

How Commuting Affects Subjective Wellbeing

Ben Clark & Kiron Chatterjee

Outline

1. The UK Commuting & Wellbeing study context
2. Findings 1: Impact on domains of wellbeing
3. Findings 2: Impact on life satisfaction
4. Implications



Wellbeing

Subjective wellbeing (SWB) - an individual's evaluation of how well their life is going

"Good mental states, including all of the various evaluations, positive and negative, that people make of their lives, and the affective reactions of people to their experiences"

OECD Definition

Commuting – potential impacts

Pre-COVID (UK):

- The journey to and from work is a routine activity
 - Undertaken on 160 days on average by full-time workers
 - Consumes one hour a day on average (two hours for 1 in 7)
- The commute may be stressful/relaxing, it may be wasted/productive
- But there are good reasons for doing it
- How do the benefits balance against the drawbacks?

The study & team

- ESRC Secondary Data Analysis Initiative project (Feb 16 – July 17)
- Researchers at UWE Bristol – Kiron Chatterjee, Ben Clark, Adrian Davis and Deirdre Toher
- Researcher at University of Leeds - Adam Martin
- Project partners
 - UK Department for Transport
 - UK Department of Health
 - UK Department of Communities and Local Government
 - UK What Works Centre for Wellbeing

Research questions

1. What specific aspects of wellbeing are affected by commuting?
2. What does this mean for overall life satisfaction?

Panel data set

- Understanding Society
 - Members of 40,000 households surveyed every year since 2009/10
- Analysis sample
 - Workers living in England (n~26,000)
 - Up to six completed interviews from 2009/10 to 2014/15



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.](#)

