

Commuting & Wellbeing:

How and why commuting influences life satisfaction

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WWCW

Wellbeing in Britain



November 2010

‘well, of course, you say these things in opposition, but when you get into government you’ll never actually do anything about it’.

...today the government is asking the Office of National Statistics **to devise a new way of measuring wellbeing** in Britain.

...we’ll start measuring our progress as a country, not just by how our economy is growing, but **by how our lives are improving**; not just by our standard of living, but by **our quality of life**.

Subjective Wellbeing

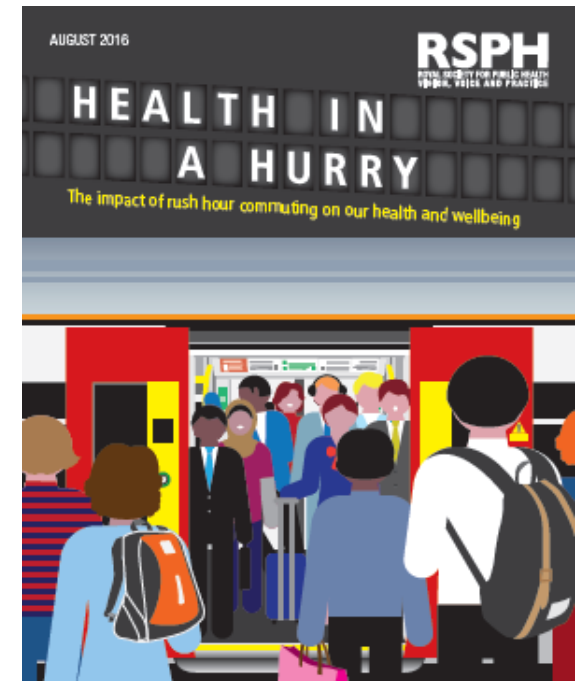
Three measures:

- 1. evaluative wellbeing - how satisfied individuals are with their lives**
2. experiential wellbeing - how often individuals experience different emotions
3. eudaimonic wellbeing - whether individuals feel they are fulfilling their potential

(ONS, 2011)

Evidence on commuting

- Impacts of commuting on wellbeing are receiving attention
- Evidence indicates
 - **Longer commutes** associated with lower wellbeing



Questions

1. Are longer duration commutes associated with lower life satisfaction?
2. If so, why?
3. Does the commute mode matter?
4. How large is the effect of commute duration on life satisfaction?

