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Exploring the Positive Utility of Travel and Mode Choice

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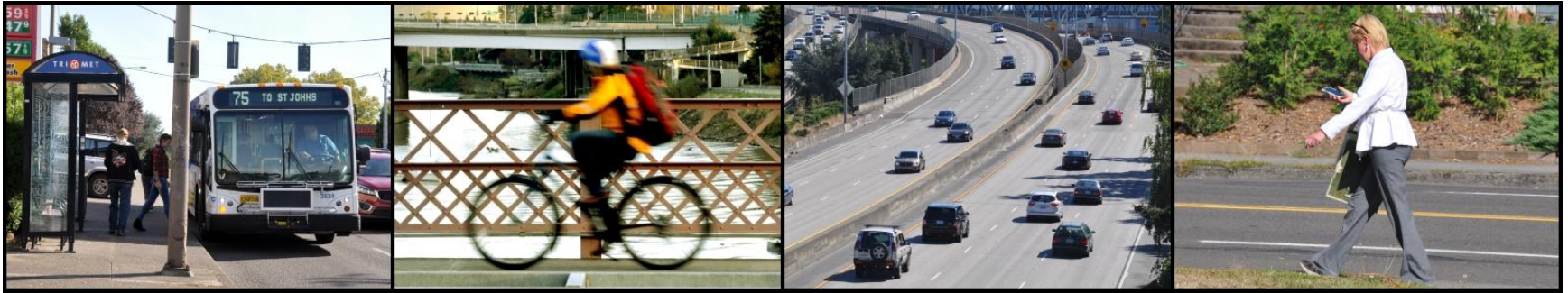
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Exploring the positive utility of travel and mode choice

Patrick A. Singleton
Portland State University

TREC Friday Transportation Seminar
24 February 2017

Positive utility of travel



- Research questions
- Background
- Study design & data
- Results
- Implications



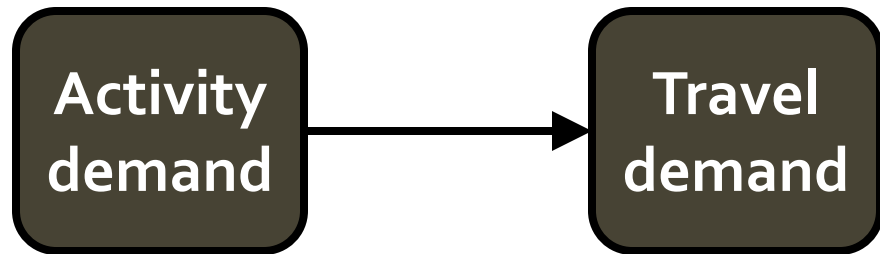
Research questions

- A. What is the positive utility of travel (PUT)?**
 - Literature review, synthesis, critique

- B. How do we measure PUT?**
 - Original survey data collection

- C. What factors are associated with PUT?**
 - Results for mode of transportation

Background

 **Travel as a disutility**

Economics:
associated with
outcome of preference-
satisfying decision



Psychology:
pleasure, happiness,
fulfillment, and
subjective well-being

Motivations { Extrinsic (instrumental) vs. intrinsic (autotelic)
Hedonic (affective) vs. eudaimonic (symbolic)

The positive utility of travel (PUT) includes...
*any benefits accrued to the traveler
through the act of traveling.*

Mokhtarian & Salomon's (2001) "affinity for travel"

1. The activities conducted at the destination.
2. The activities that can be conducted while traveling.
3. The activity of traveling itself.

Mokhtarian, P. L., & Salomon, I. (2001). How derived is the demand for travel? Some conceptual and measurement considerations. *Transportation Research Part A: Policy and Practice*, 35(8), 695-719. [http://dx.doi.org/10.1016/S0965-8564\(00\)00013-6](http://dx.doi.org/10.1016/S0965-8564(00)00013-6)

Destination activities

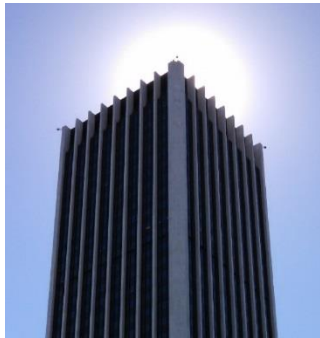
“The activities conducted at the destination.” (MS, 2001)

Definition: *Benefits from reaching a destination with activity potential.*

Travel as... A means to a productive end: going somewhere.