Measures

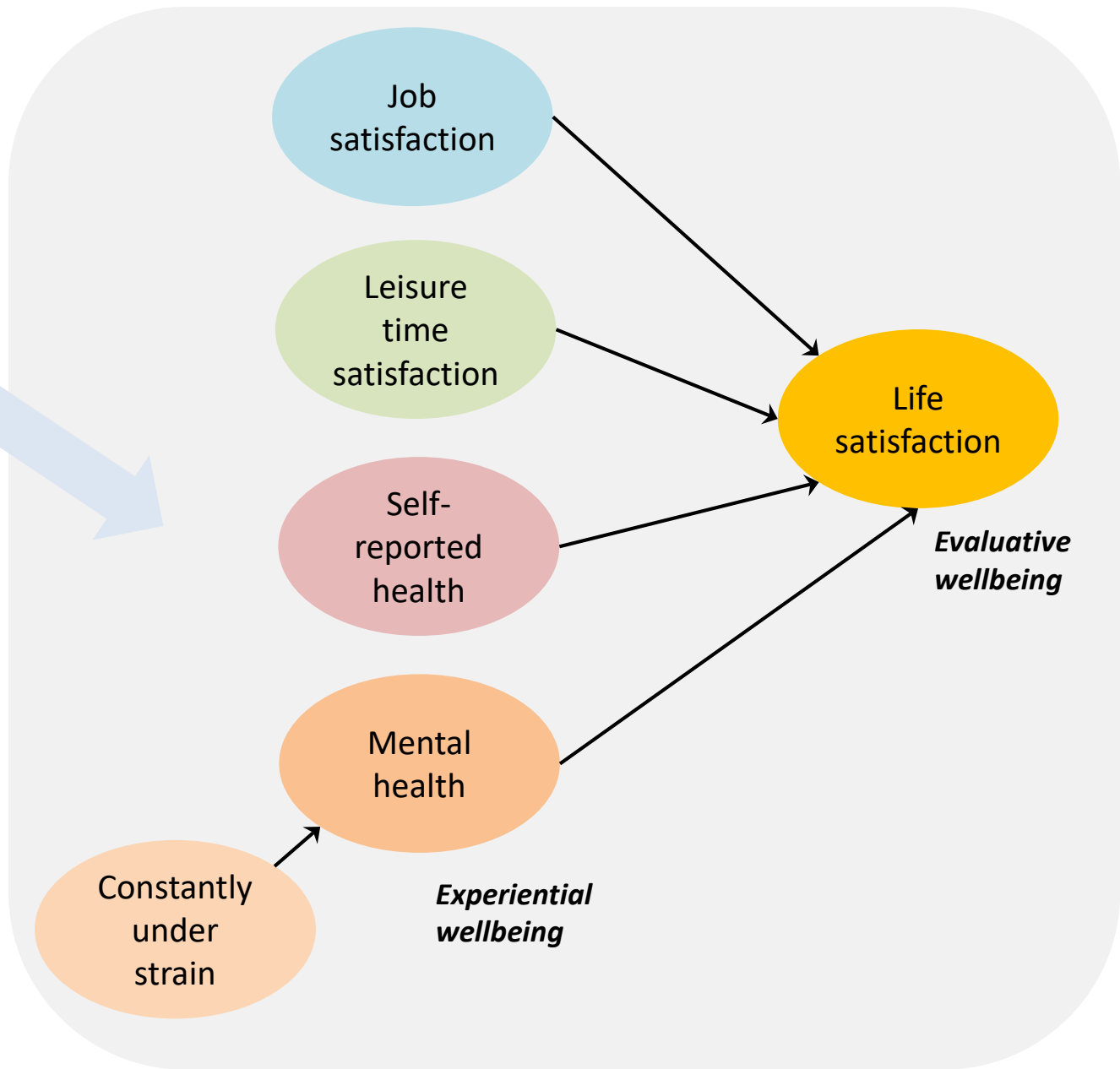
Commuting

Commute duration	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?

Personal wellbeing

Life satisfaction	How dissatisfied or satisfied are you with your life overall?
Job satisfaction	How satisfied or dissatisfied you are with your present job overall?
Leisure time satisfaction	How dissatisfied or satisfied are you with the amount of leisure time you have?
Self reported health	In general would you say your health is [good to poor]?
Mental health	Based on the General Health Questionnaire scale
Strain	Have you recently felt constantly under strain?

Commuting



Job satisfaction

Leisure time satisfaction

Self-reported health

Mental health

Constantly under strain

Life satisfaction

Evaluative wellbeing

Experiential wellbeing

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Domains of wellbeing

1. Job satisfaction
2. Leisure time satisfaction
3. Strain

Sample characteristics (wave 1)

	Percentage using mode	Mean one-way commute time (mins)
Drive	54	24
Lift from household member	4	19
Lift from someone else	2	25
Motorcycle	1	26
Taxi	0	20
Bus/coach	8	38
Train	5	62
Metro	4	50
Cycle	3	20
Walk	11	14
Work from home	8	0
Total	100	27

Analytical approach

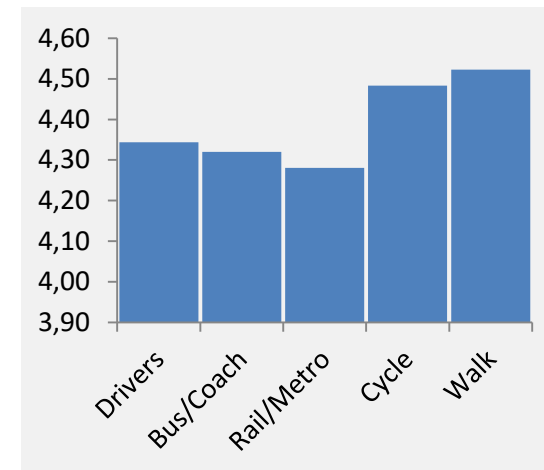
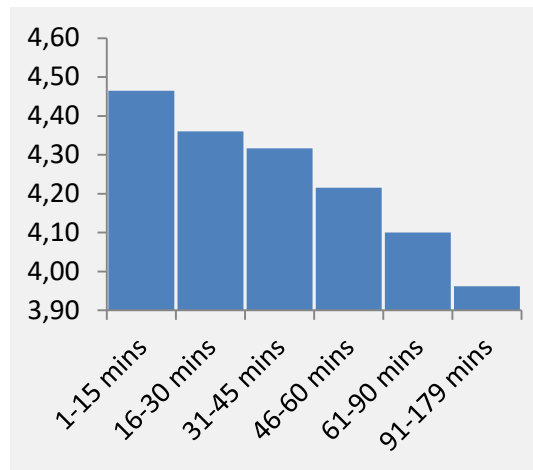
Identification of associations between commuting and wellbeing measure

1. Bar charts (indicate shape of relationship)

- How does wellbeing vary with commuting time and mode?

