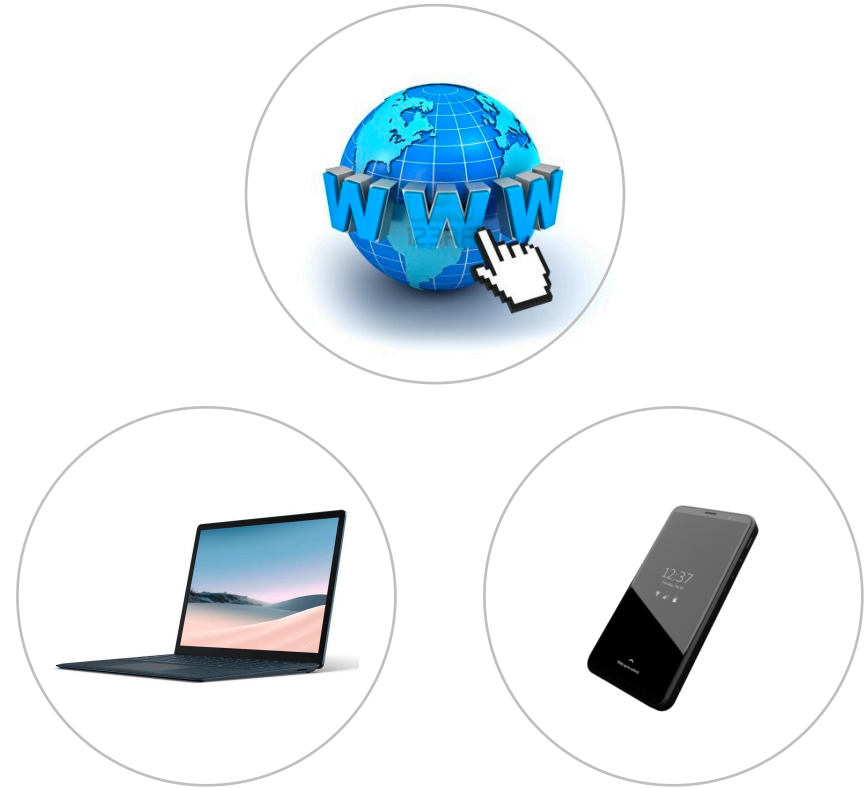
Source: Kurland & Bailey (2000)

BACKGROUND INFORMATION



Advantages of homeworking

+




Rise of ICT

BACKGROUND INFORMATION

Demand office space 2019 was 1,259,000 m²



Source: NVM Business (2020)



...beperk het aantal sociale contacten
en houd anderhalve meter afstand tot elkaar.

BACKGROUND INFORMATION



Government of the Netherlands

[Home](#) > [Topics](#) > [Coronavirus COVID-19](#) > [Dutch measures against coronavirus](#) >



Dutch measures against coronavirus: basic rules for everyone

- So you should keep your distance from people you do not live with, including relatives and friends.
- Avoid busy places.
- **Work from home, unless that is not possible.**
- Limit contacts with other people.
- Wear a face mask where required, such as on public transport and in shops.

BACKGROUND INFORMATION

Voorzorgsmaatregelen thuiswerker

Nieuwsbericht | 15-03-2020 | 15:11

CONFINED GRIND | WORKING FROM HOME

Do office reopenings mean a return to the 'old normal'?

ECONOMIST

today

Communication Technology and Inclusion Will Shape the Future of Remote Work

NOS NIEUWS · ECONOMIE · 27-02-2020

Thuiswerken en niet reizen: bedrijven nemen maatregelen tegen coronavirus

COVID-19 put spotlight on poor working conditions for homeworkers

Minister steps up pressure on firms over home working

Pandemic's homeworking surge fuels need for better regulation, says ILO

Unilever workers will never return to desks full-time, says boss

The future of the office

Covid-19 has forced a radical shift in working habits

Zoom, the office and the future: What will work look like after coronavirus?

BOB O'DONNELL | SPECIAL TO USA TODAY

BACKGROUND INFORMATION

NOS NIEUWS • ECONOMIE • TECH • DI 27 OKTOBER, 10:54
• AANGEPAST WO 28 OKTOBER, 08:47

Provider VodafoneZiggo laat medewerkers ook na pandemie meer thuiswerken

working conditions for

sure on firms over

ge fuels need for

Unilever workers will never return to desks full-time, says boss

The future of the office

Covid-19 has fo

ENGLISH

'Provider VodafoneZiggo also allows employees to work from home more often after a pandemic'

BOB O'DONNELL | SPECIAL TO USA TODAY

BACKGROUND INFORMATION

Maandenlang thuiswerken: 'Mijn leven is een saaie pap geworden'

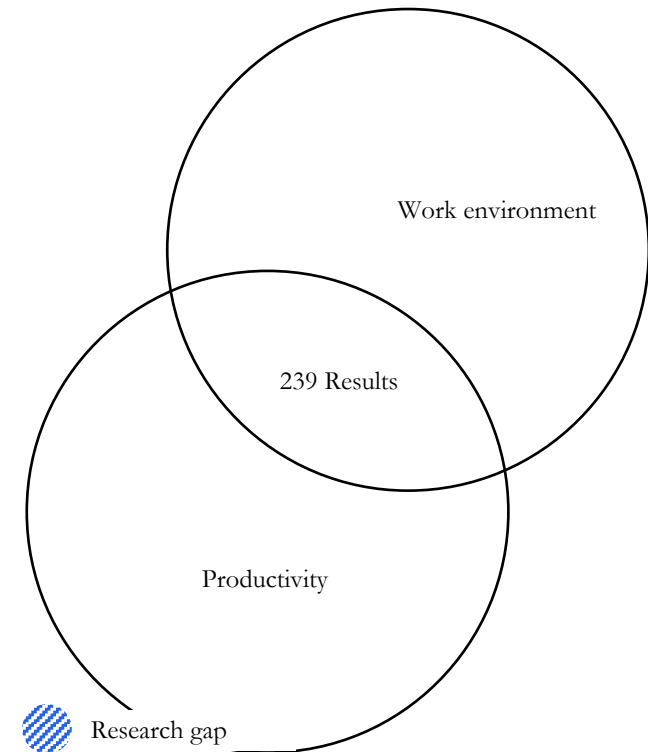
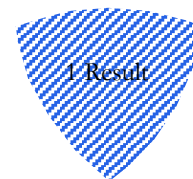
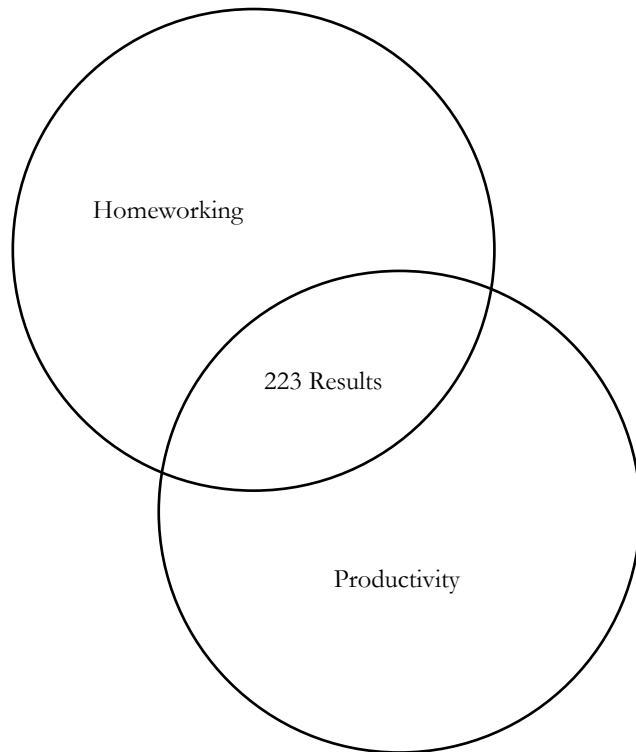
ENGLISH

'Working from home for months: 'My life has become boring'

BOB O'DONNELL | SPECIAL TO USA TODAY

RESEARCH GAP

Literature



RESEARCH GAP



RESEARCH GAP



RESEARCH QUESTIONS

Main research question

What is the influence of the home work environment during telehomeworking on perceived productivity?

RESEARCH QUESTIONS

Main research question

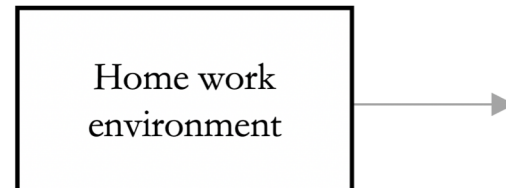
*What is the influence of the **home work environment** during telehomeworking on perceived productivity?*

Home work
environment

RESEARCH QUESTIONS

Main research question

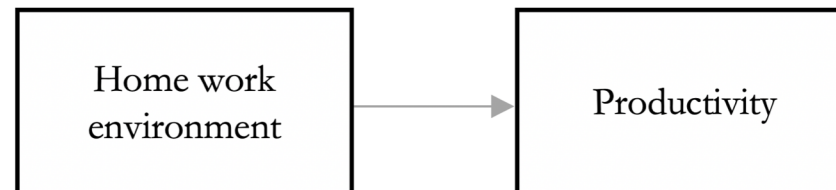
*What is the **influence** of the home work environment during telehomeworking on perceived productivity?*



RESEARCH QUESTIONS

Main research question

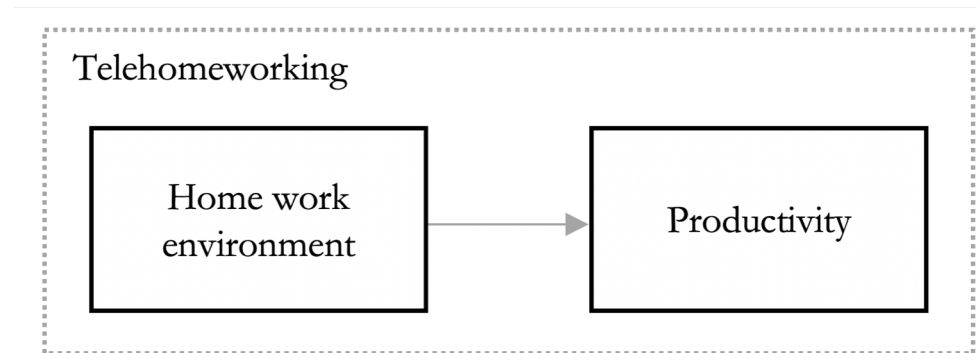
*What is the influence of the home work environment during telehomeworking on **perceived productivity**?*



RESEARCH QUESTIONS

Main research question

What is the influence of the home work environment during telehomeworking on perceived productivity?