Motivations: Extrinsic, instrumental.

Examples:



<https://www.flickr.com/photos/scottdavies/5671889074/>



<https://www.flickr.com/photos/krawcowicz/4279213591/>

Travel activities

“The activities that can be conducted while traveling.” (MS, 2001)

Definition: *Benefits from activity participation during travel.*

Travel as... The setting for other activities.

Motivations: Extrinsic, instrumental.

Examples:



<https://www.flickr.com/photos/giuseppemilo/15734343208/>



<https://www.flickr.com/photos/ai-dealer/4616142327/>



Travel experiences

“The activity of traveling itself.” (MS, 2001)

Definition:	<i>Affective enjoyment of the travel experience.</i>	<i>Symbolic expression or fulfillment from the travel experience.</i>	<i>Travel as the activity.</i>
Travel as...	The setting for experiences.	A means to a fulfilling end.	An end in and of itself.
Motivations:	Intrinsic, autotelic.		
	Hedonic, affective.	Eudaimonic, symbolic.	

Examples:



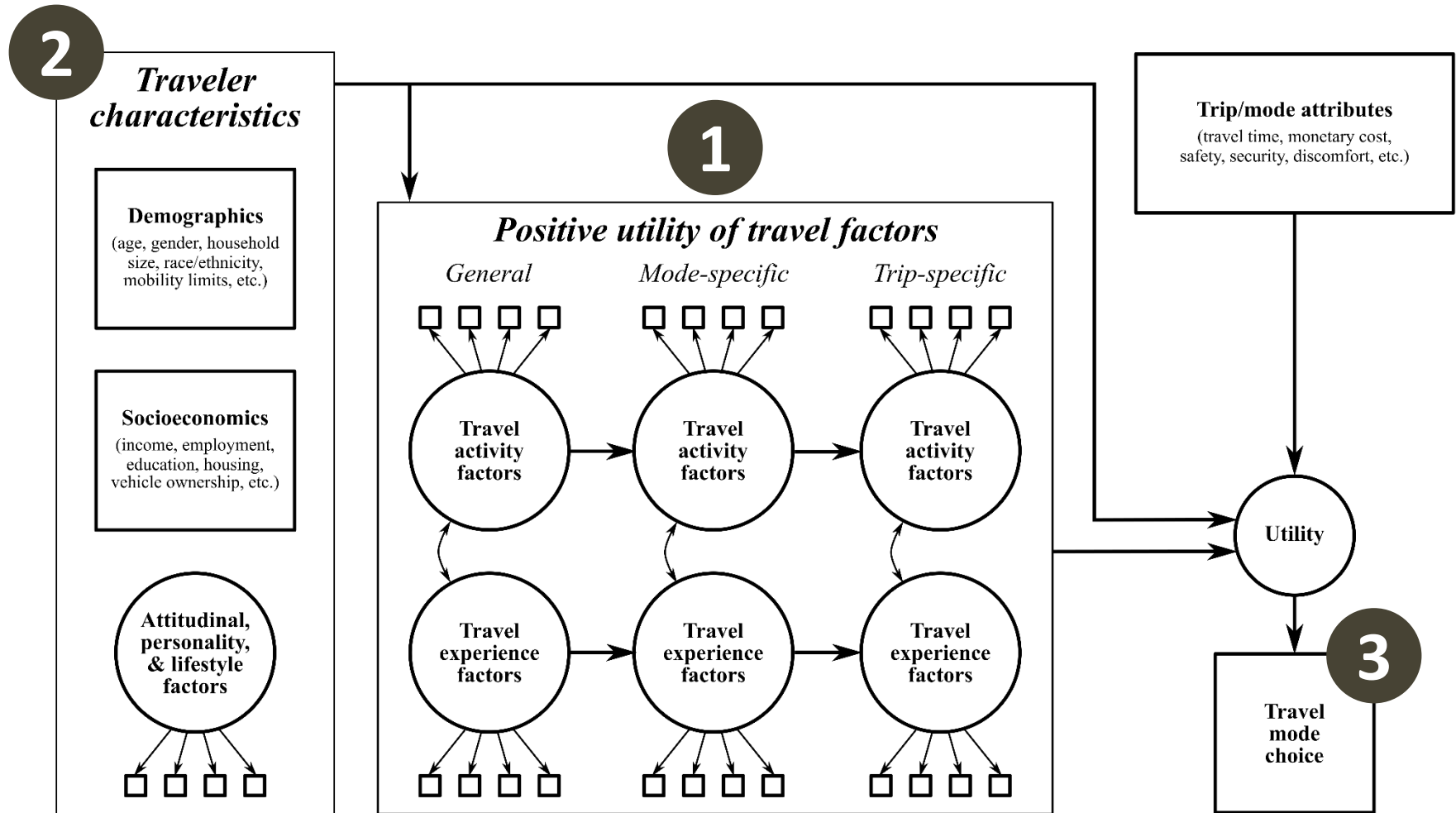
<https://www.flickr.com/photos/divinedecay/5225460351/>