2. Regression models

- How does wellbeing vary with commuting time and mode **after accounting for other factors**



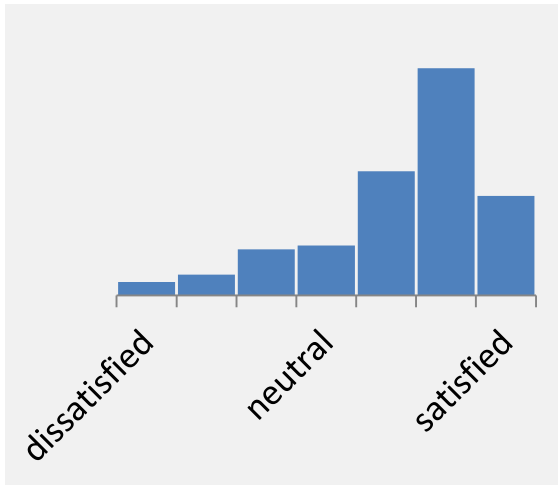
Between vs within person difference

Advantages of panel data:

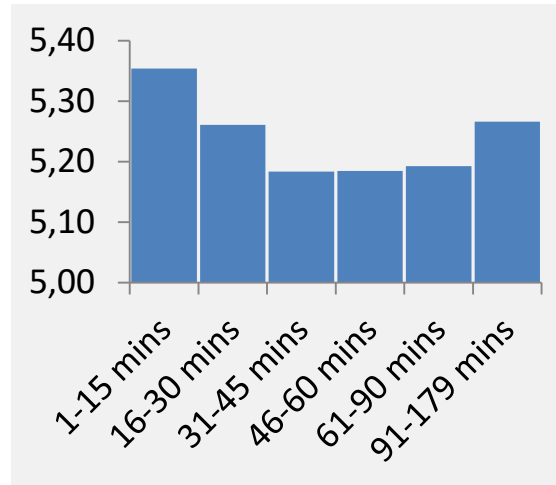
- Sample includes ~26,000 employed people
 - Examine variation in wellbeing scores *between individuals*
- Sample includes up to 6 observations - over 6 time points - for each individual
 - Examine variation in wellbeing scores *within individuals* over 6 observations
 - Eliminates spurious *between individual* associations arising from possible unobserved personal characteristics
- **Greater weight placed on evidence of 'within individual' association**

✓✓✓	✓✓	✓
Very Confident	Confident	Tentative
within individual (99%)	Within individual (95%)	Between individual (95%)

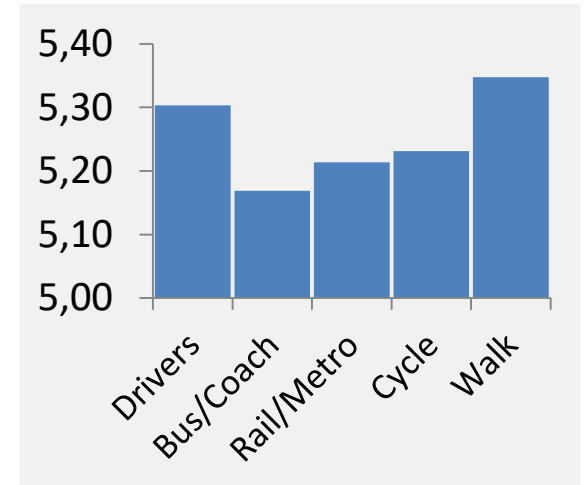
How dissatisfied or satisfied are you with your job?



78% mostly to completely satisfied



declines with commute time



higher for drivers and walkers

Commute time and job satisfaction

Insight

Confidence

Longer commute times reduce job satisfaction
(larger effect for bus commutes)



gender

larger effect
for women



age

does not apply to
16-29 year olds



income

larger effect
for higher earners



Very Confident

within individual (99%)



Confident

Within individual (95%)



Tentative

Between individual (95%)