WE WERKEN THUIS

We Work at Home (WWH) project



WE WERKEN THUIS

We Work at Home (WWH) project

Main aim: Collect experiences with and insights in mass and obliged homeworking to:

1. offer organizations and employees practical tools on how to work from home, now and in the future;
2. provide insights into starting points for policy and management after the corona crisis (post-COVID).



aestate/ontrafel experts



WE WERKEN THUIS

Participating organizations



Source: Rijksbrede Benchmark Groep. (2020)

WE WERKEN THUIS

We Work at Home (WWH) project

Home work environment – 36,102 respondents



Week 1



Week 2



Week 3



Week 4



Week 5



Week 6



Week 7



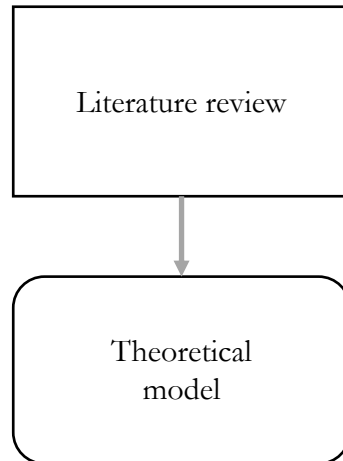
Week 8



Week 9

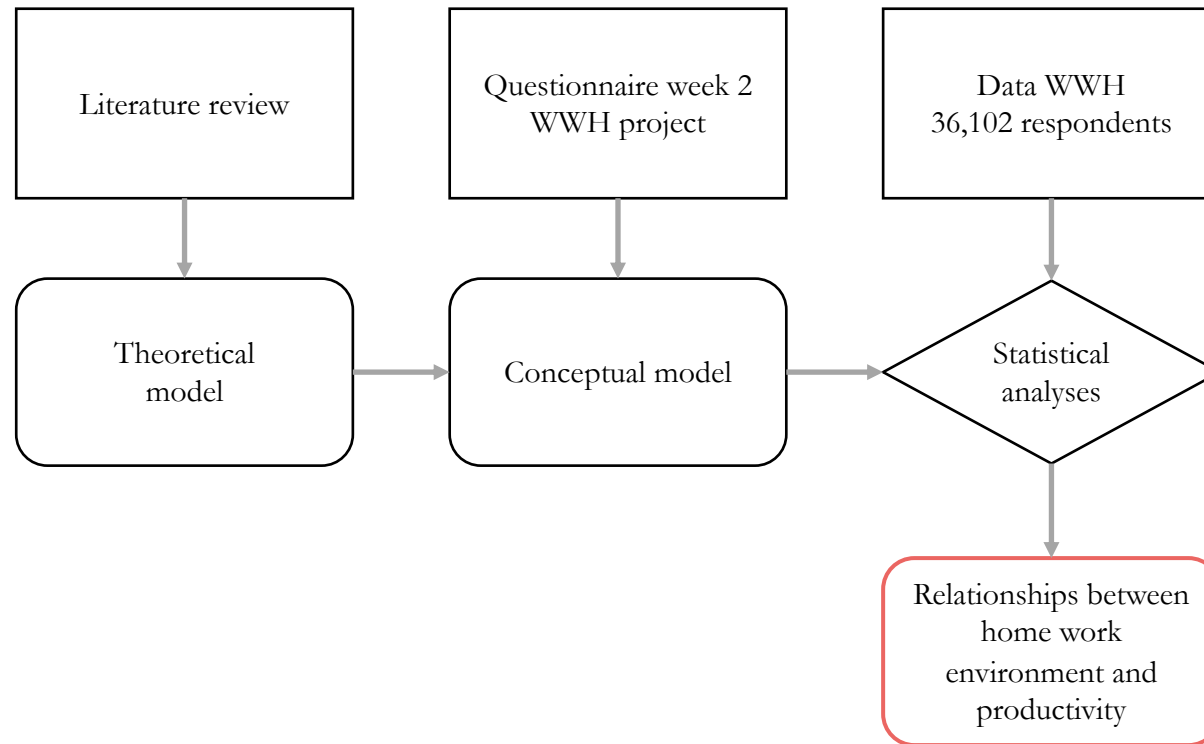
RESEARCH FRAMEWORK

Phase 1: Desk research

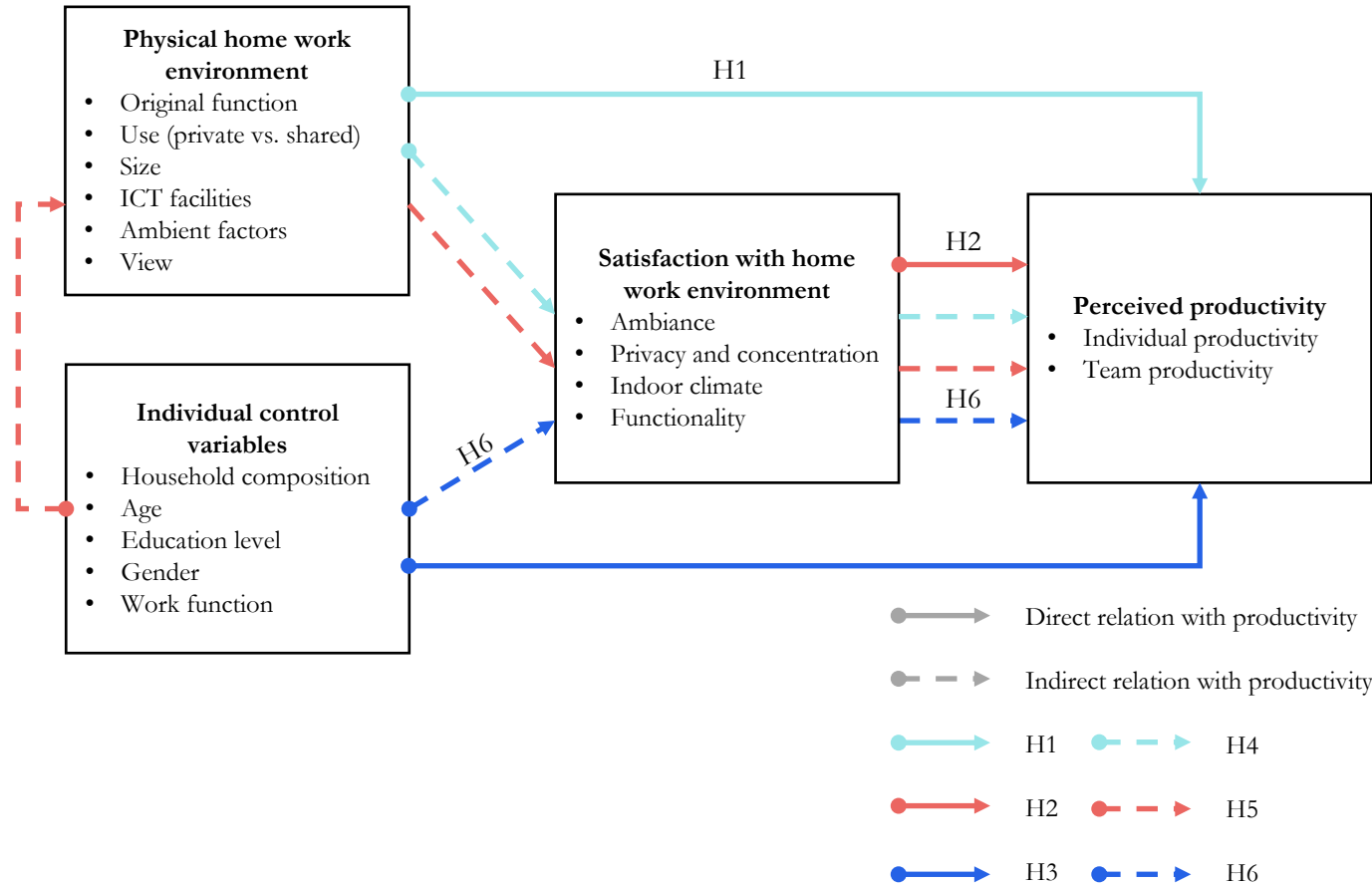


RESEARCH FRAMEWORK

Phase 2: Empirical research



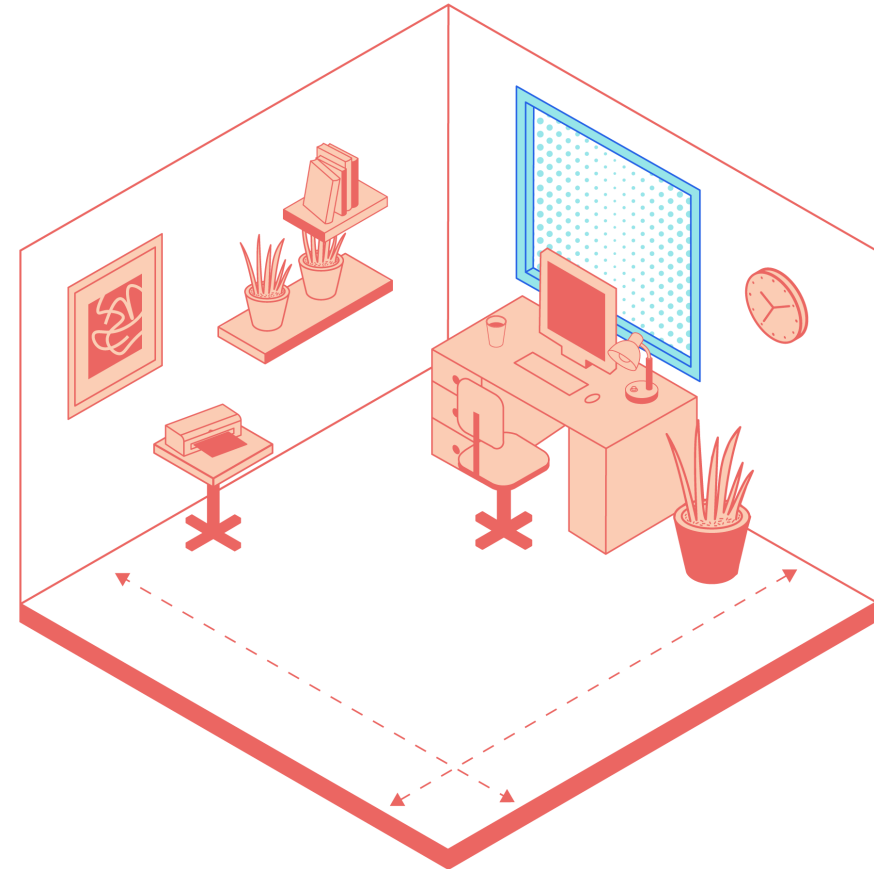
CONCEPTUAL MODEL



PHYSICAL HOME WORK ENVIRONMENT

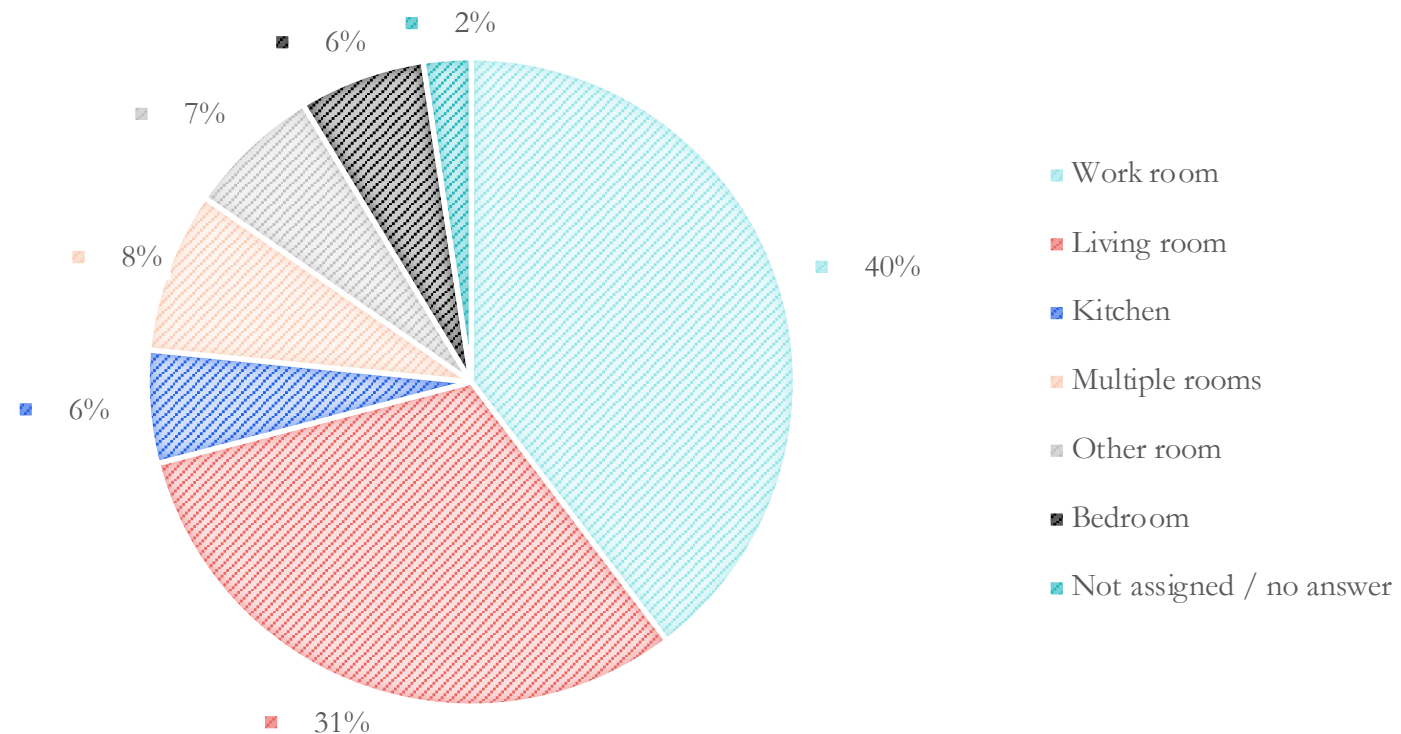
Variables

- Original function of the room
- Use of the room (private vs. shared)
- Size workplace
- ICT facilities
- Ambient factors