Life satisfaction: Trade offs

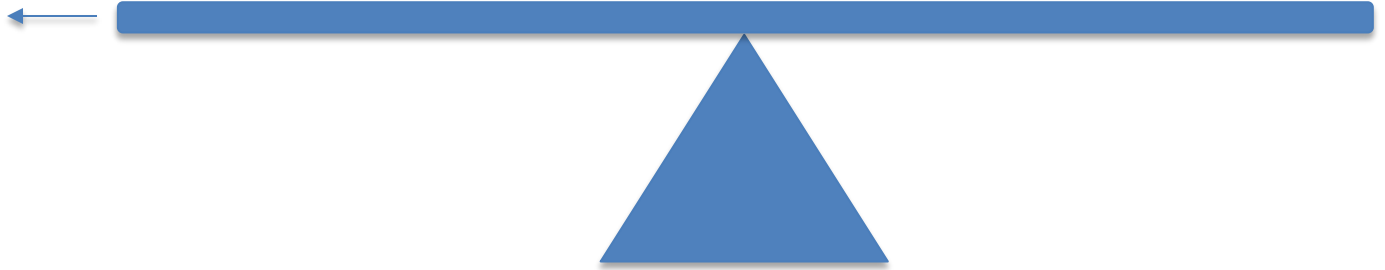
Very satisfied 😊



Very dissatisfied 😞

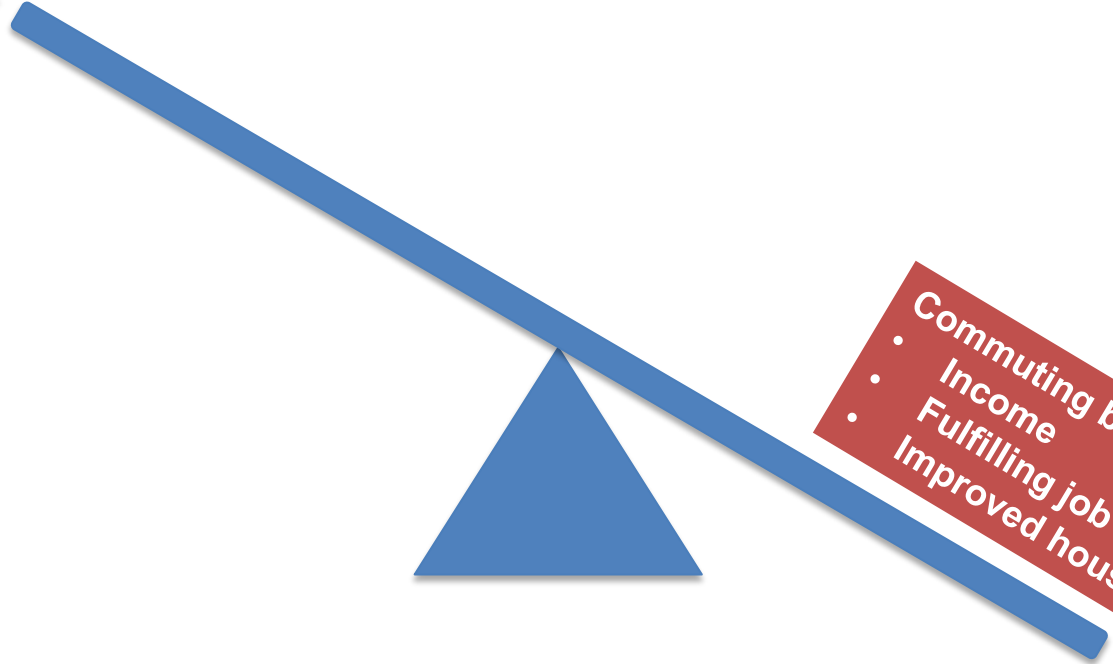


- Commuting benefits**
- Income
 - Fulfilling job
 - Improved housing



Life satisfaction: Trade offs

Very satisfied



- Commuting benefits
- Income
- Fulfilling job
- Improved housing

Very dissatisfied



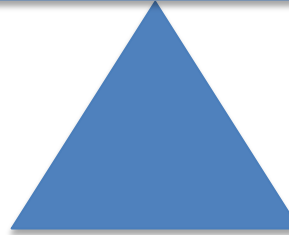
Life satisfaction: Trade offs

Very satisfied



Commuting dis-benefits

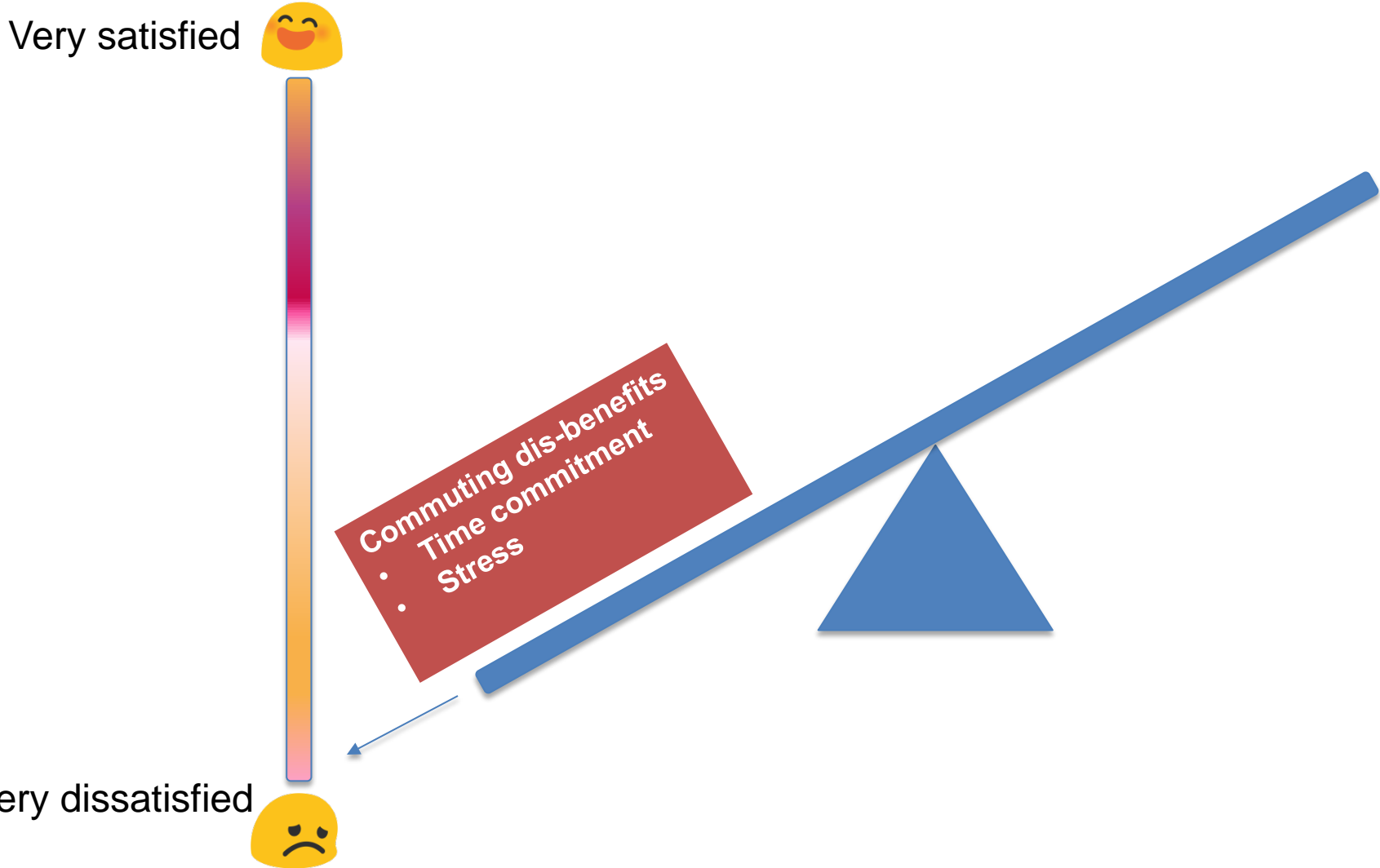
- Time commitment
- Stress



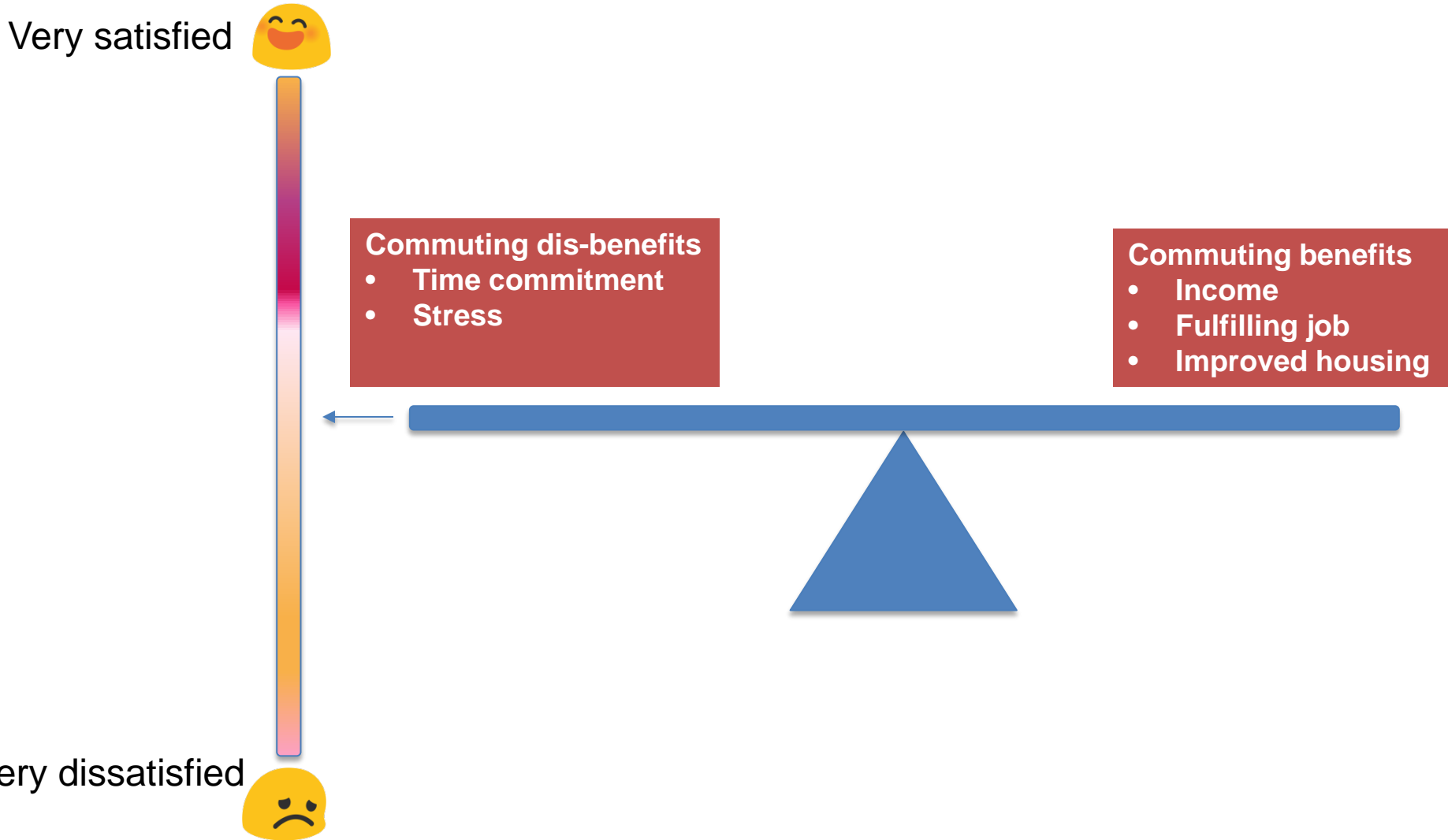
Very dissatisfied



Life satisfaction: Trade offs