Magnitude of effect

Sensitivity of commute time relative to personal income

On average, the effect on **job satisfaction** of a 10 minute increase in one-way commute time is equivalent to:

a 19% decrease in gross monthly personal income

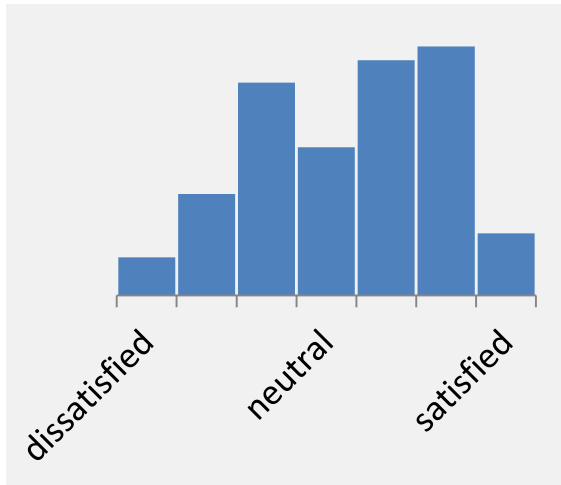


Effect of commute mode / WFH

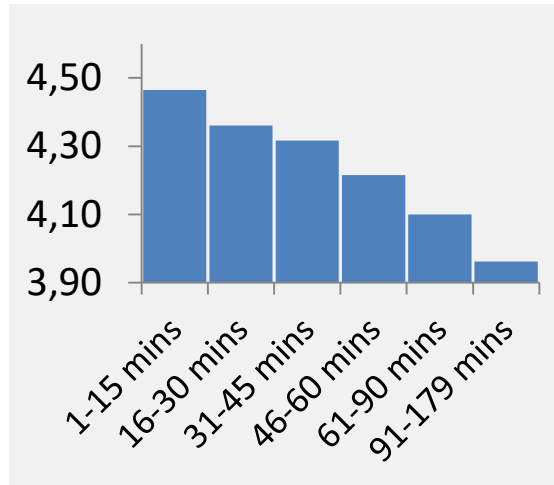
Insight	Confidence
Working from home increases job satisfaction	✓✓✓
Walking is associated with higher job satisfaction	✓

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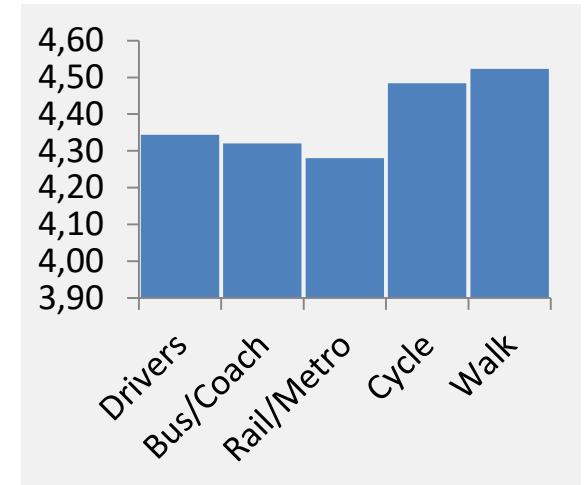
How dissatisfied or satisfied are you with the amount of leisure time you have?



Evenly spread:
52% reported being satisfied with leisure time availability



A clear downward trend as commute time increases



higher for cyclists and walkers

Commute time and leisure time sat.

Insight

Confidence

Longer commute times reduce leisure time sat.

✓✓✓



gender

no different
(but women
have lower
scores)



age

no different



income

smaller effect for
mid-income earners

✓✓✓

Very Confident

within individual (99%)

✓✓

Confident

Within individual (95%)

✓

Tentative

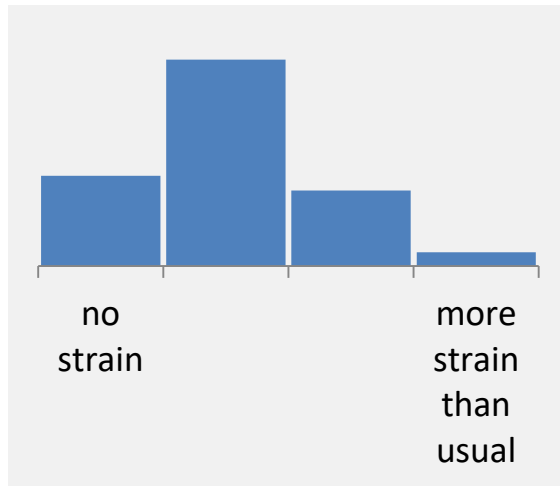
Between individual (95%)