<https://www.flickr.com/photos/aerialcamera/10238940444/>



Study



Home-
to-work
trips



Commuting Survey 2016

Welcome!

You are invited to participate in a Portland State University research survey about your commuting experiences. The information you provide will be analyzed to better understand transportation and commuting behaviors.

The survey will take about 30 minutes to complete. If you complete the survey, you will have the opportunity to enter a drawing to win one of ten \$100 Visa gift cards.

Click here to take the survey now!

https://portlandstate.qualtrics.com//SE/?SID=SV_3t2rJXyc3zavf

≈ 30 minutes

ten \$100
gift cards

Survey dates: **October 17, 2016 – December 16, 2016**

**Commute trips
by mode, &
mode shares
(N = 690)**



371

49%



175

30%



114

16%



30

4%

2015 ACS (1-year):

Portland urban area

83%

8%

3%

4%

Portland city

70%

14%

8%

6%

- Can we measure a positive utility of travel?



- Yes, in various ways:

- Travel-based multitasking
- Travel experiences & well-being

- What factors are associated with PUT?

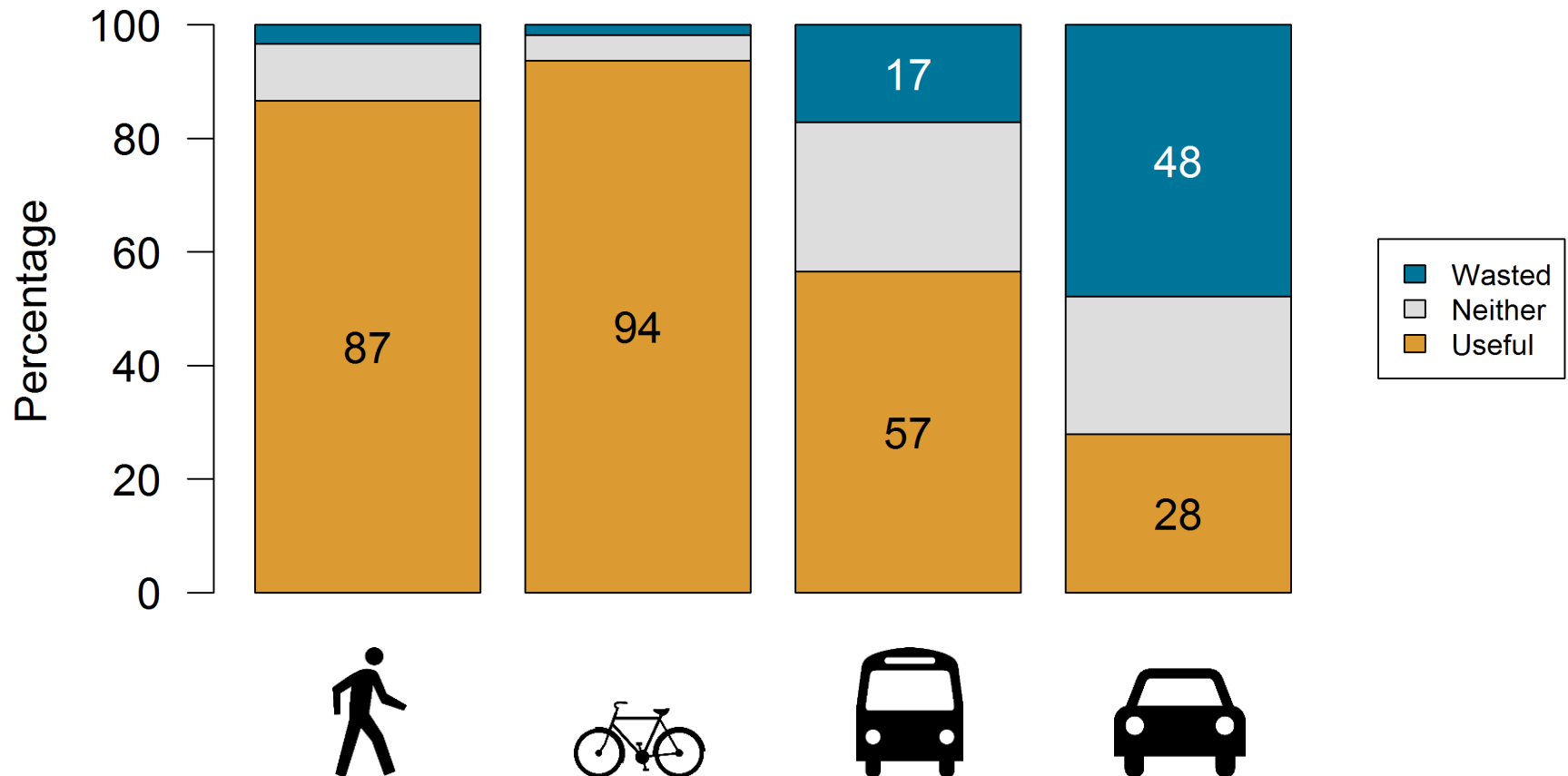


- Commute mode

- Walking and cycling commutes are more positive
- Transit and auto commutes are less positive