- View



ORIGINAL FUNCTION

Physical home work environment variables



ORIGINAL FUNCTION

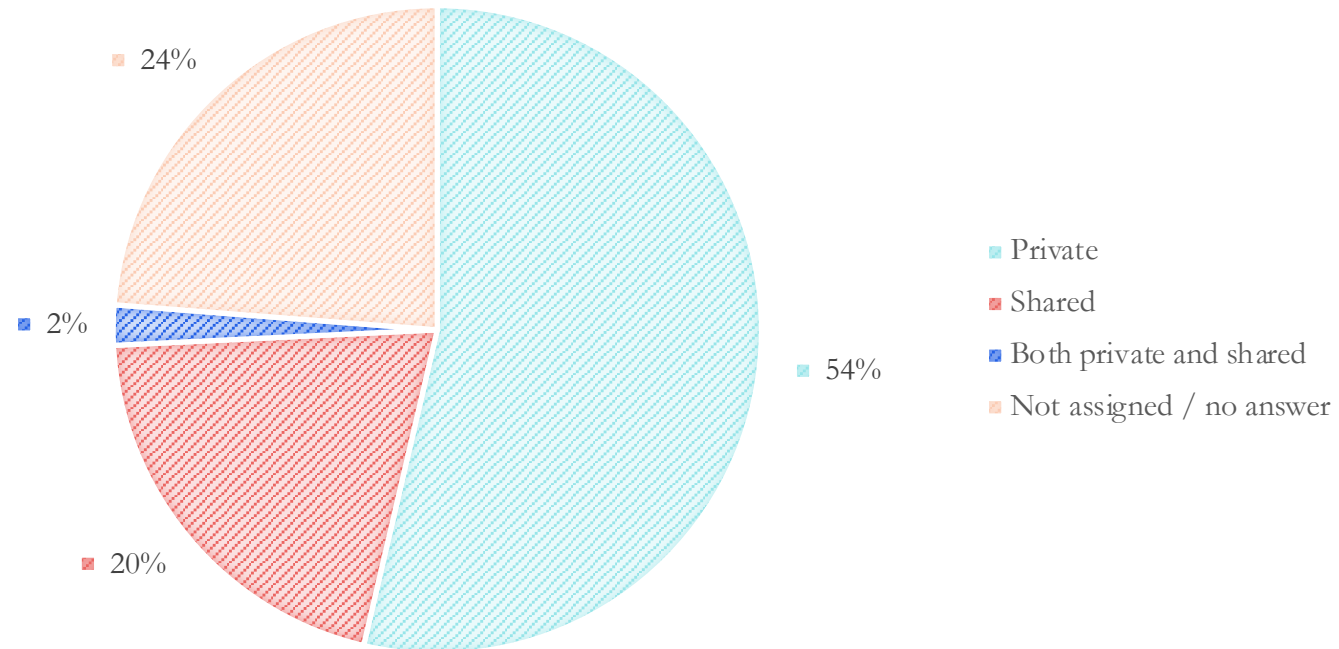
Physical home work environment variables

	Mean	Mean compared to*						
		Work room	Living room	Kitchen	Multiple rooms	Other room	Bedroom	Not assigned / no answer
Work room	7.84	-	↑	↑	↑	↑	↑	↑
Living room	7.68	↓	-	=	=	↑	↑	↑
Kitchen	7.68	↓	=	-	=	=	↑	↑
Multiple rooms	7.45	↓	=	=	-	=	↑	=
Other room	7.57	↓	↓	=	=	-	=	=
Bedroom	7.62	↓	↓	↓	↓	=	-	=
Not assigned / no answer	7.44	↓	↓	↓	=	=	=	-

* significant difference when $p < 0.05$; ↑ significant higher mean than; ↓ significant lower mean than; = no significant difference

USE – PRIVATE VS. SHARED

Physical home work environment variables



USE – PRIVATE VS. SHARED

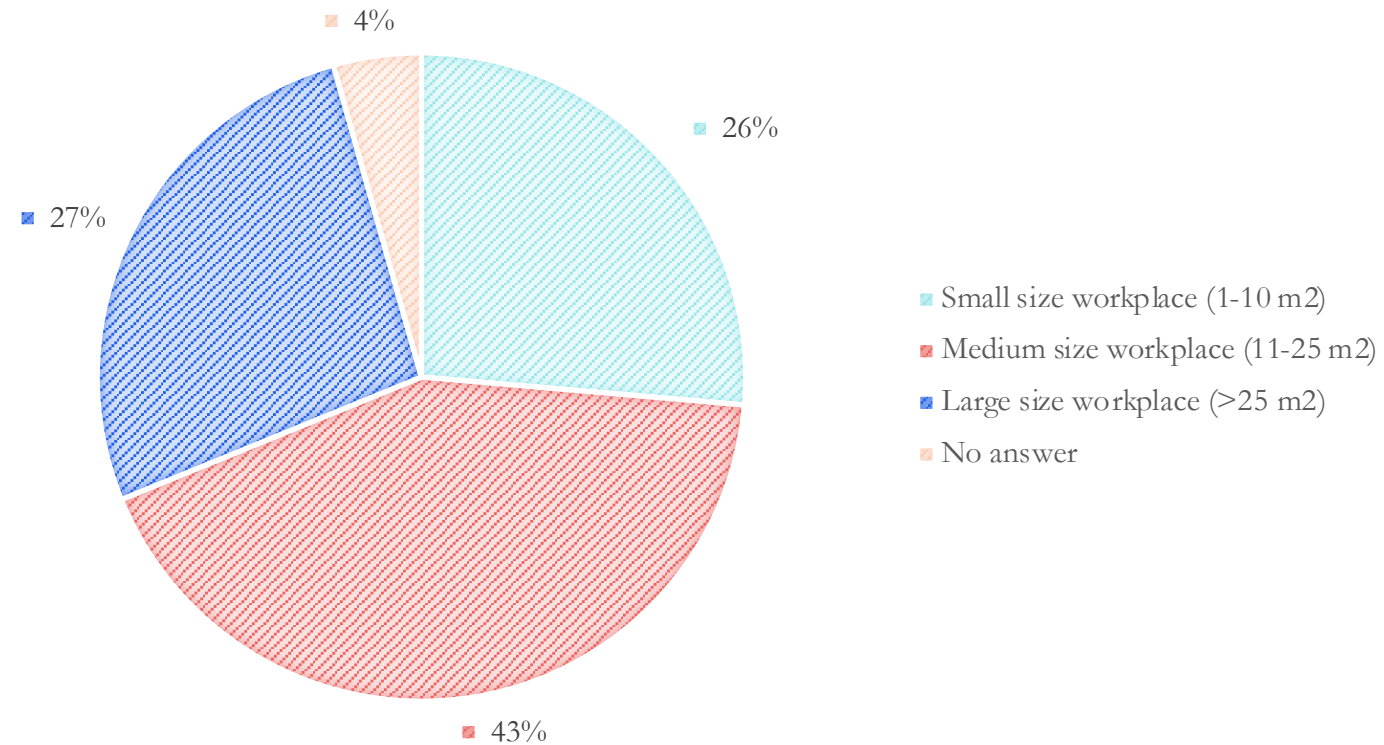
Physical home work environment variables

	Mean	Mean compared to*			
		Private	Shared	Both private and shared	Not assigned / no answer
Private	7.83	-	↑	↑	↑
Shared	7.57	↓	-	=	=
Both private and shared	7.52	↓	=	-	=
Not assigned / no answer	7.60	↓	=	=	-

* significant difference when $p < 0.05$; ↑ significant higher mean than; ↓ significant lower mean than; = no significant difference