Life satisfaction: Trade offs



Data

- Understanding Society
 - Sample of English workers in 2010/11 (N=16,841)
- Analysis method
 - Cross-sectional statistical analysis
 - (Longitudinal analysis to follow)



www.understandingsociety.ac.uk



Following the lives of people in 40,000 households and providing valuable evidence about 21st century life in the UK.

[Discover more about the study and its unique features.](#)

Sample characteristics

Commuting mode:

- Driving: 62% (10460)
- Bus: 7% (1136)
- Rail/Metro: 8% (1288)
- Walking: 13% (2121)
- Cycling: 3% (578)
- Other: 7% (1258)

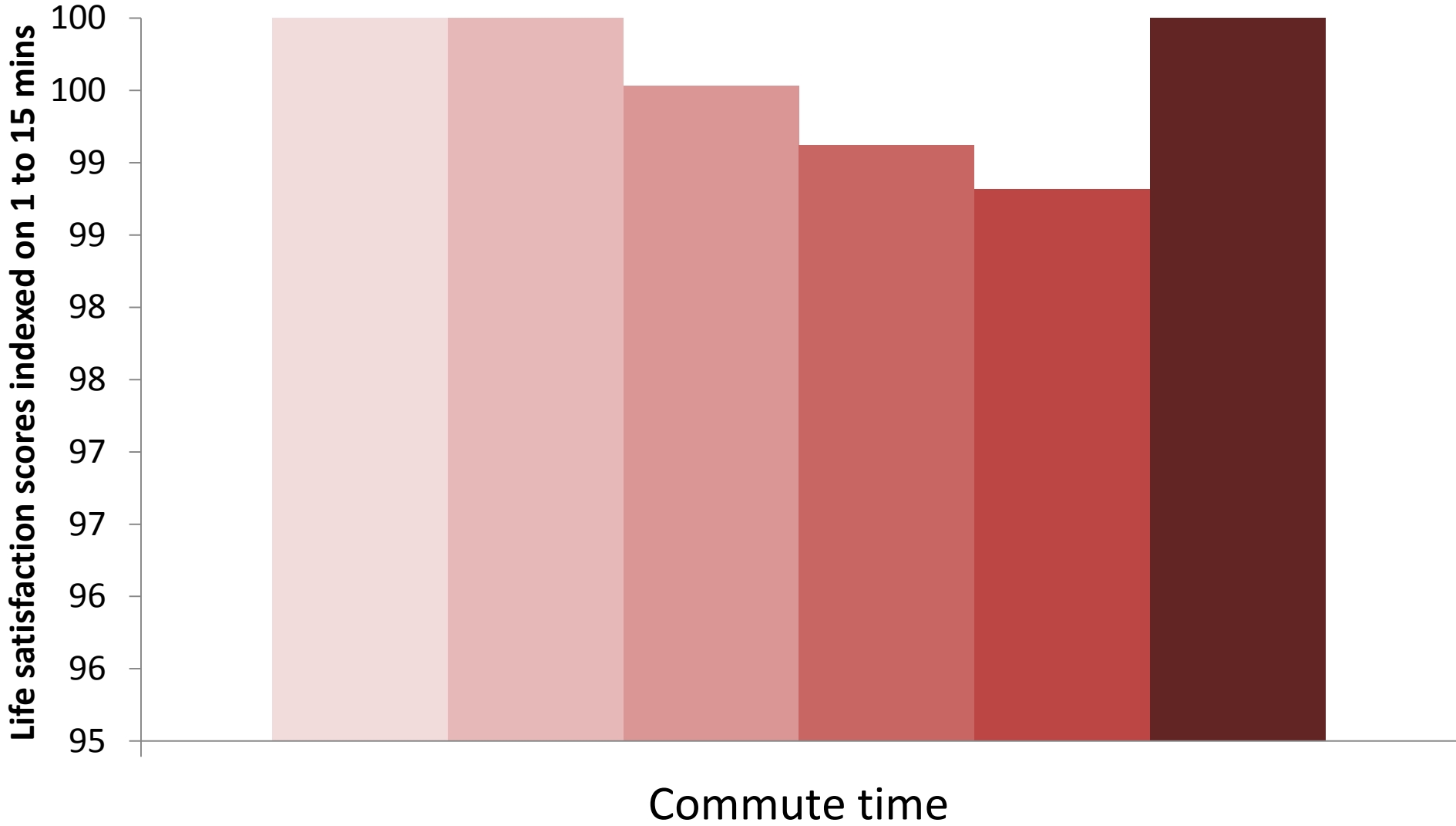
Commuting time:

- Mean commute time: 27 mins (SD 22 mins)

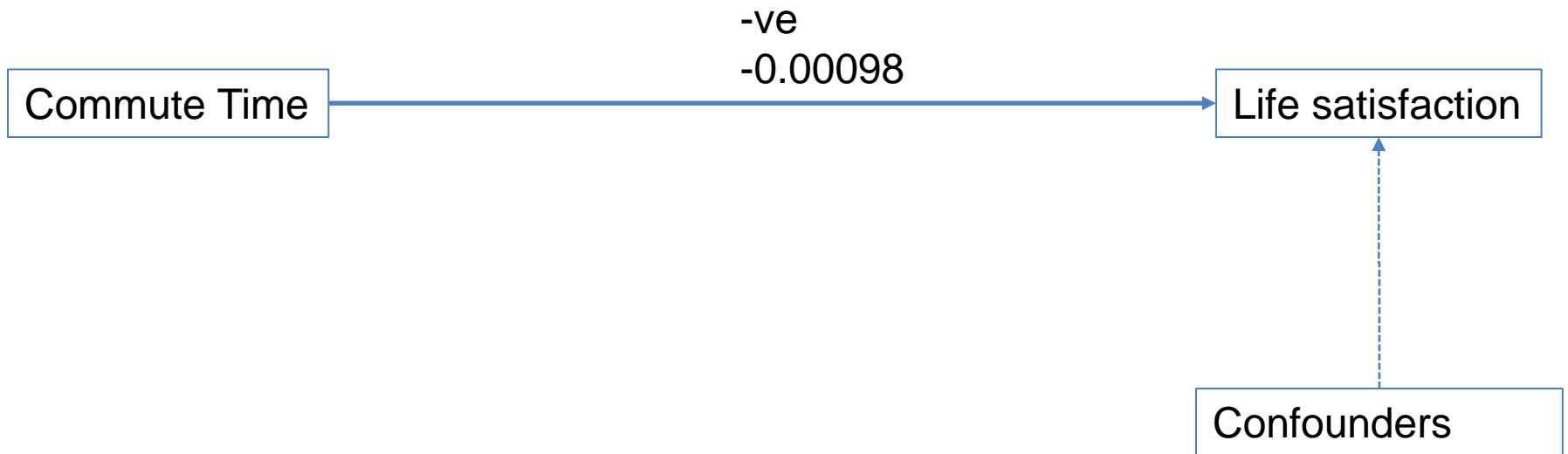
Are longer duration commutes
associated with lower life
satisfaction?

Yes

1 to 15 mins 16 to 30 mins 31 to 45 mins
46 to 60 mins 61 to 90 mins 91 to 179 mins

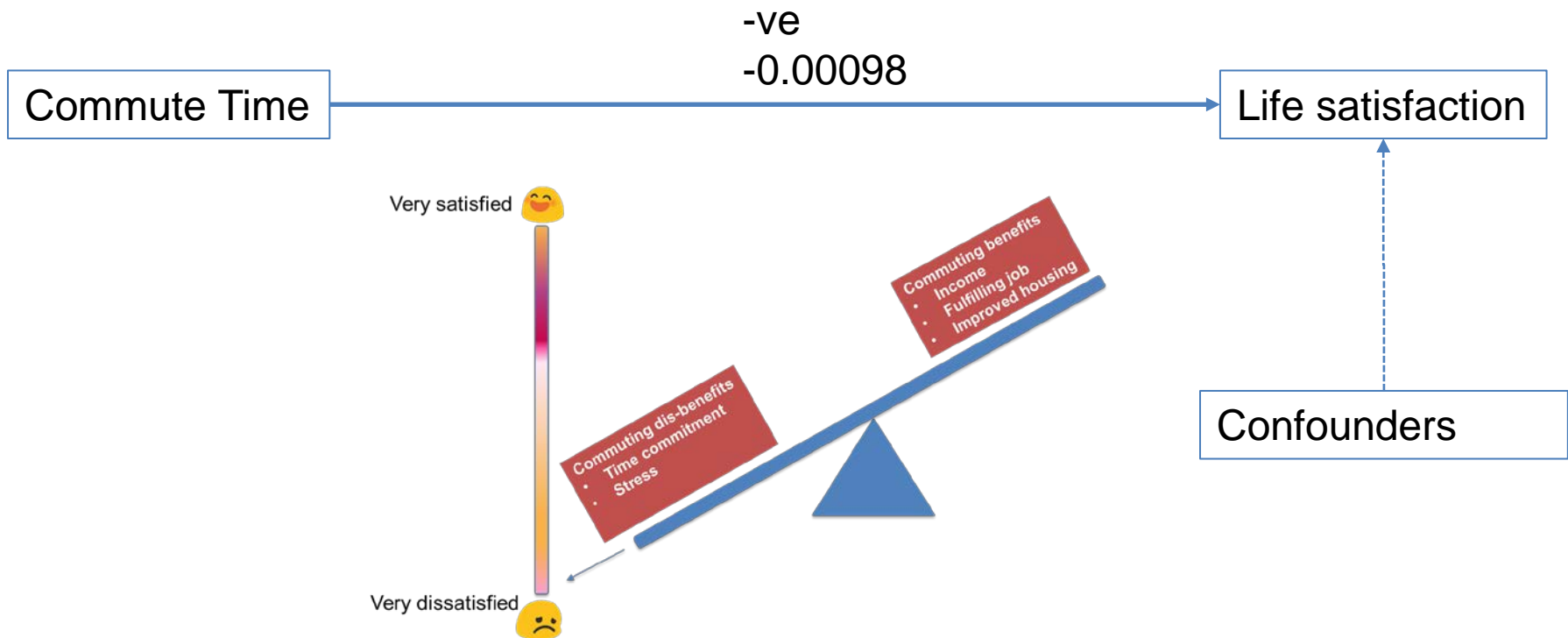


Regression: + confounders

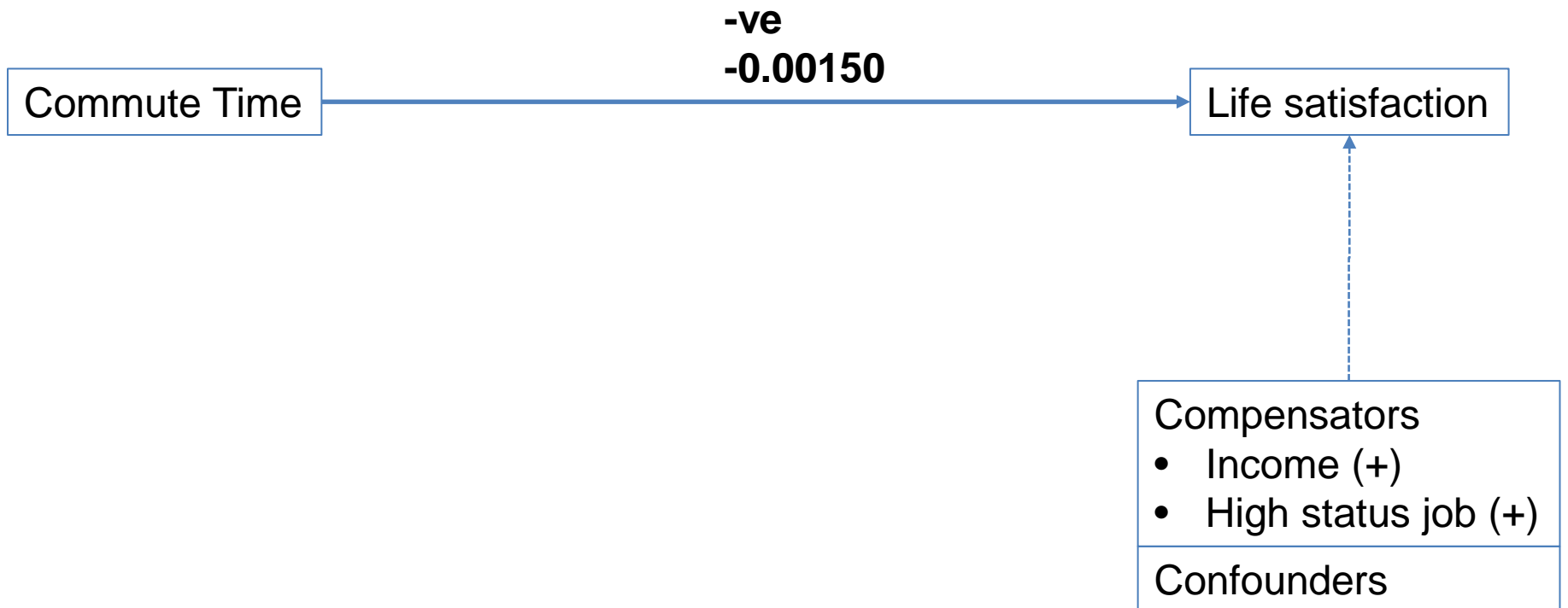


Regression: + confounders

- Compensators (income, job status) not yet controlled for
- The negative coefficient implies that the negative aspects of commuting outweigh the benefits
- **People are not fully compensated for their commute**