Effect of commute mode / WFH

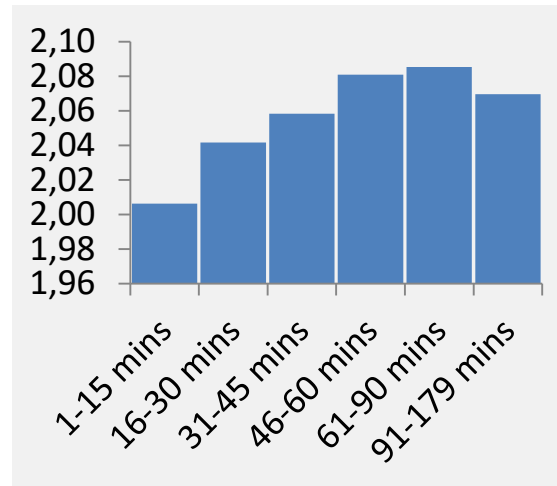
Insight	Confidence
WFH increases leisure time sat.	✓✓✓
Walking increases leisure time sat.	✓✓

✓✓✓	✓✓	✓
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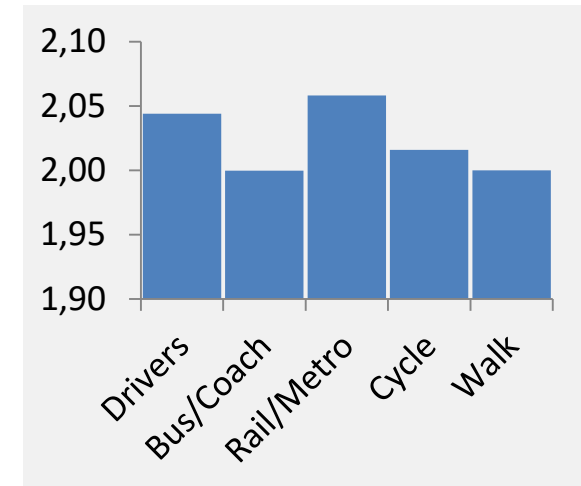
Have you recently felt constantly under strain?



77% of responses -
'no strain' or 'no more
strain than usual'



increases with
commute time



higher for drivers and
rail users

Commute time and strain

Insight

Confidence

Longer commute times increase strain (larger effect for men)



gender

Larger effect for men
(but women have higher scores)



age

no different



income

no different



Very Confident

within individual (99%)



Confident

Within individual (95%)



Tentative

Between individual (95%)

Effect of commute mode / WFH

Insight

Confidence

Walking to work reduces strain

✓✓✓

✓✓✓

Very Confident

within individual (99%)

✓✓

Confident

Within individual (95%)

✓

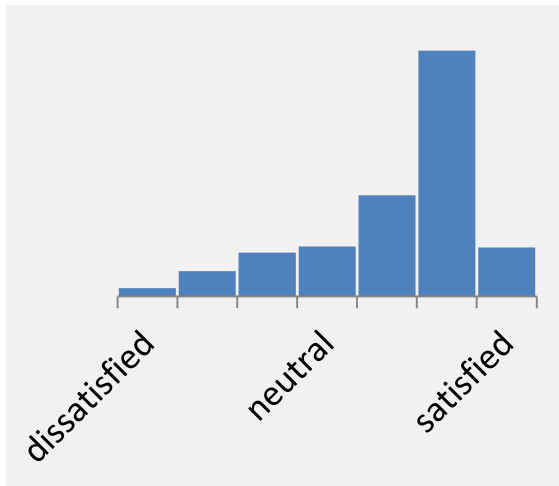
Tentative

Between individual (95%)

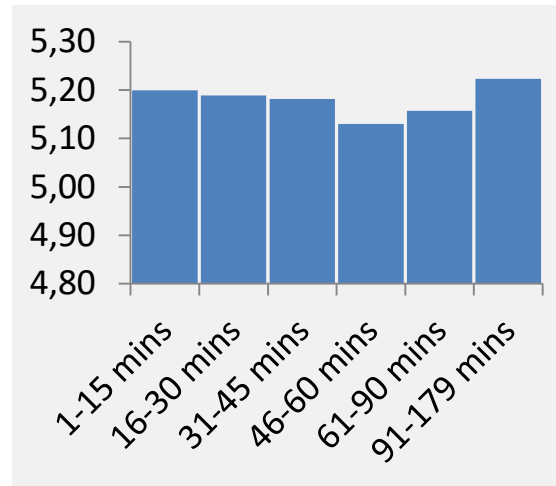
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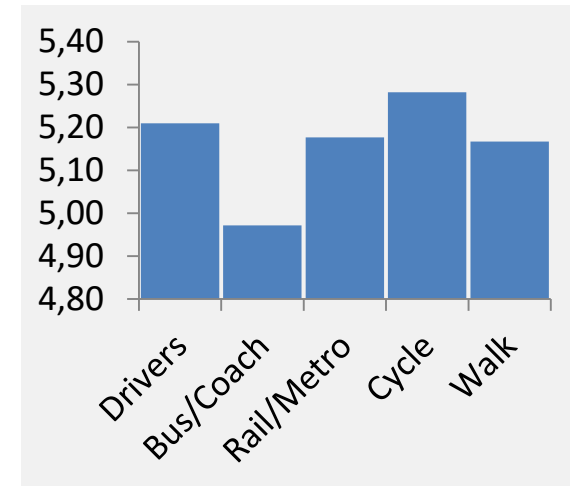
How dissatisfied or satisfied are you with your life overall?