SIZE WORKPLACE

Physical home work environment variables

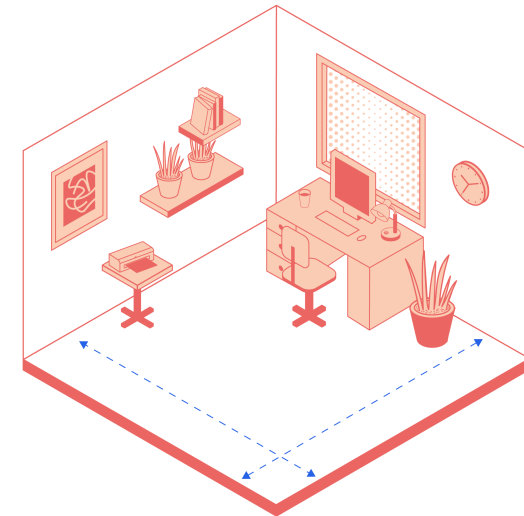


SIZE WORKPLACE

Physical home work environment variables

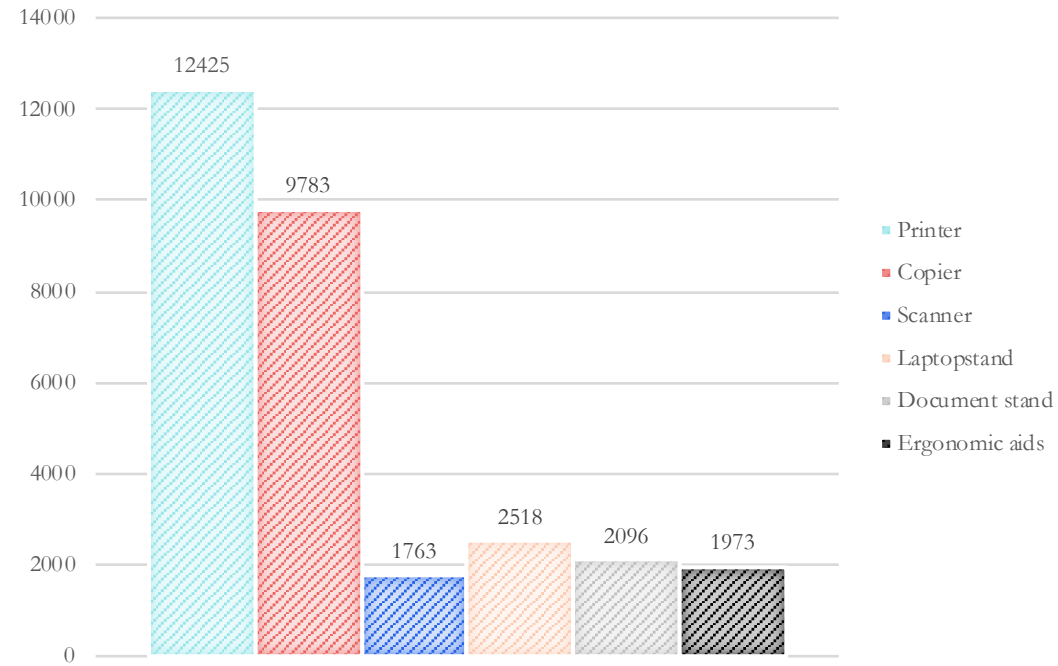
	Mean	Mean compared to*			
		Small size workplace	Medium size workplace	Large size workplace	No answer
Small size workplace	7.62	-	↓	↓	↓
Medium size workplace	7.70	↑	-	↓	=
Large size workplace	7.80	↑	↑	-	=
No answer	7.78	↑	=	=	-

* significant difference when $p < 0.05$; ↑ significant higher mean than; ↓ significant lower mean than; = no significant difference



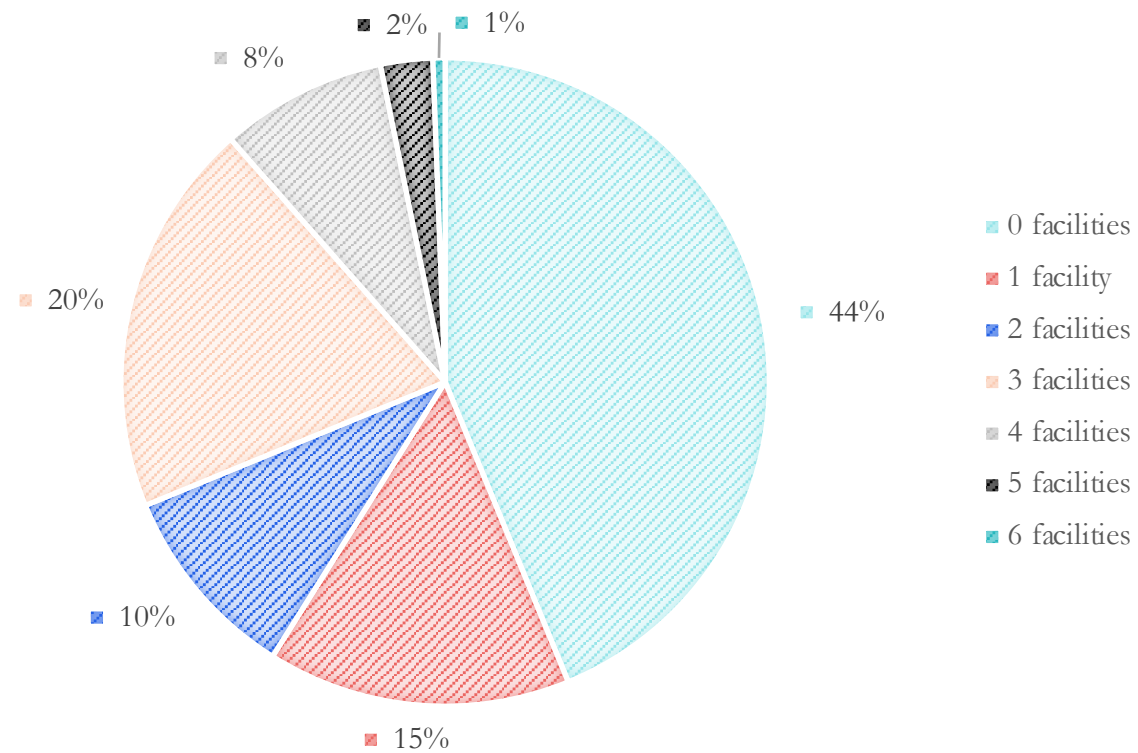
ICT FACILITIES

Physical home work environment variables



ICT FACILITIES

Physical home work environment variables

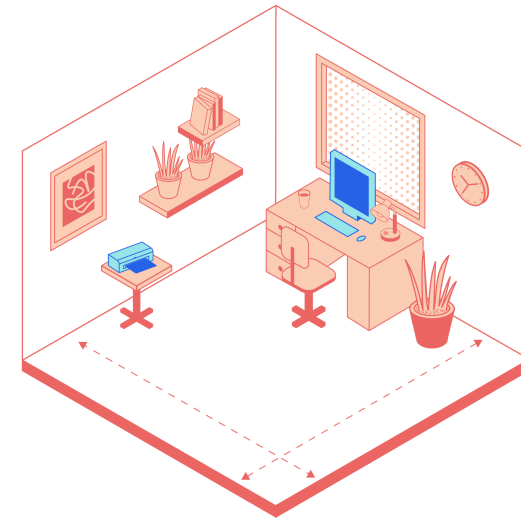


ICT FACILITIES

Physical home work environment variables

	Mean	Mean compared to*							
		0	1	2	3	4	5	6	
0	7.60	-	=	↓	↓	↓	↓	↓	
1	7.64	=	-	=	↓	↓	↓	↓	
2	7.72	↑	=	-	=	↓	↓	↓	
3	7.79	↑	↑	=	-	↓	↓	↓	
4	7.93	↑	↑	↑	↑	-	=	=	
5	7.98	↑	↑	↑	↑	=	-	=	
6	8.17	↑	↑	↑	↑	=	=	-	

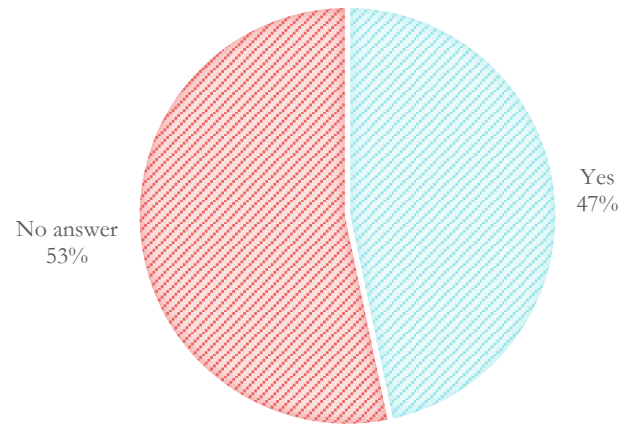
* significant difference when $p < 0.05$; ↑ significant higher mean than; ↓ significant lower mean than; = no significant difference



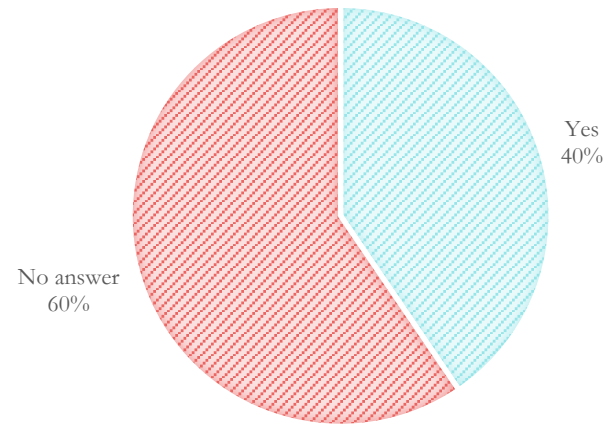
AMBIENT FACTORS

Physical home work environment variables

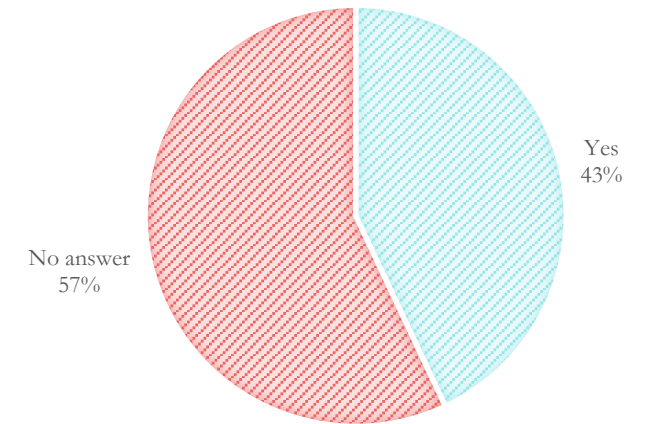
Plants



Art



Color



AMBIENT FACTORS

Physical home work environment variables

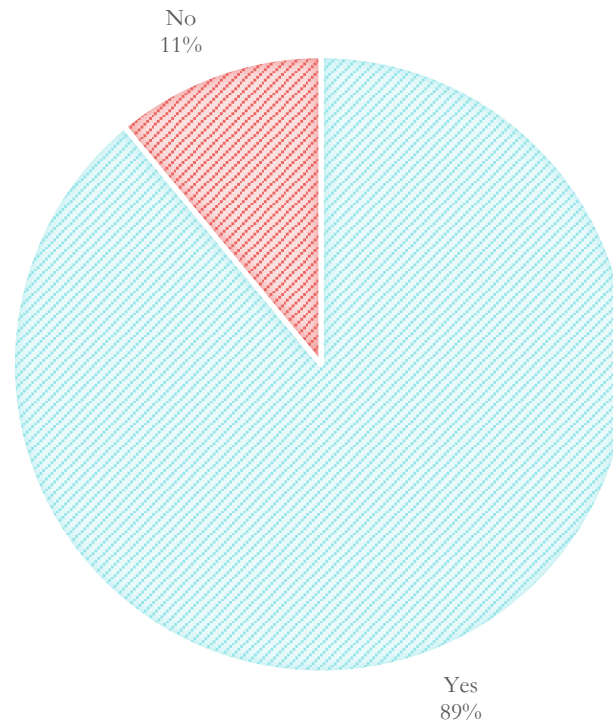
	Mean	Mean compared to*				
		Plants and art	Plants and color	Art and color	Plants art and color	No ambient factors
Plants and art	7.71	-	↓	↓	↓	↑
Plants and color	7.80	↑	-	=	=	↑
Art and color	7.87	↑	=	-	=	↑
Plants art and color	7.84	↑	=	=	-	↑
No ambient factors	7.64	↓	↓	↓	↓	-