Regression: + compensators

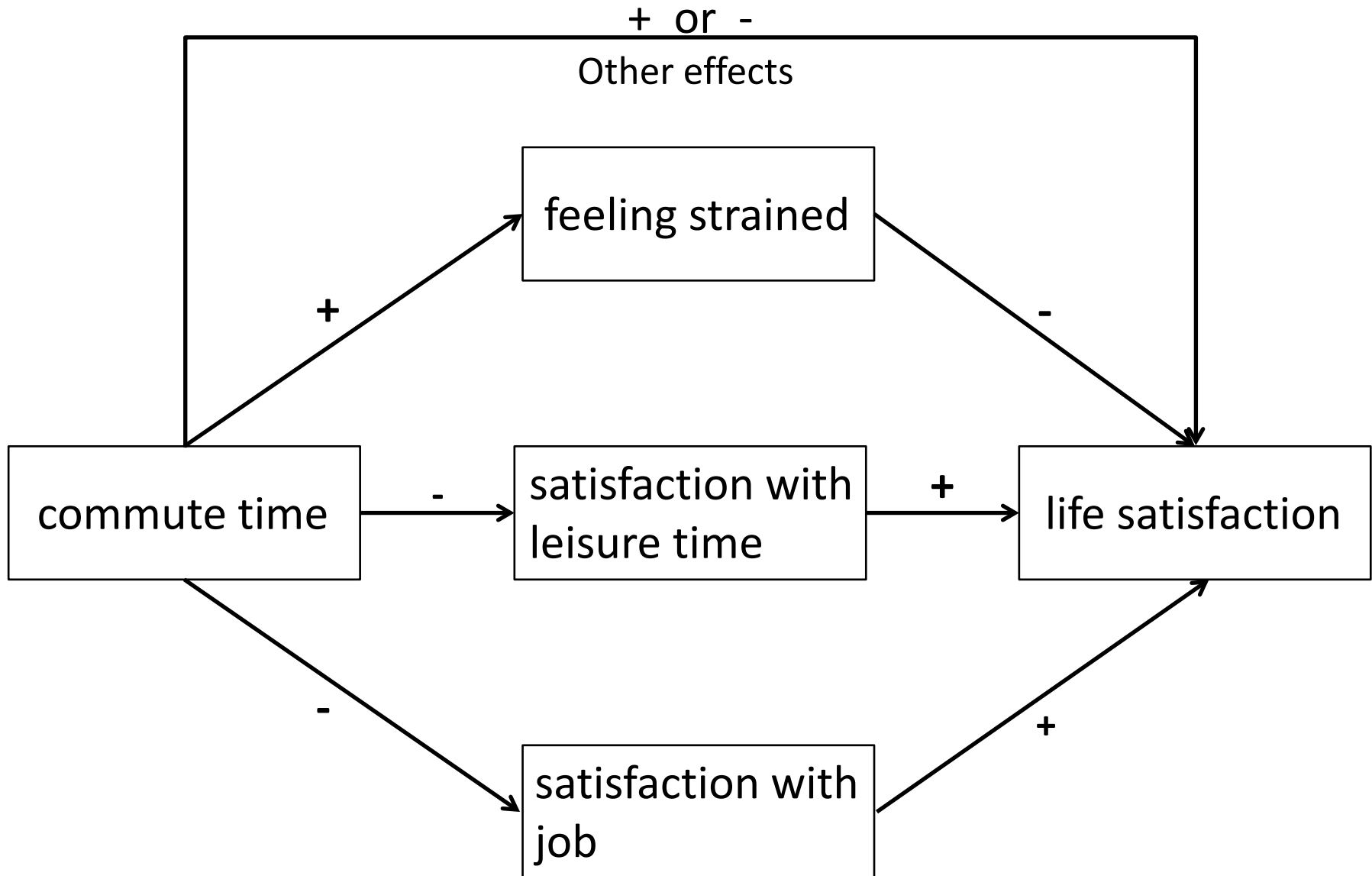


Are longer duration commutes
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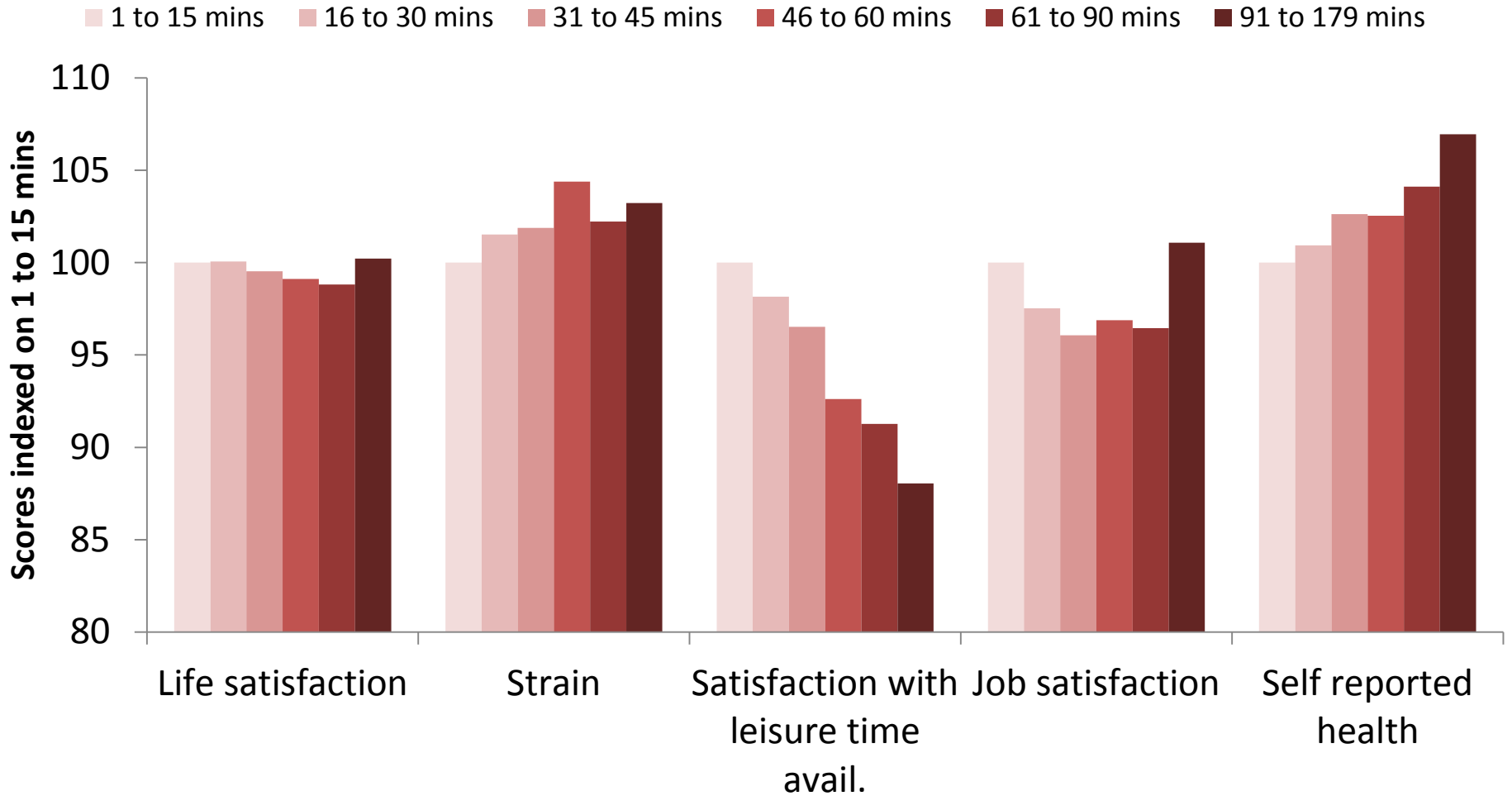
Yes

If so, Why?