Travel multitasking

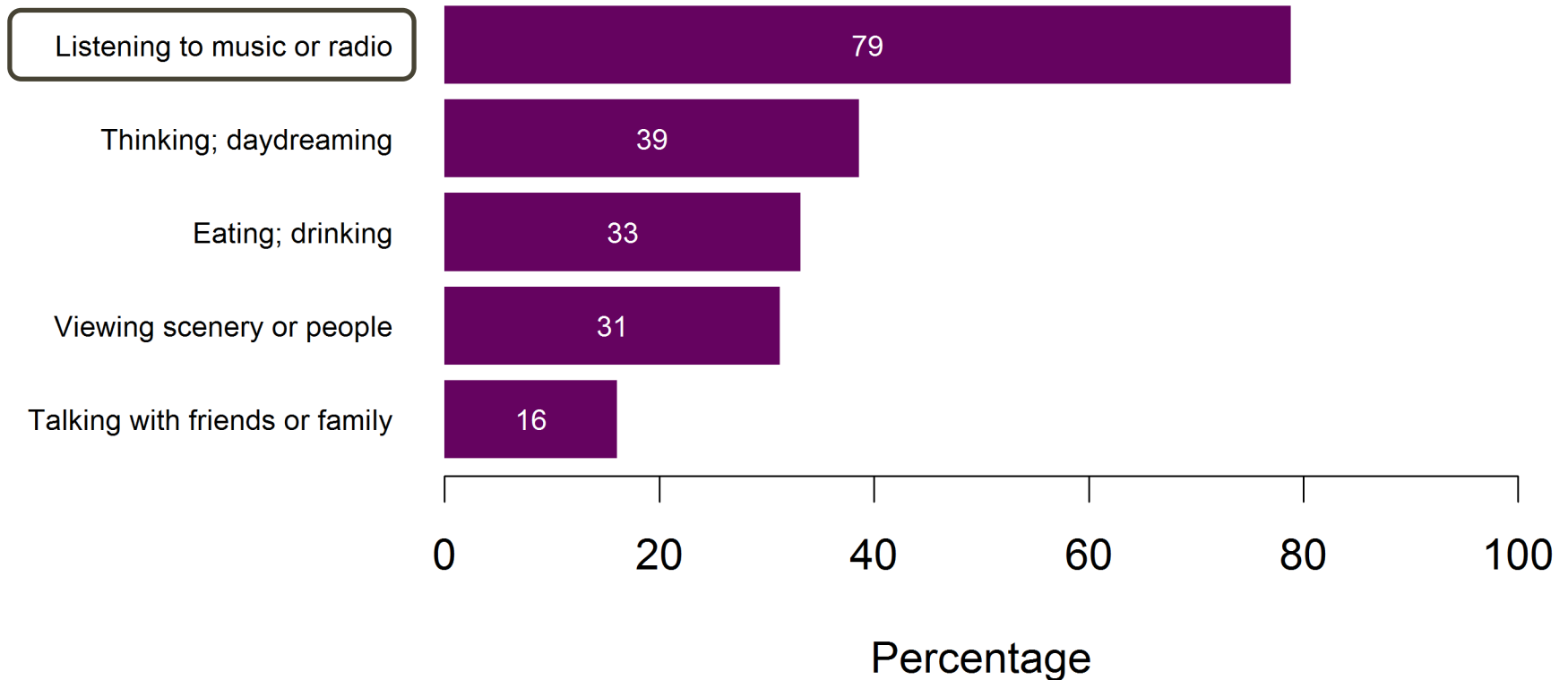
Travel usefulness