Three quarters reported being somewhat to completely satisfied



Decreases *slightly* as commute duration increases



Scores are lowest amongst bus users. Cyclists have the highest scores

Major determinants of life satisfaction



Effect of time spent commuting

Insight

Confidence

Longer commute times are associated with lower life satisfaction



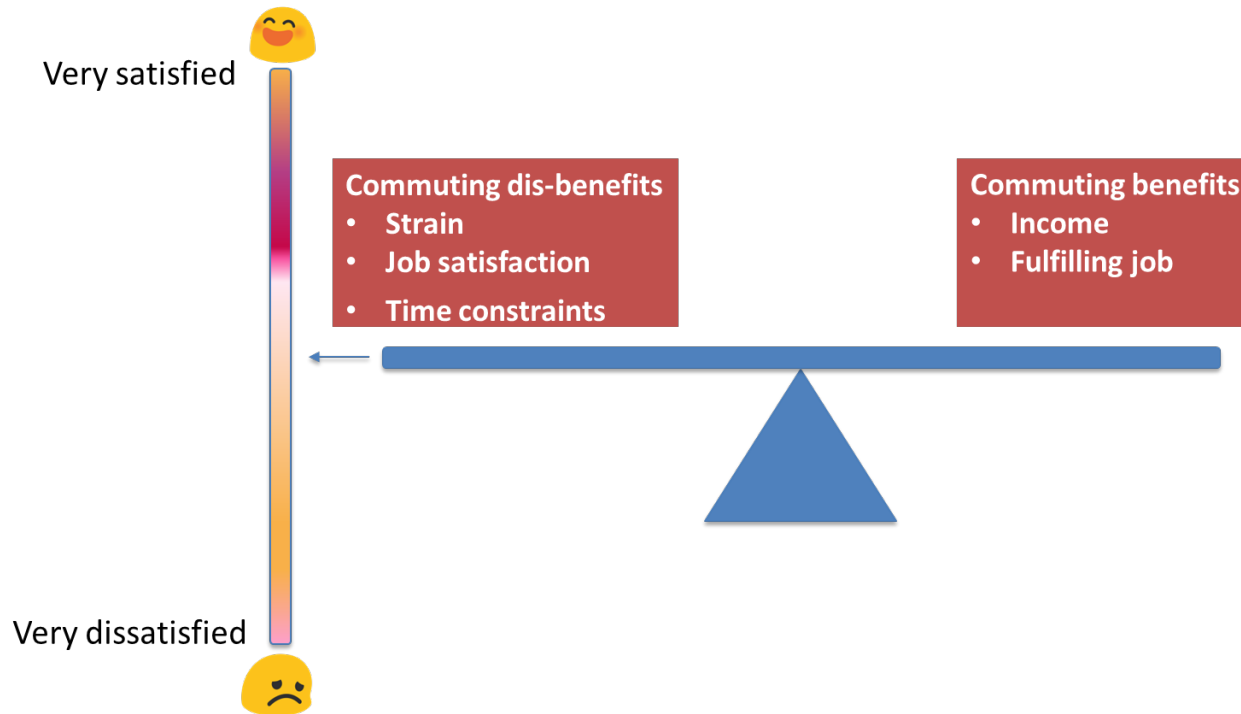
A 'between individual' association only

- Comparing individuals, longer commutes are associated with lower life satisfaction
- But we did not find that life satisfaction scores reduce for individuals when their commute time increases

✓✓✓	✓✓	✓
Very Confident	Confident	Tentative
within individual (99%)	Within individual (95%)	Between individual (95%)