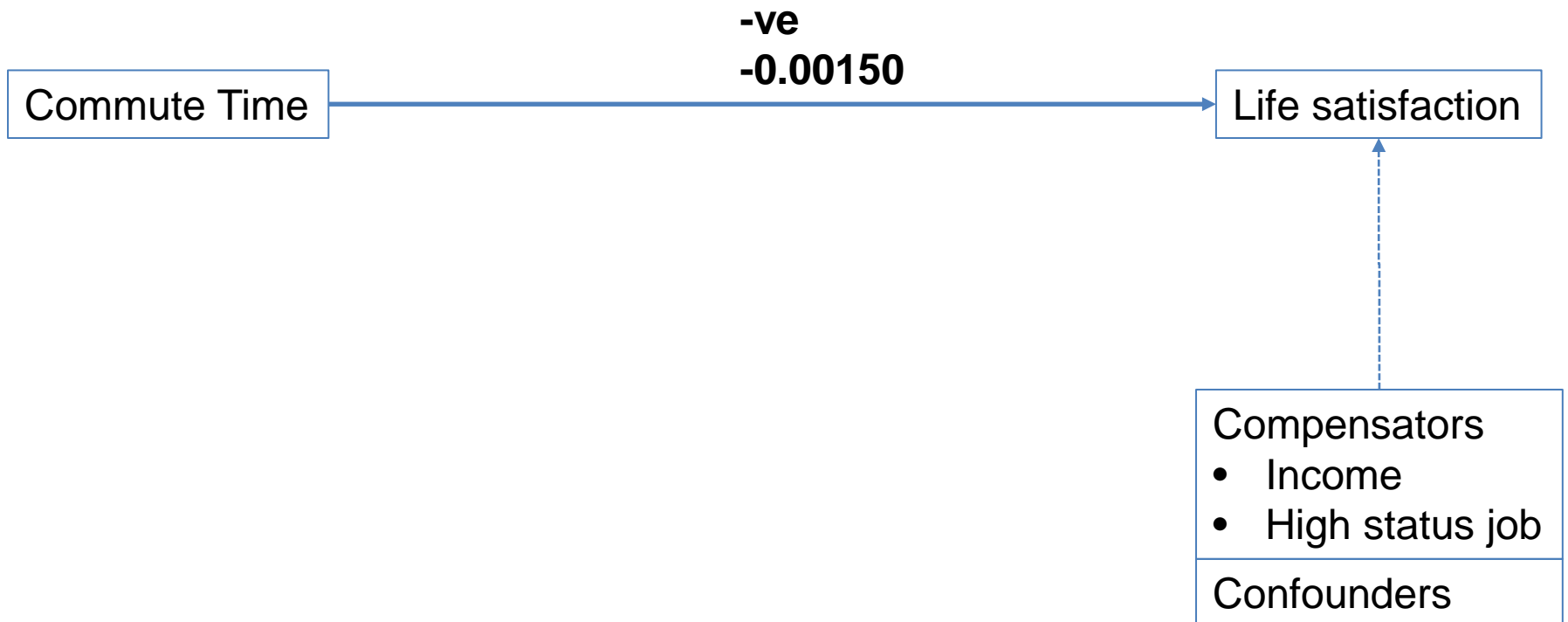
Theorised Relationships



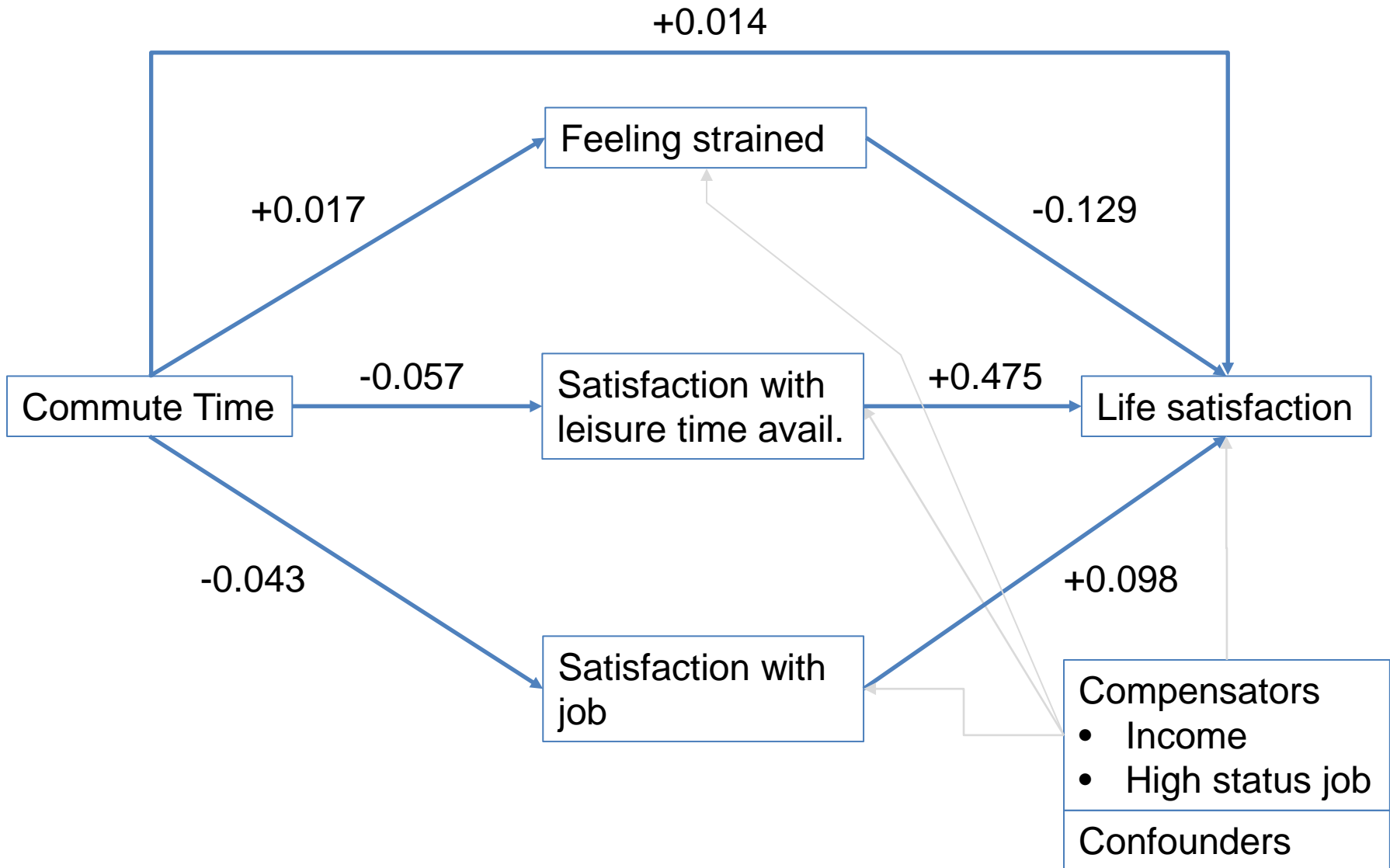
Wellbeing Scores & Commute Time



Regression: + compensators



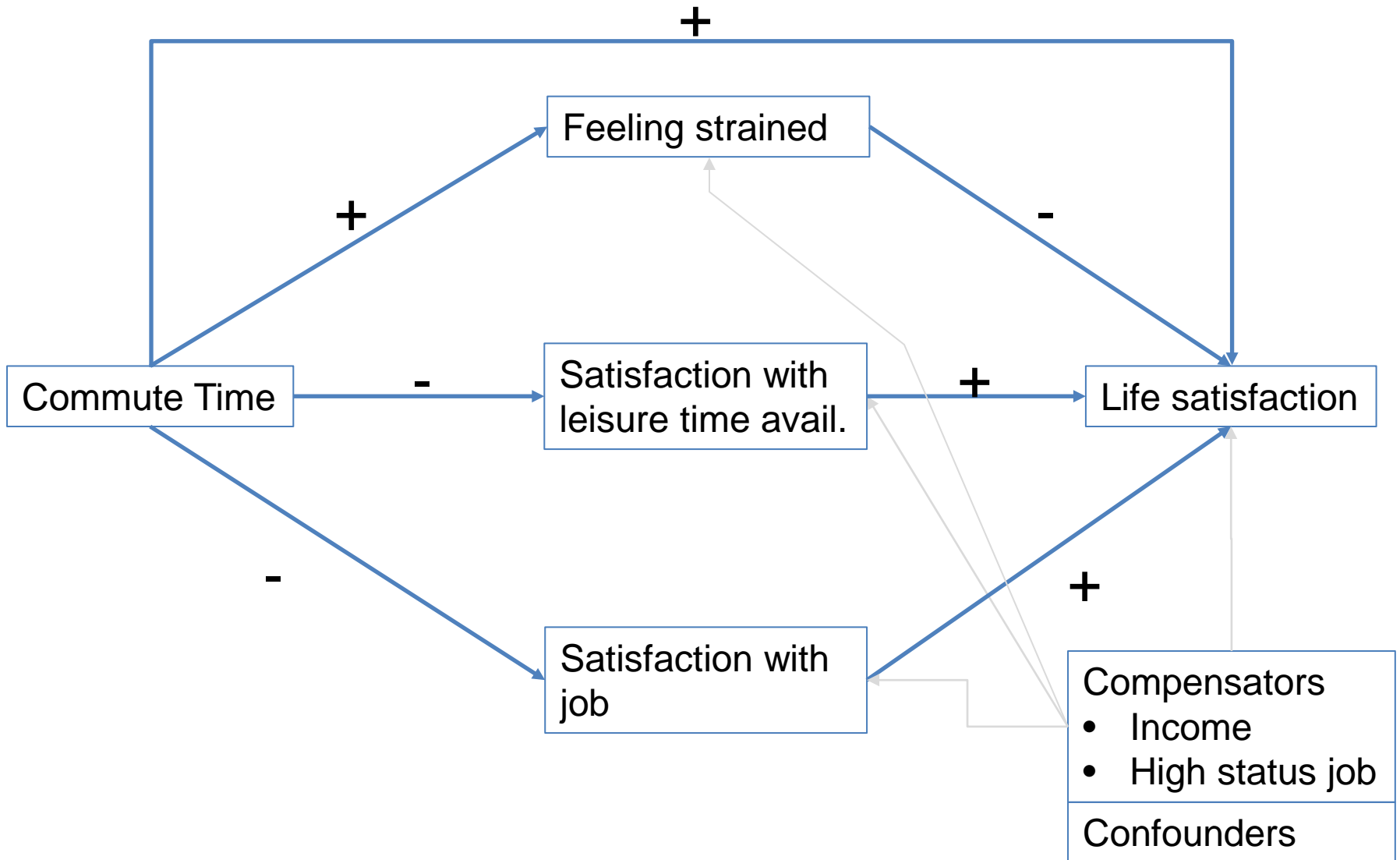
Path model: + mediators



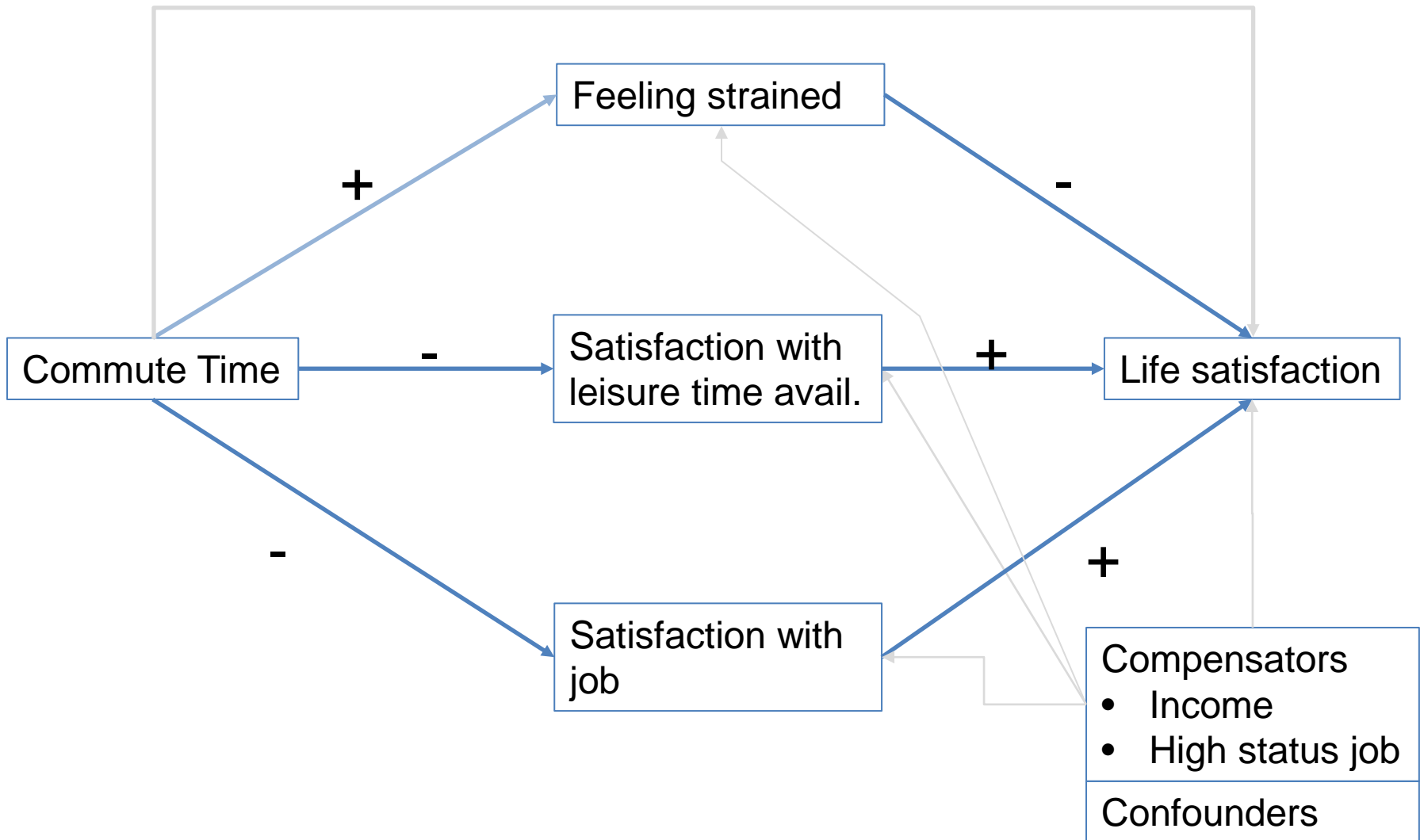
Does the commute mode matter?