Travel multitasking

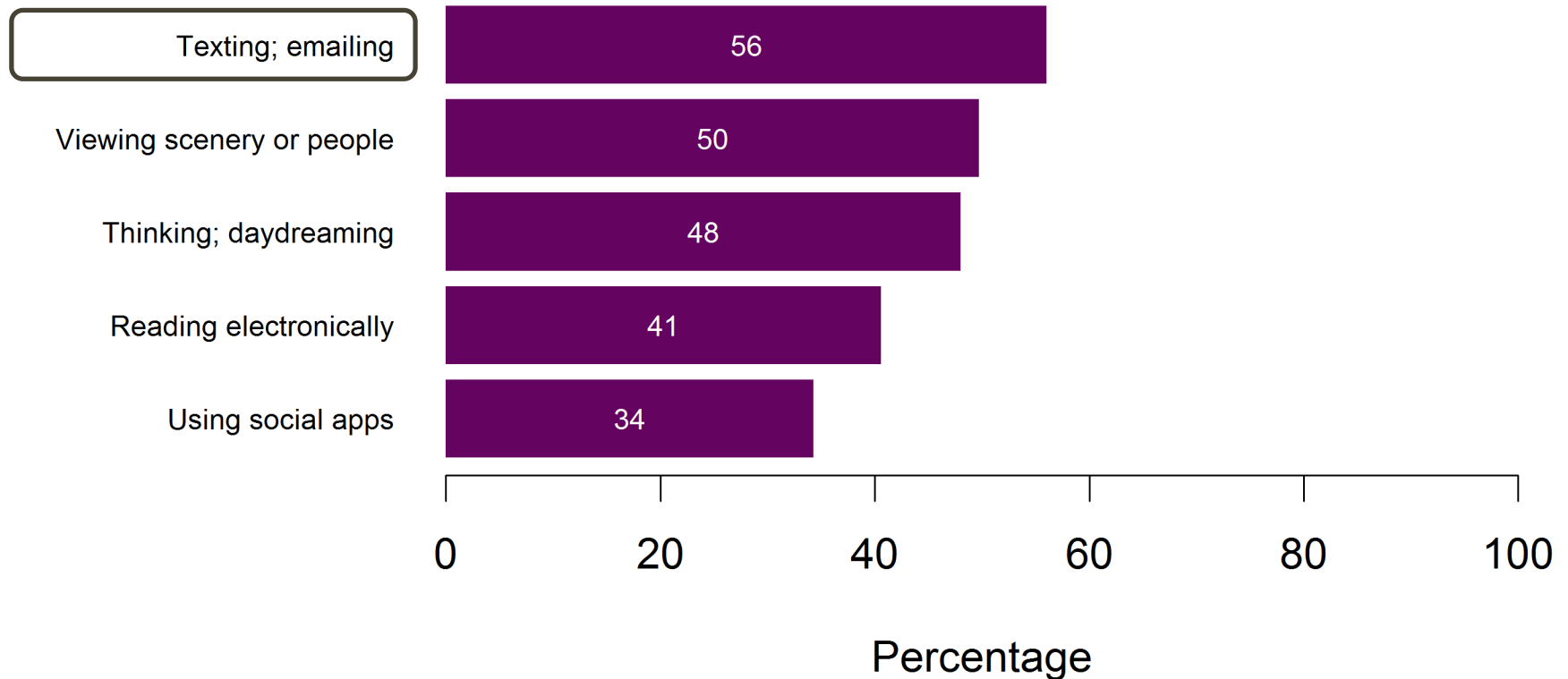
Activities during travel (Automobile)