* significant difference when $p < 0.05$; ↑ significant higher mean than; ↓ significant lower mean than; = no significant difference



VIEW

Physical home work environment variables

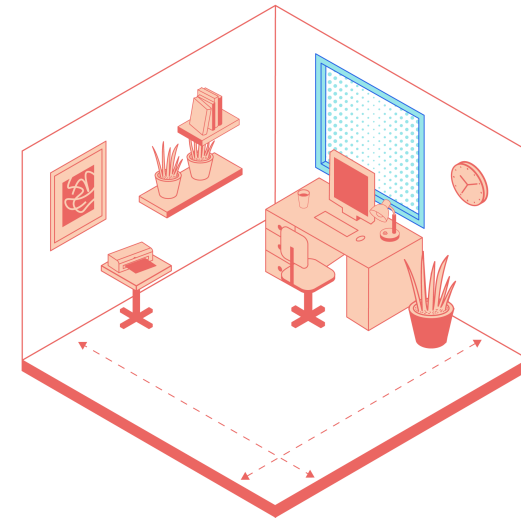


VIEW

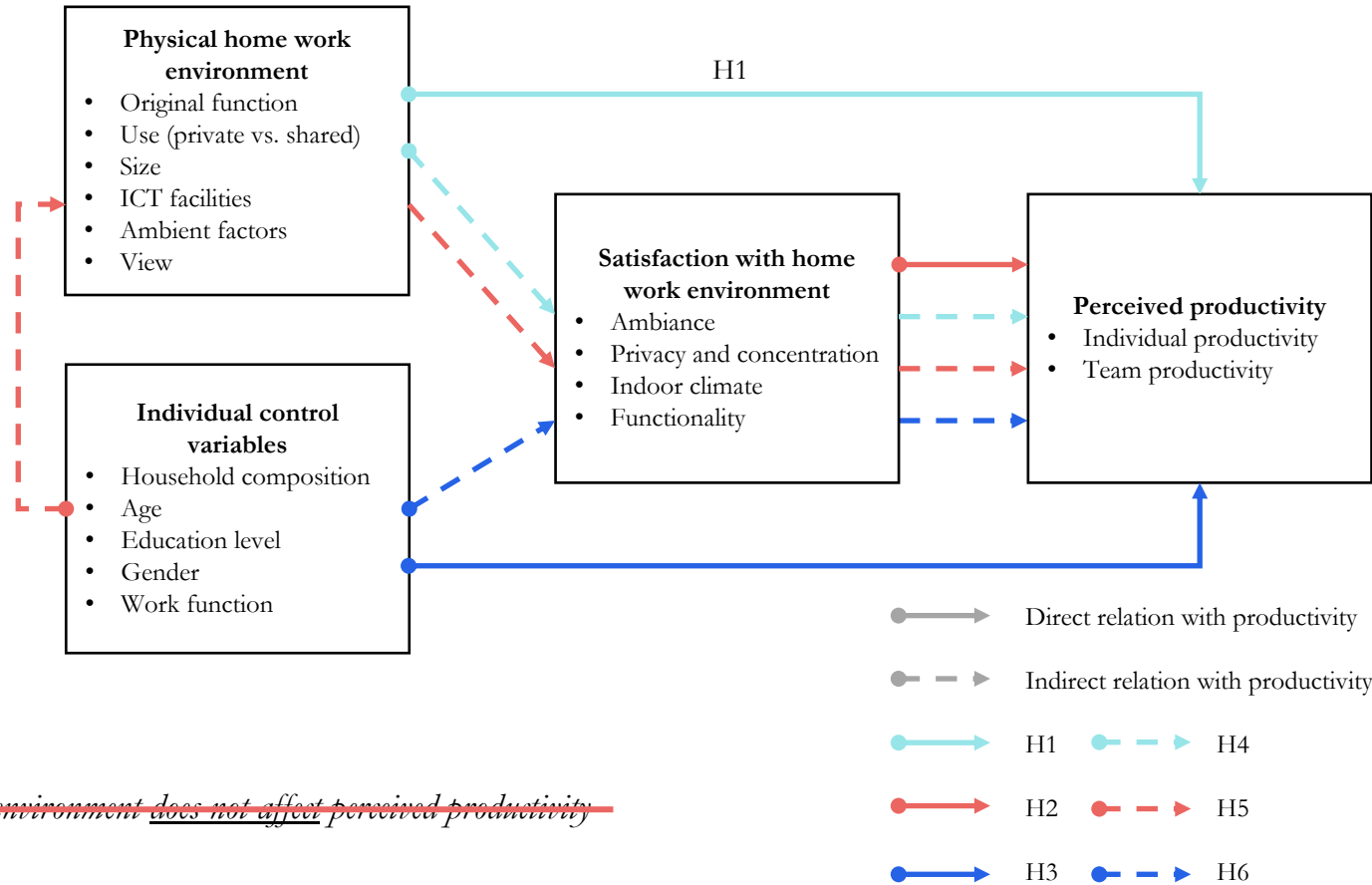
Physical home work environment variables

	Mean	Mean compared to*	
		Yes	No
Yes	7.75	-	↑
No	7.44	↓	-

* significant difference when $p < 0.05$; ↑ significant higher mean than; ↓ significant lower mean than; = no significant difference



CONCEPTUAL MODEL



Null-hypothesis 1:

~~The physical home work environment does not affect perceived productivity~~

SATISFACTION HOME WORK ENVIRONMENT

Pearson correlation analysis – correlation coefficients

	Satisfaction with ambiance	Satisfaction with privacy and concentration	Satisfaction with indoor climate	Satisfaction with functionality
Individual productivity	0.37	0.44	0.28	0.33

All correlations were significant at $p < 0.001$

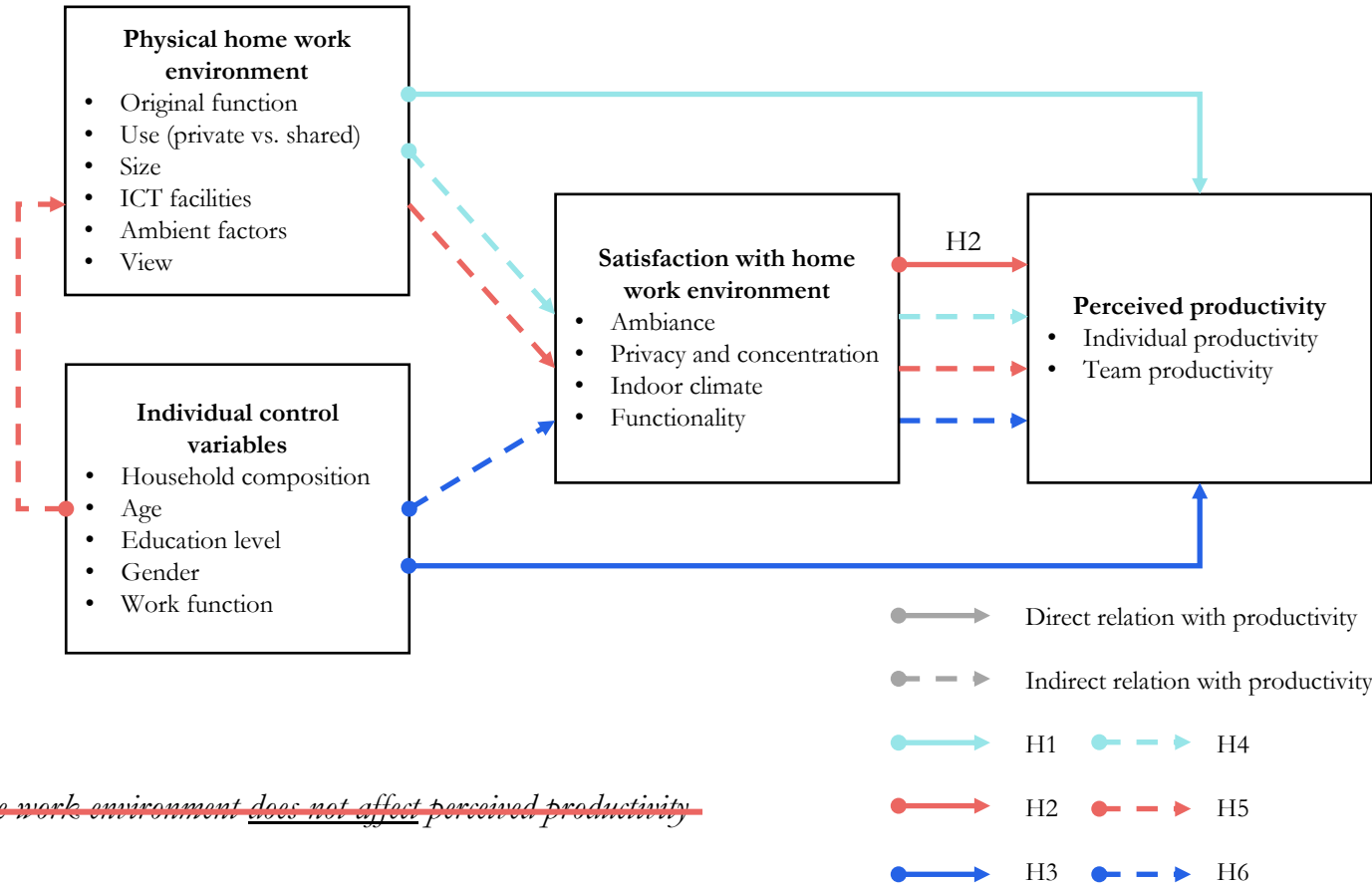
SATISFACTION HOME WORK ENVIRONMENT

Regression analysis – standardized coefficients

	Satisfaction with ambiance	Satisfaction privacy and concentration	Satisfaction with indoor climate	Satisfaction with functionality
Individual productivity	0.12	0.31	0.28	0.11