Yes

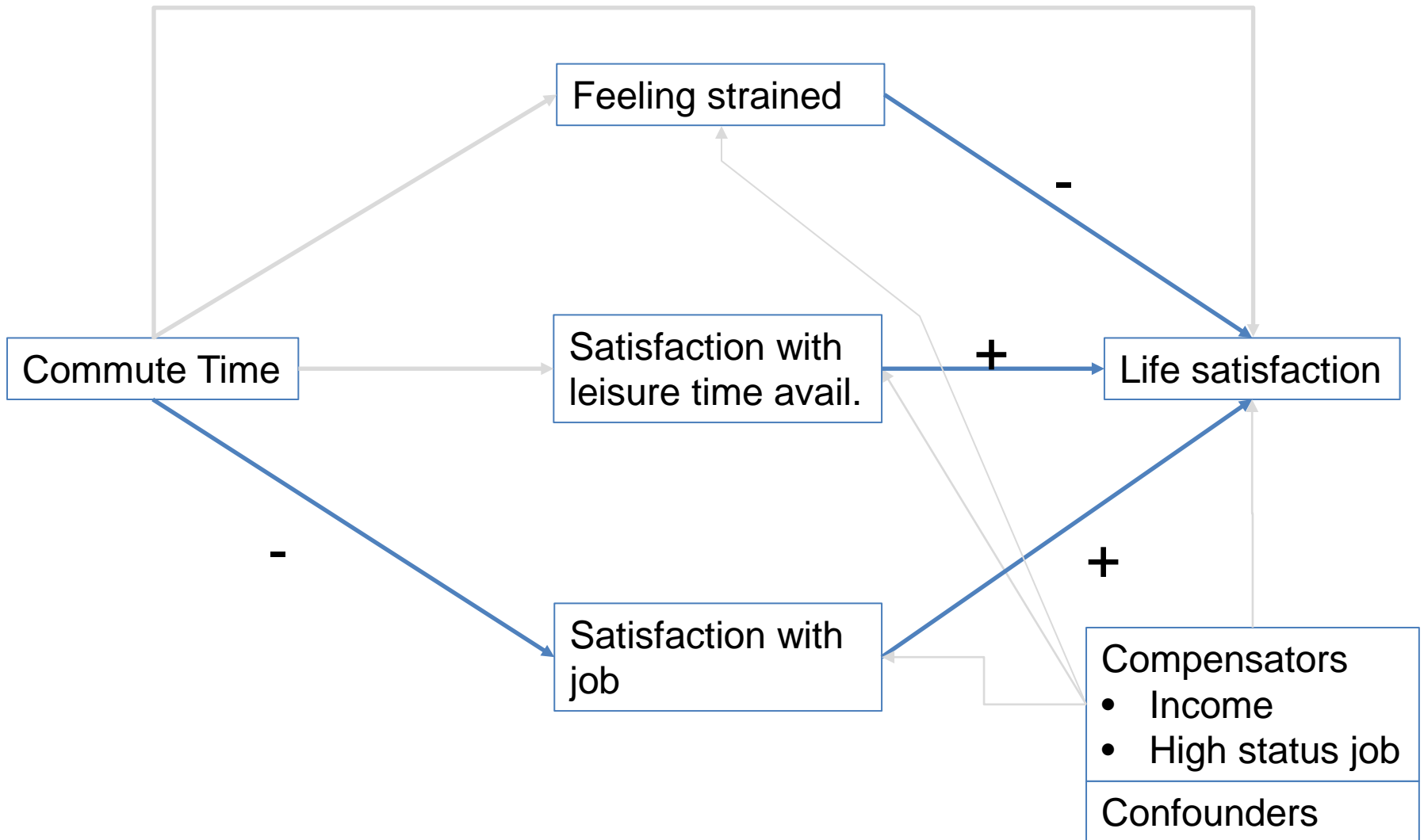
Path model: Drivers



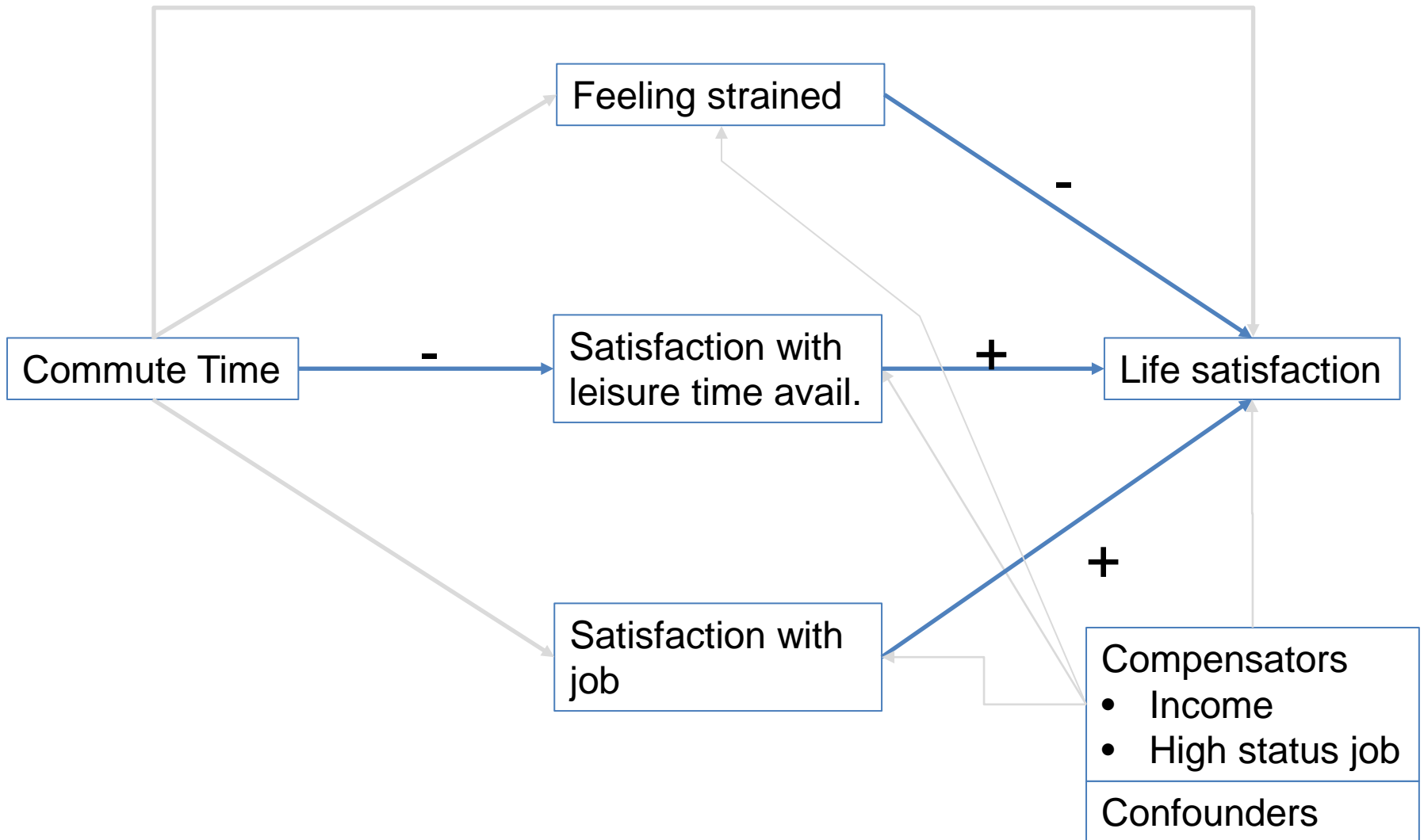
Path model: Cyclists



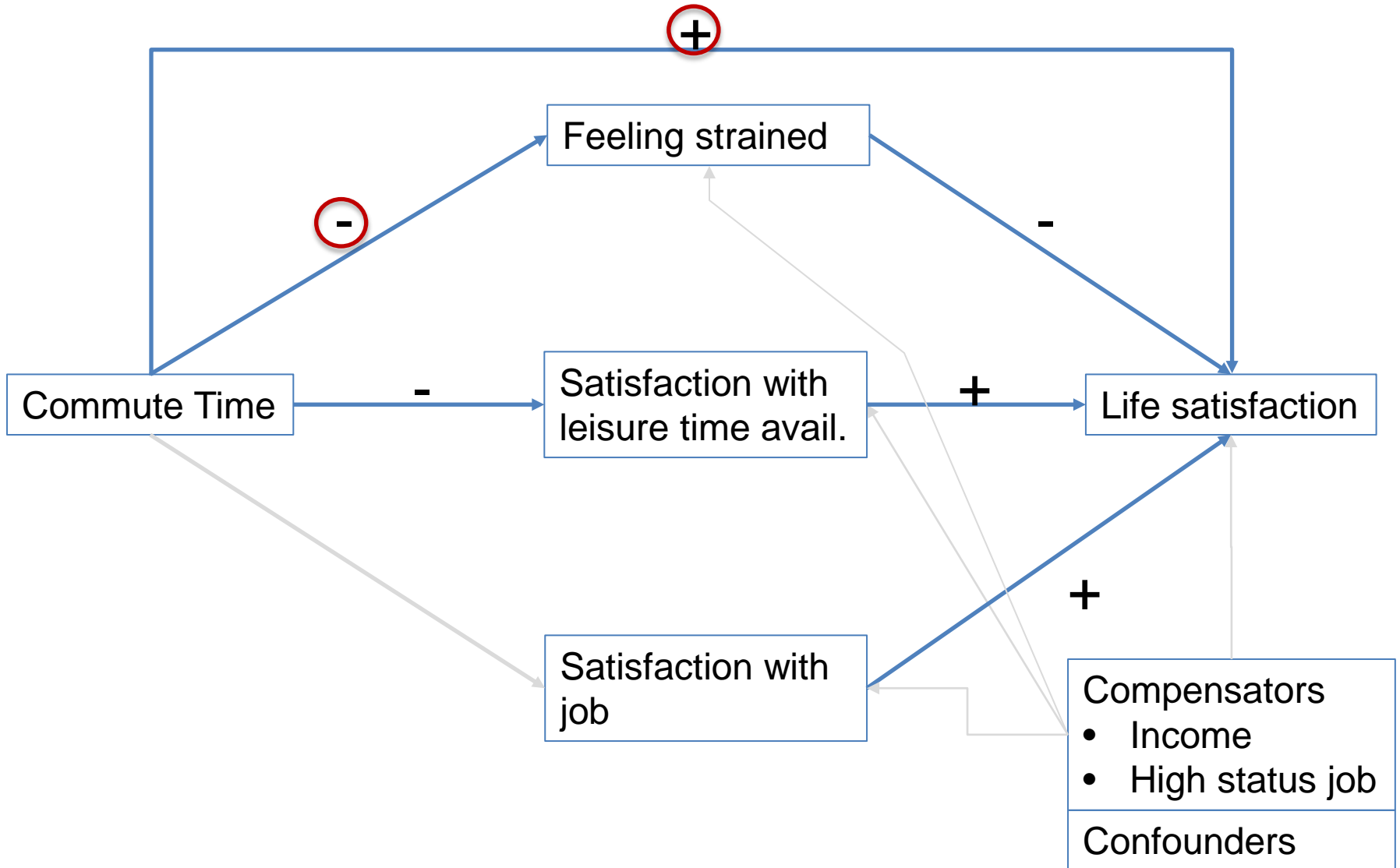
Path model: Walkers



Path model: Bus



Path model: Rail



	Effect of longer commute times on:				
	Levels of strain	Sat. with leisure time	Job sat.	Life sat. (direct ^a)	Total effect on life sat. ^b
All modes	Higher	Lower	Lower	Higher	Negative
Drive	Higher	Lower	Lower	Higher	Negative
Bus		Lower			Negative
Rail	Lower ^c	Lower		Higher	Positive
Cycle	Higher ^c	Lower	Lower		Negative
Walk			Lower		Negative

Notes:

a - the remaining direct effect on life sat after accounting for mediating paths, compensators and confounders

b - the total effect of commute time on life sat through both direct and indirect paths

All relationships are significant at 95% level or higher unless otherwise indicated

c - indicates significant at 90% level

Questions

1. Are longer duration commutes associated with lower life satisfaction?
2. If so, why?
3. Does the commute mode matter?
4. How large is the effect of commute duration on life satisfaction?

Income equivalence estimation

On average, to maintain the same life satisfaction score

- A 10 minute increase in one-way commute time

Needs to be accompanied by

- A £480 per month increase in gross personal income

If nothing else changes

(e.g. better house, more fulfilling job)

Summary

- Longer duration commutes are linked to lower life satisfaction scores, through
 - Lower satisfaction with leisure time availability
 - Lower job satisfaction
 - Higher levels of strain
- The relationships differ by mode e.g.
 - Strain is more strongly associated with driving
 - Shorter rail/metro commutes are associated with greater strain

Policy Implications

- Measures to reduce commute times will improve life satisfaction across the population e.g.
- Spatial planning
 - Co-locate housing and employment centres
- Transport planning
 - Provide efficient transport links between housing and employment centres
- Public transport provision
 - Improve the journey experience (Comfortable seats, WiFi)

Further work

We will be using longitudinal data to examine how wellbeing is related to commuting and life situation over time

www.travelbehaviour.com

Home

Changing Travel Behaviours is a collection of studies, led by the [Centre for Transport & Society](#), that are examining how and why travel behaviours, like commuting, change over the course of people's lives.