Life satisfaction: Conclusion

People are generally successful in trading-off the drawbacks of a longer commute journey against the benefits that they bring



Key Insights

Benefits of shorter commute times:

- Increase job satisfaction
- Increase leisure time satisfaction
- Reduce strain
- Indirectly contribute to a more satisfying life (if benefits of commuting can be maintained)

Benefits of active commuting

- **Walking**
 - Increase leisure time satisfaction
 - Decreases strain
 - Increases job satisfaction

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Our suggestions

1. Facilitate changes in the system to encourage positive commutes:
 - i. Spatial planning: The “15 minute city”
 - ii. Investment in transport infrastructure & services
 - iii. Employers: Travel plans linked to ‘wellbeing at work’ policies
 - iv. One-to-one ‘commuting planning’ for employees

2. Communicate ‘positive commutes’
 - i. To employers
 - ii. To employees

Your suggestions?

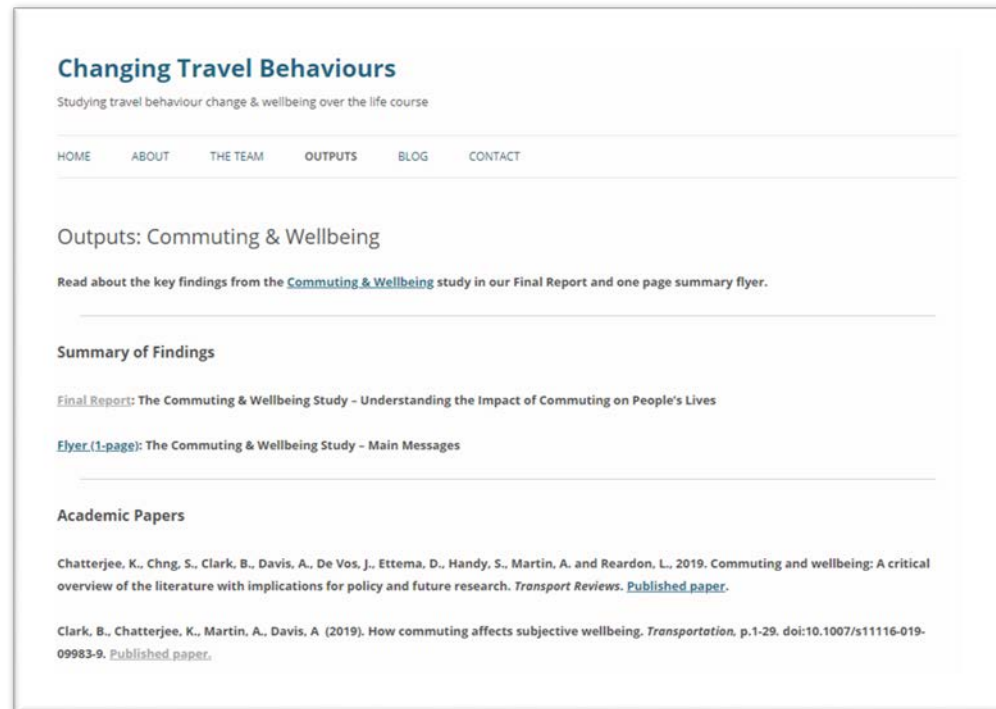
For evidence summaries, papers and policy briefings:

<https://travelbehaviour.com/outputs-commuting-wellbeing/>

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Changing Travel Behaviours
Studying travel behaviour change & wellbeing over the life course

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Outputs: Commuting & Wellbeing

Read about the key findings from the [Commuting & Wellbeing](#) study in our Final Report and one page summary flyer.

Summary of Findings

[Final Report](#): The Commuting & Wellbeing Study - Understanding the Impact of Commuting on People's Lives

[Flyer \(1-page\)](#): The Commuting & Wellbeing Study - Main Messages

Academic Papers

Chatterjee, K., Chng, S., Clark, B., Davis, A., De Vos, J., Ettema, D., Handy, S., Martin, A. and Reardon, L., 2019. Commuting and wellbeing: A critical overview of the literature with implications for policy and future research. *Transport Reviews*. [Published paper](#).

Clark, B., Chatterjee, K., Martin, A., Davis, A. (2019). How commuting affects subjective wellbeing. *Transportation*, p.1-29. doi:10.1007/s11116-019-09983-9. [Published paper](#).