All coefficients were significant at $p < 0.001$

CONCEPTUAL MODEL



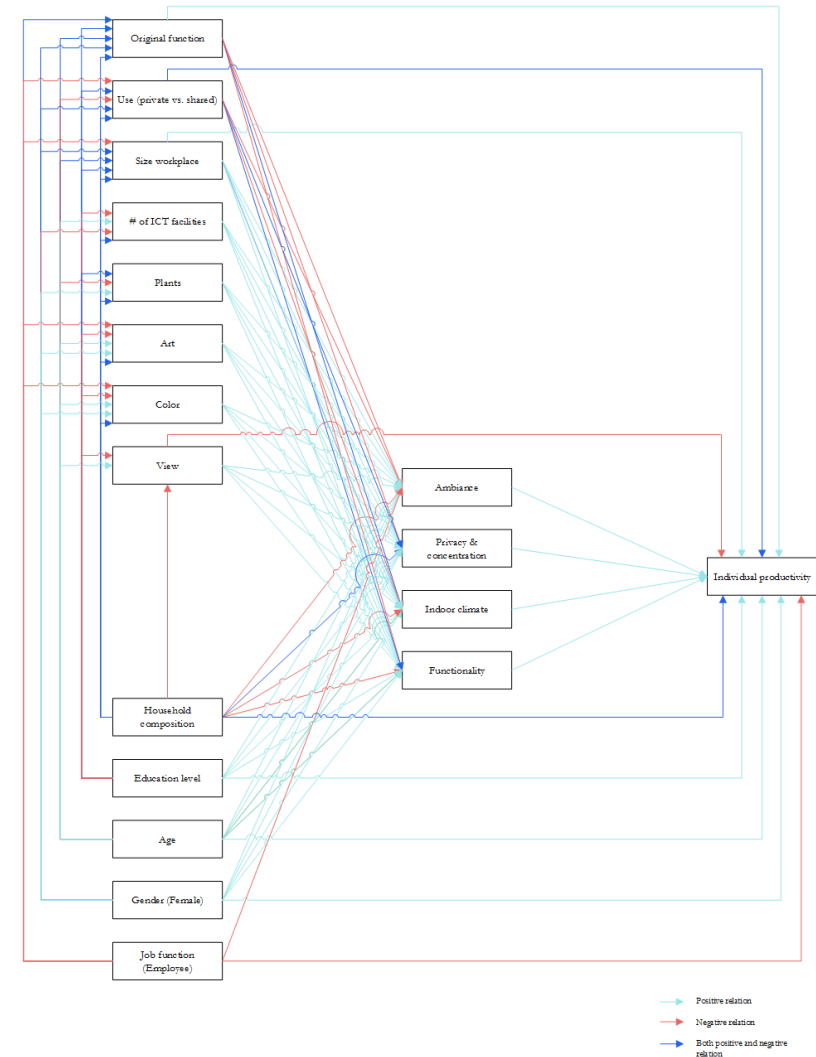
Null-hypothesis 2:

~~Satisfaction with the home work environment does not affect perceived productivity~~

INTEGRAL PATH MODEL

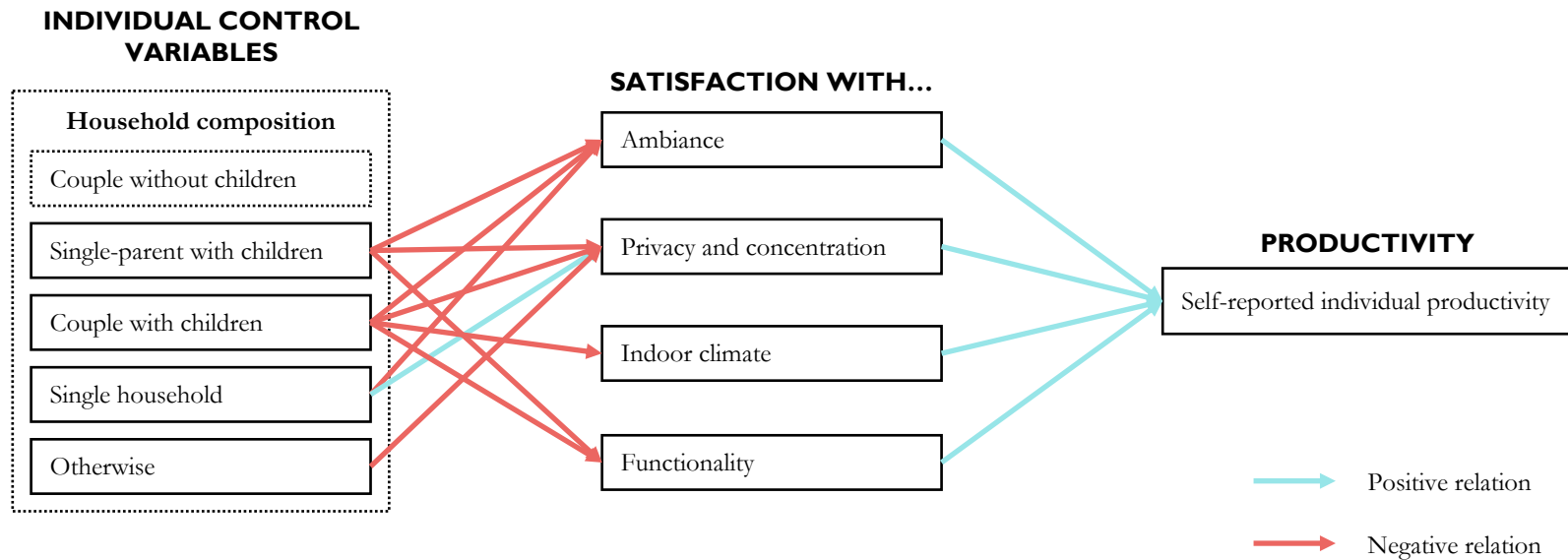
All variables

- Direct relationships:
 1. Physical home work environment → productivity
 2. Satisfaction → productivity
 3. Individual control variables → productivity
- Indirect relationships:
 1. Physical home work environment → satisfaction → productivity
 2. Individual control variables → physical home work environment → satisfaction → productivity
 3. Individual control variables → satisfaction → productivity



INTEGRAL PATH MODEL

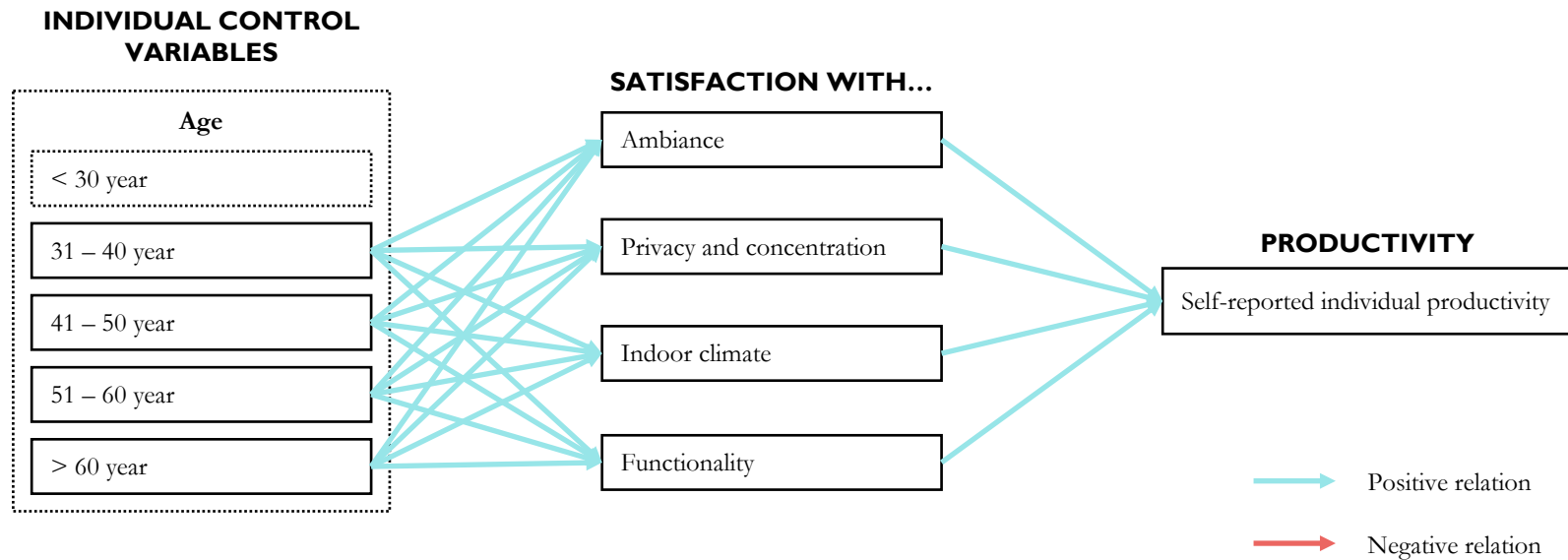
Household composition and satisfaction



	Couple without children	Single-parent with children	Couple with children	Single household	Otherwise
Individual productivity	-	-0.033	-0.083	-0.004	-0.026

INTEGRAL PATH MODEL

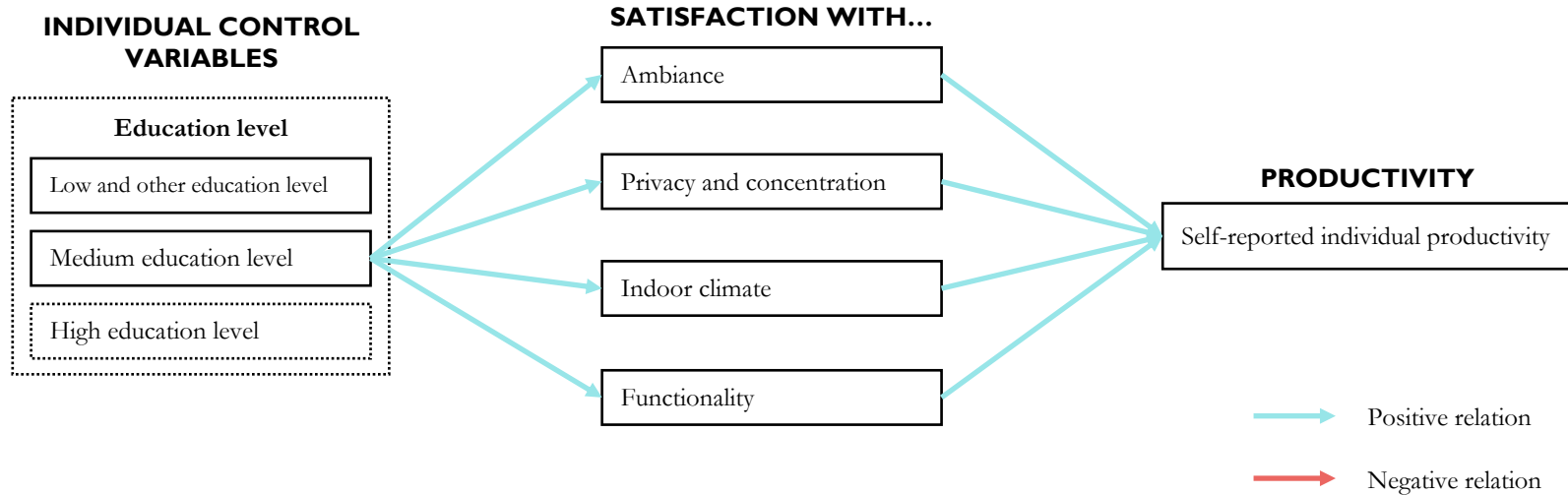
Age and satisfaction



	< 30 year	31– 40 year	41 – 50 year	51 – 60 year	> 60 year
Individual productivity	-	0.036	0.069	0.111	0.086