Photo: Andre Neves

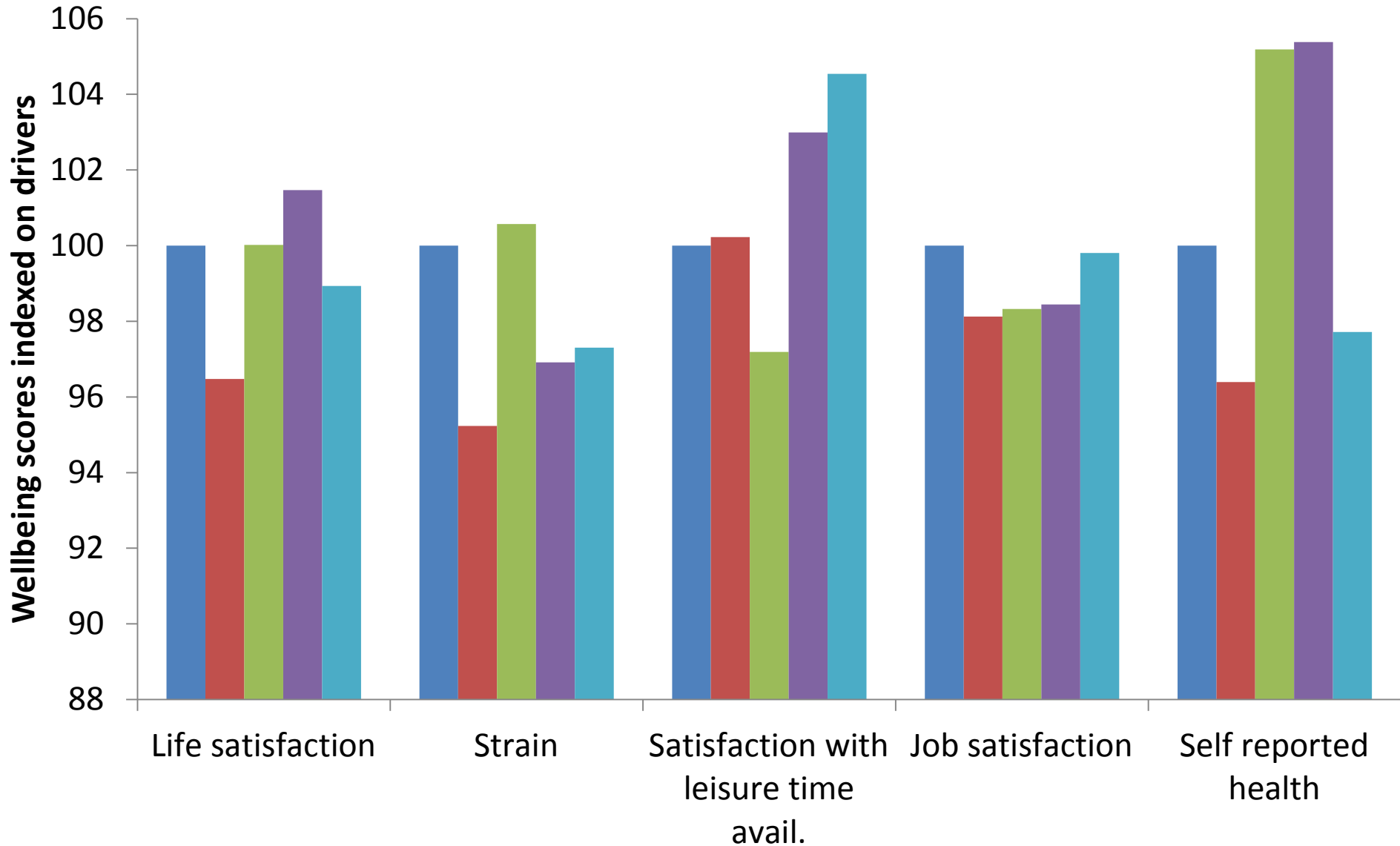
Commuting & Wellbeing (2016-17)

Our [current study](#) is examining the relationship between changing commuting behaviours and personal wellbeing.

[About the Commuting & Wellbeing project](#)

Wellbeing Scores & Commute Mode

Drivers Bus/Coach Rail/Metro Cycle Walk



Predicted Life Satisfaction Scores for Typical Commuter*

Mode	Commute time (mins)				60 %age change
	10	20	40	60	
All	5.47	5.46	5.44	5.41	-1.12%
Drive	5.49	5.48	5.46	5.45	-0.78%
Bus	5.70	5.67	5.62	5.56	-2.51%
Rail	5.30	5.31	5.35	5.38	1.45%
Cycle	5.38	5.35	5.28	5.21	-3.24%
Walk	5.51	5.46	5.35	5.25	-4.77%

* Female 30-44 with partner, children and mean income

All modes	0.01403**
Drive	0.01808**
Bus	-0.00196
Rail	0.05560**
Cycle	0.02540
Walk	-0.02825

All modes	0.01627**
Drive	0.03302***
Bus	0.04065
Rail	-0.05068*
Cycle	0.08663**
Walk	0.01169

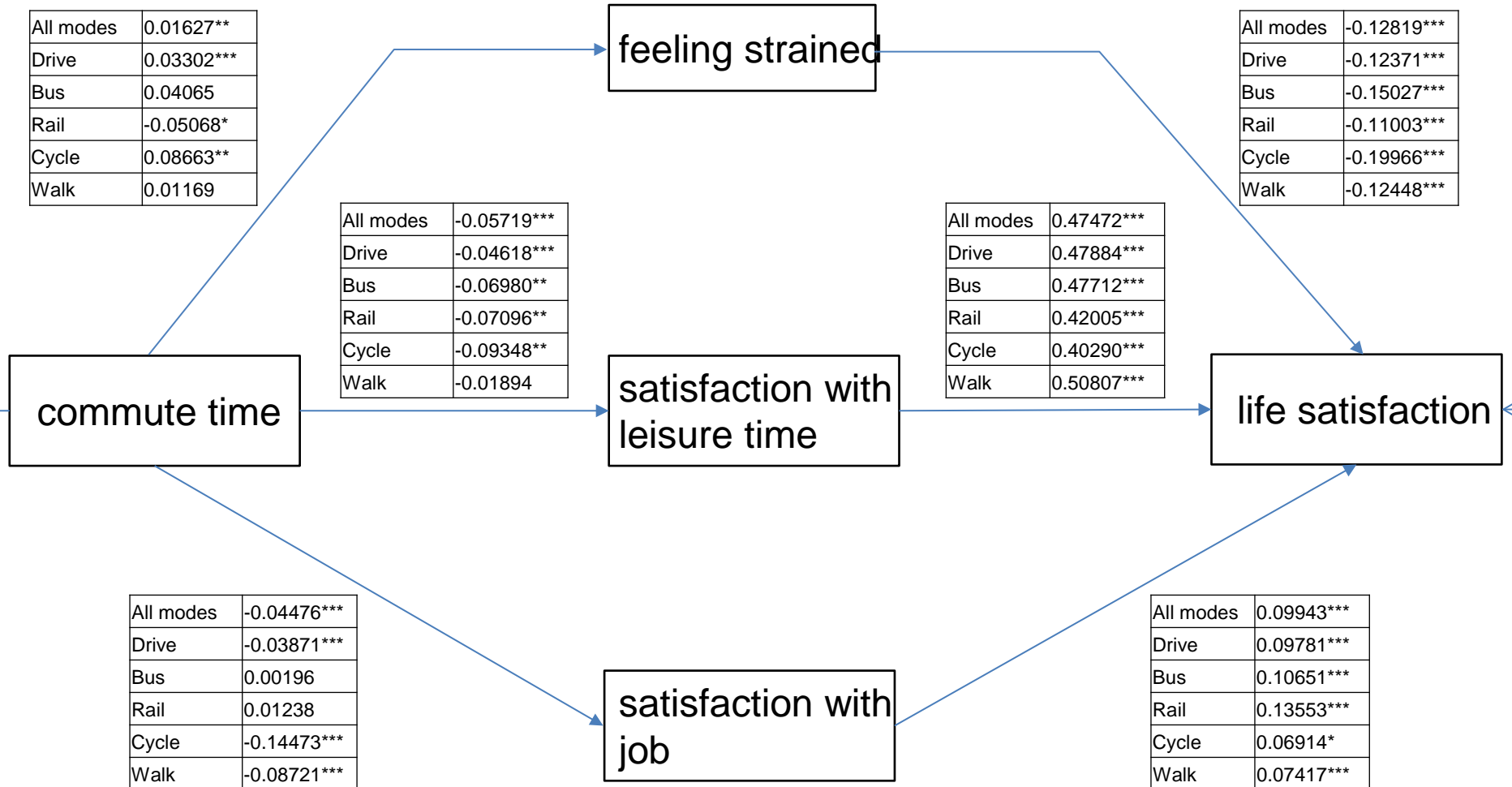
All modes	-0.05719***
Drive	-0.04618***
Bus	-0.06980**
Rail	-0.07096**
Cycle	-0.09348**
Walk	-0.01894

All modes	0.47472***
Drive	0.47884***
Bus	0.47712***
Rail	0.42005***
Cycle	0.40290***
Walk	0.50807***

All modes	-0.12819***
Drive	-0.12371***
Bus	-0.15027***
Rail	-0.11003***
Cycle	-0.19966***
Walk	-0.12448***

All modes	-0.04476***
Drive	-0.03871***
Bus	0.00196
Rail	0.01238
Cycle	-0.14473***
Walk	-0.08721***

All modes	0.09943***
Drive	0.09781***
Bus	0.10651***
Rail	0.13553***
Cycle	0.06914*
Walk	0.07417***



Mode	Percentage using mode			Mean one-way commute time (mins)		
	Full sample	Males	Females	Full sample	Males	Females
Drive	58	60	56	24	27	22
Lift from household member	4	2	5	18	20	17
Lift from someone else	2	2	2	25	28	22
Motorcycle	1	1	0	23	24	17
Taxi	0	0	0	17	23	16
Bus/coach	6	5	7	40	42	38
Train	5	6	4	66	69	62
Metro	3	3	2	52	52	52
Cycle	3	5	2	21	21	18
Walk	11	8	14	16	16	15
Work from home	7	7	6	0	0	0
Other	1	1	1	31	34	25
Total	100	100	100	27	30	24

Population weighted estimates based on combined Understanding Society General Population, BHPS and Ethnic Minority boost sample members living in England.

n=21,566

Measures

Commuting

Commute time

About how much time does it usually take for you to get to work each day, door to door (in minutes)?

Commute mode

And how do you usually get to your place of work?

Subjective wellbeing

Life satisfaction

How dissatisfied or satisfied are you with your life overall?

Strain

Have you recently felt constantly under strain?

Sat with leisure time availability

How dissatisfied or satisfied are you with the amount of leisure time you have?

Job satisfaction

How satisfied or dissatisfied you are with your present job overall?

Measures

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Model development

- Control for confounding factors (age, gender, education...), but not compensators for commuting (income, high status job)
 - Is the relationship still negative?
 - If yes, this implies dis-benefits of commute journey outweigh compensators
- Then control for compensators (income, high status job)
 - This should increase the negative component of commute time relationship
 - Since underlying positive component teased out

Life satisfaction: Trade offs