INTEGRAL PATH MODEL

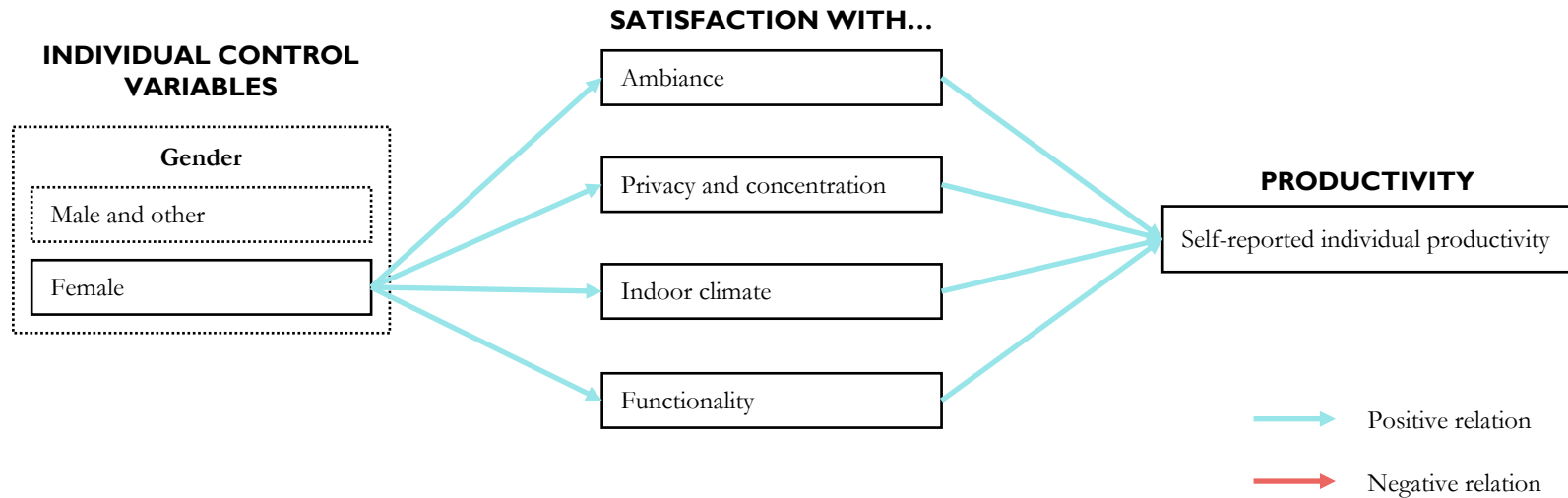
Education level and satisfaction



	Low and other	Medium	High
Individual productivity	-0.002	0.018	-

INTEGRAL PATH MODEL

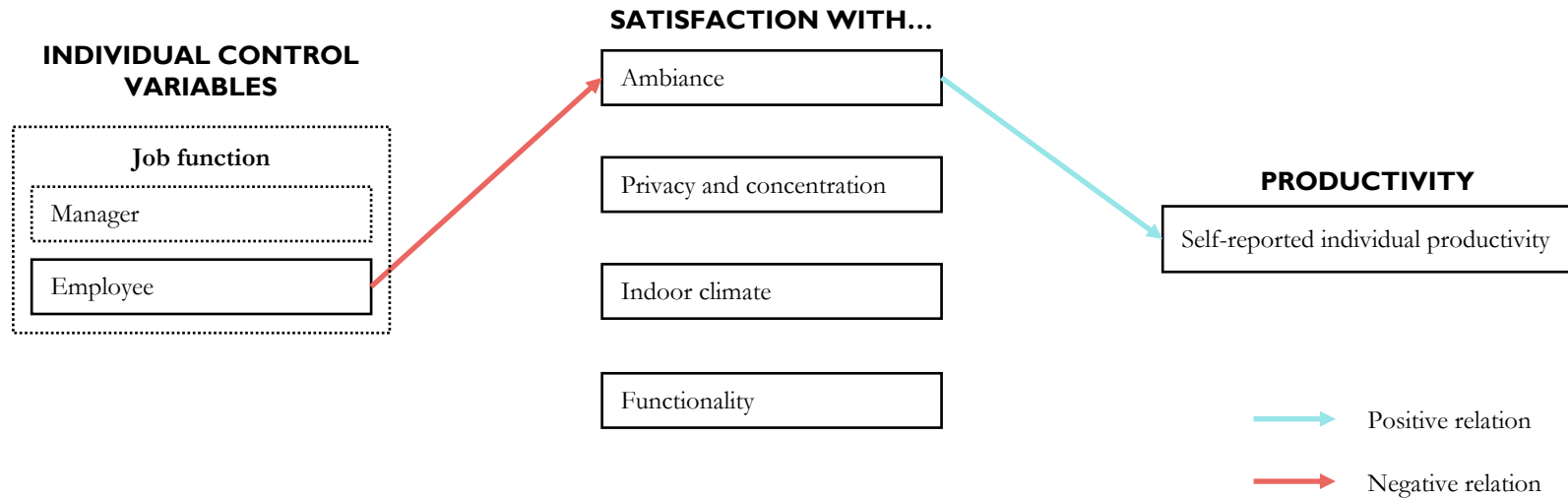
Gender and satisfaction



	Male and other	Female
Individual productivity	-	0.025

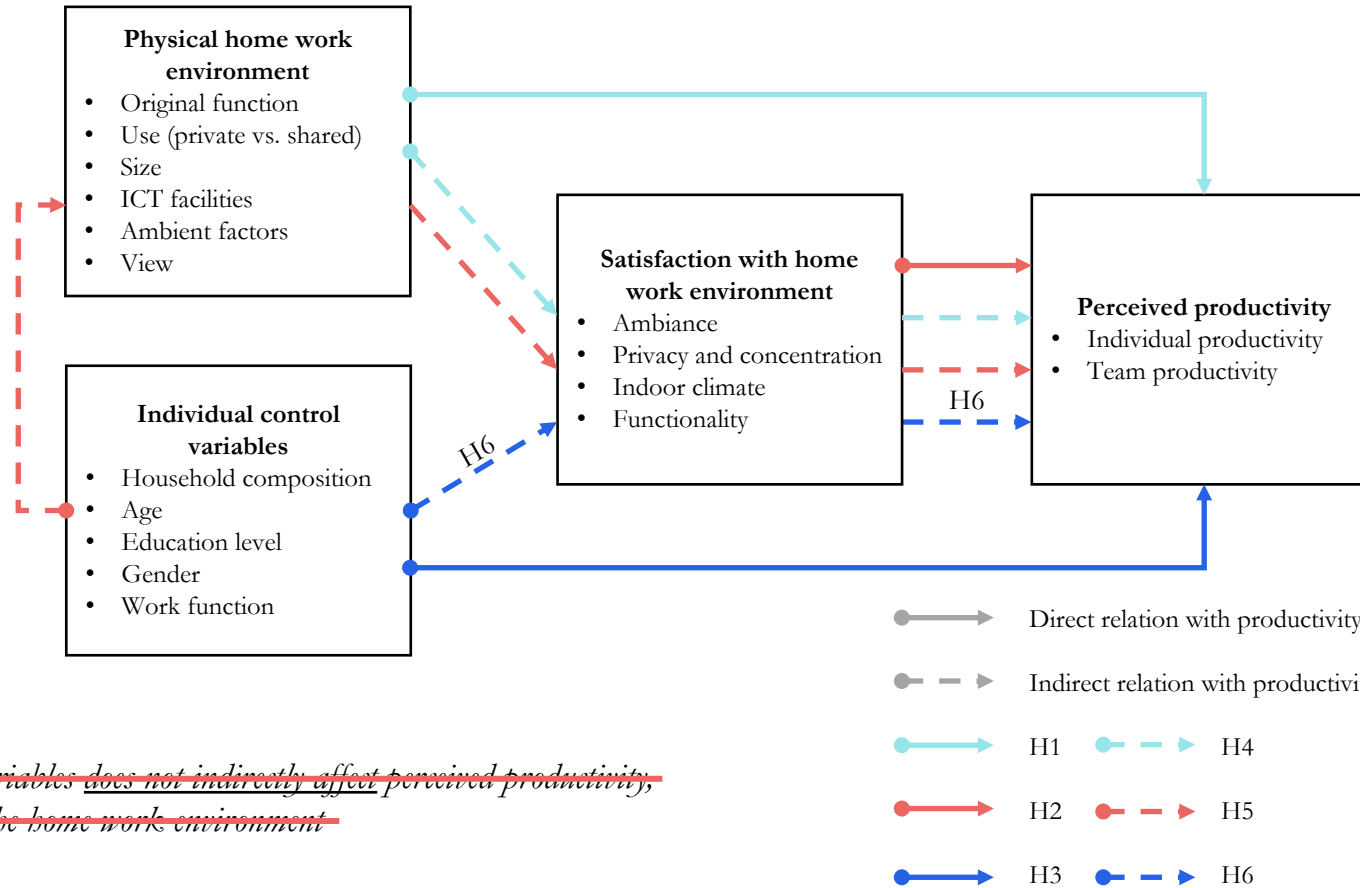
INTEGRAL PATH MODEL

Job function and satisfaction



	Manager	Employee
Individual productivity	-	-0.008

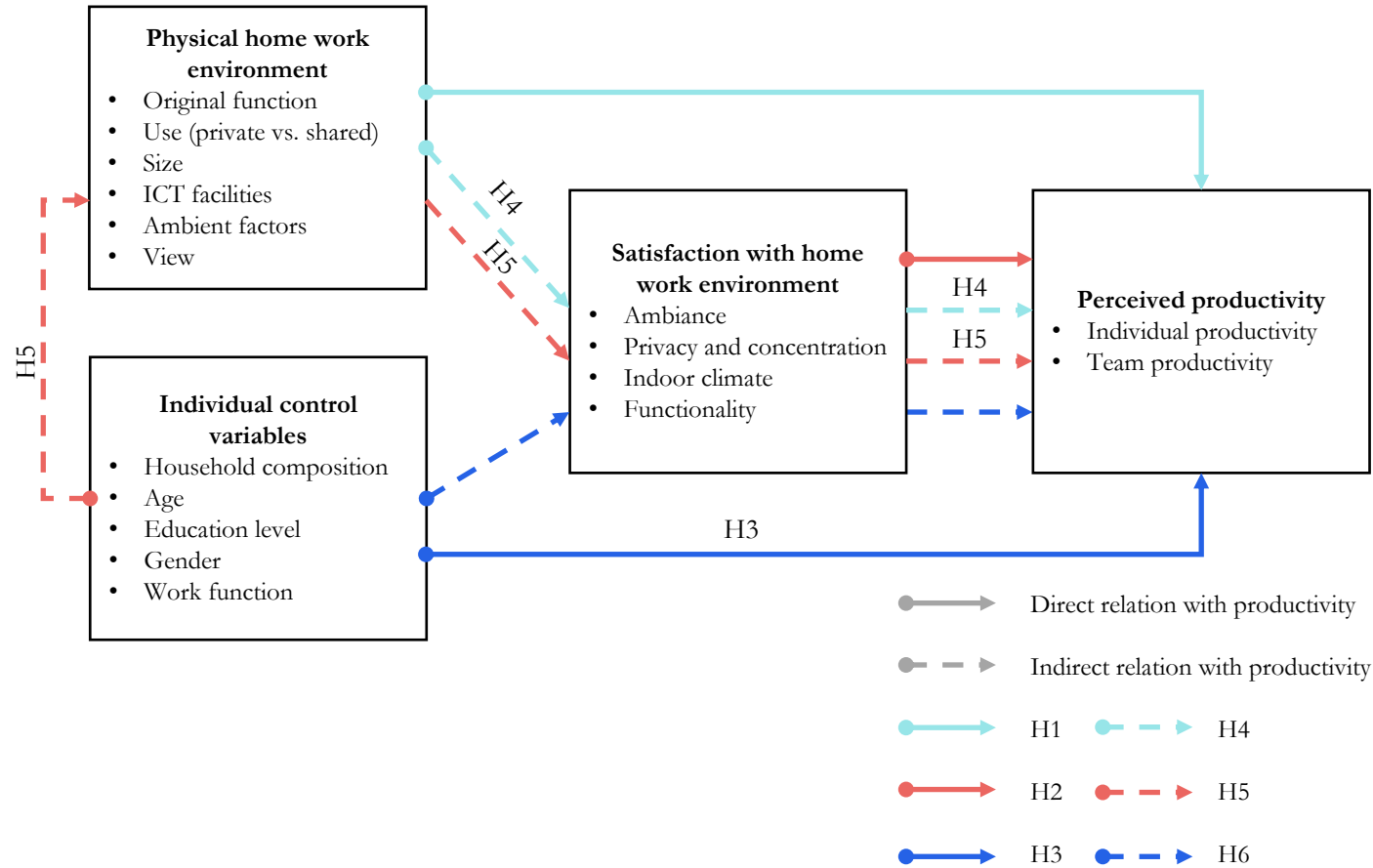
CONCEPTUAL MODEL



Null-hypothesis 6:

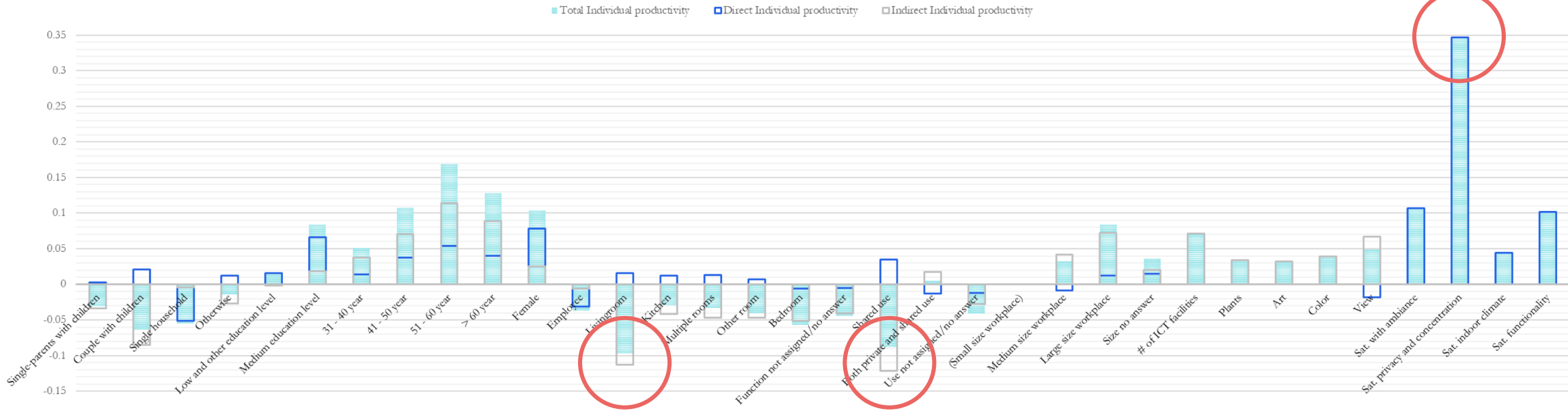
~~The individual control variables does not indirectly affect perceived productivity, via the satisfaction with the home work environment~~

CONCEPTUAL MODEL



COMPARISON

EFFECT VARIABLES ON INDIVIDUAL PRODUCTIVITY



What is the influence of the home work environment during telehomeworking on perceived productivity?



Physical home work environment



Satisfaction with the home work environment



Individual control variables

What is the influence of the home work environment during telehomeworking on perceived productivity?



Satisfaction with **privacy**
and concentration



Working in the **living**
room compared to work
room



Shared use compared to
private use

ORGANIZATIONS



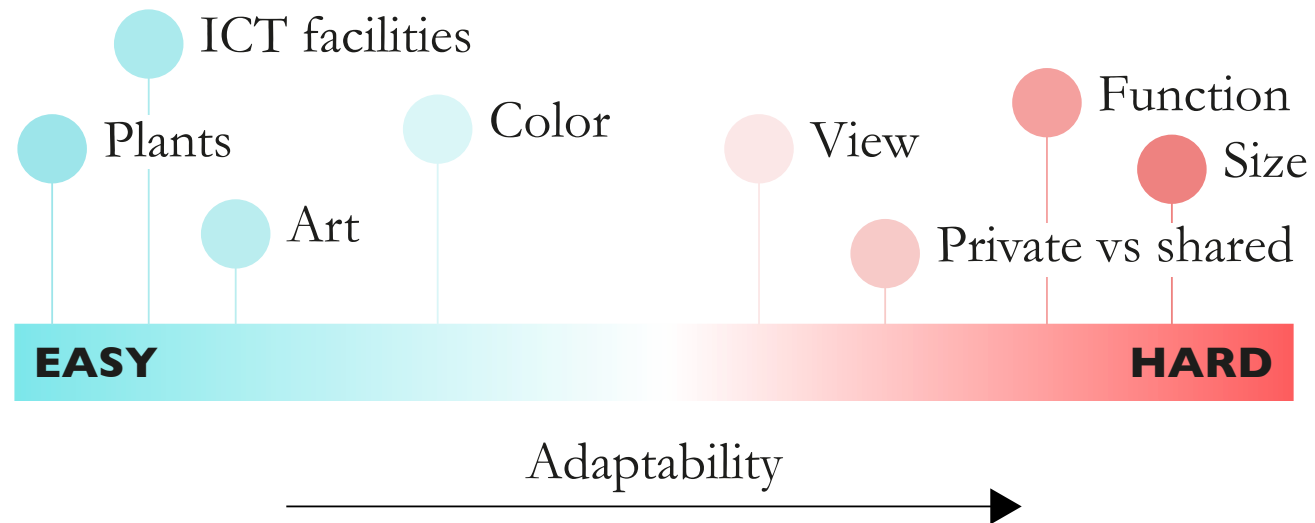
Include homeworking
arrangements



Support the home work
environment

ORGANIZATIONS

Support organizations suitable home work environment



ORGANIZATIONS



Include homeworking
arrangements



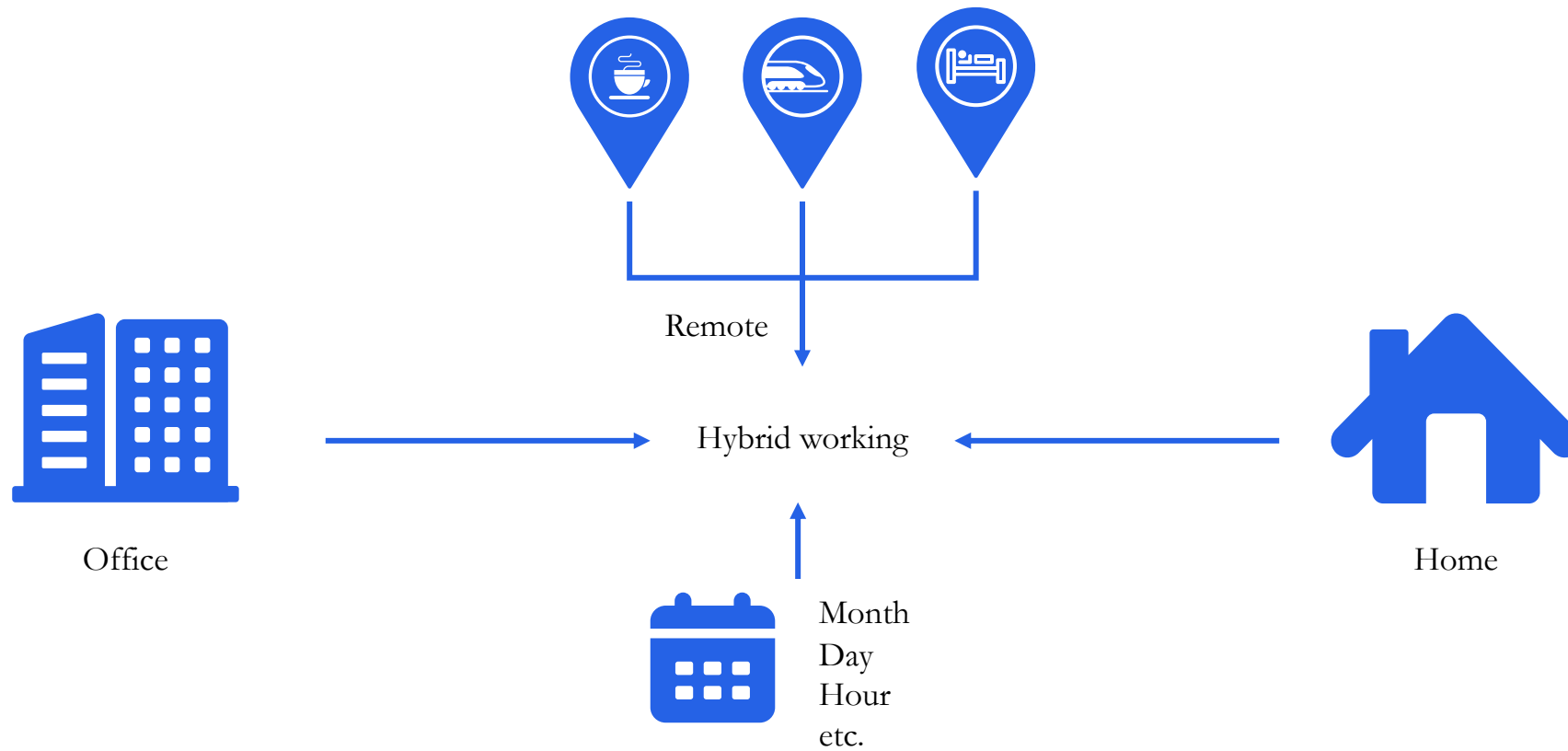
Support the home work
environment



Hybrid working can take
different forms

ORGANIZATIONS

Hybrid homeworking arrangements



THE BUILT ENVIRONMENT



Demand office lay-out

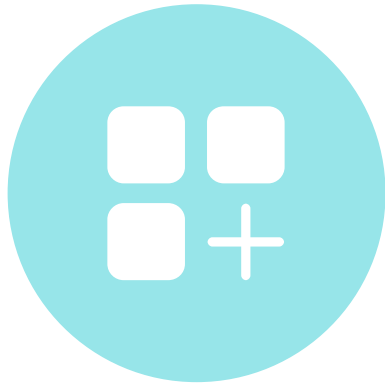


Demand home lay-out



Distance home and work

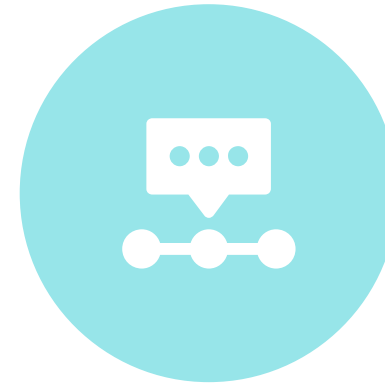
FURTHER RESEARCH



Extra variables



Detailed research



Homeworking policy
implementations

AN OFFICE THAT FEELS LIKE HOME

The influence of the home work environment on perceived productivity



Bernice Kieft | 28 June 2021

Delft University of Technology | Graduation company: Aestate/ontrafelexperts