Travel multitasking

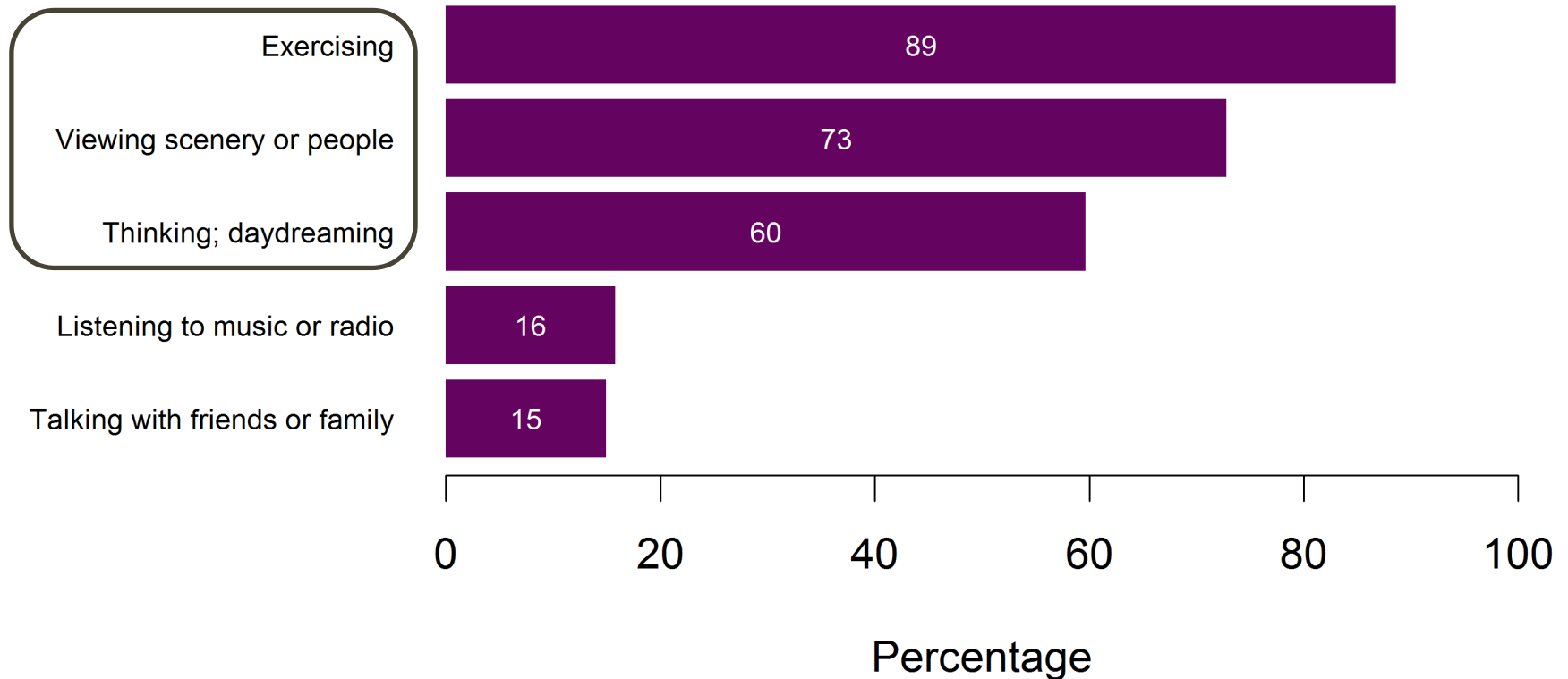
Activities during travel (Transit)





Travel multitasking

Activities during travel (Bicycling)



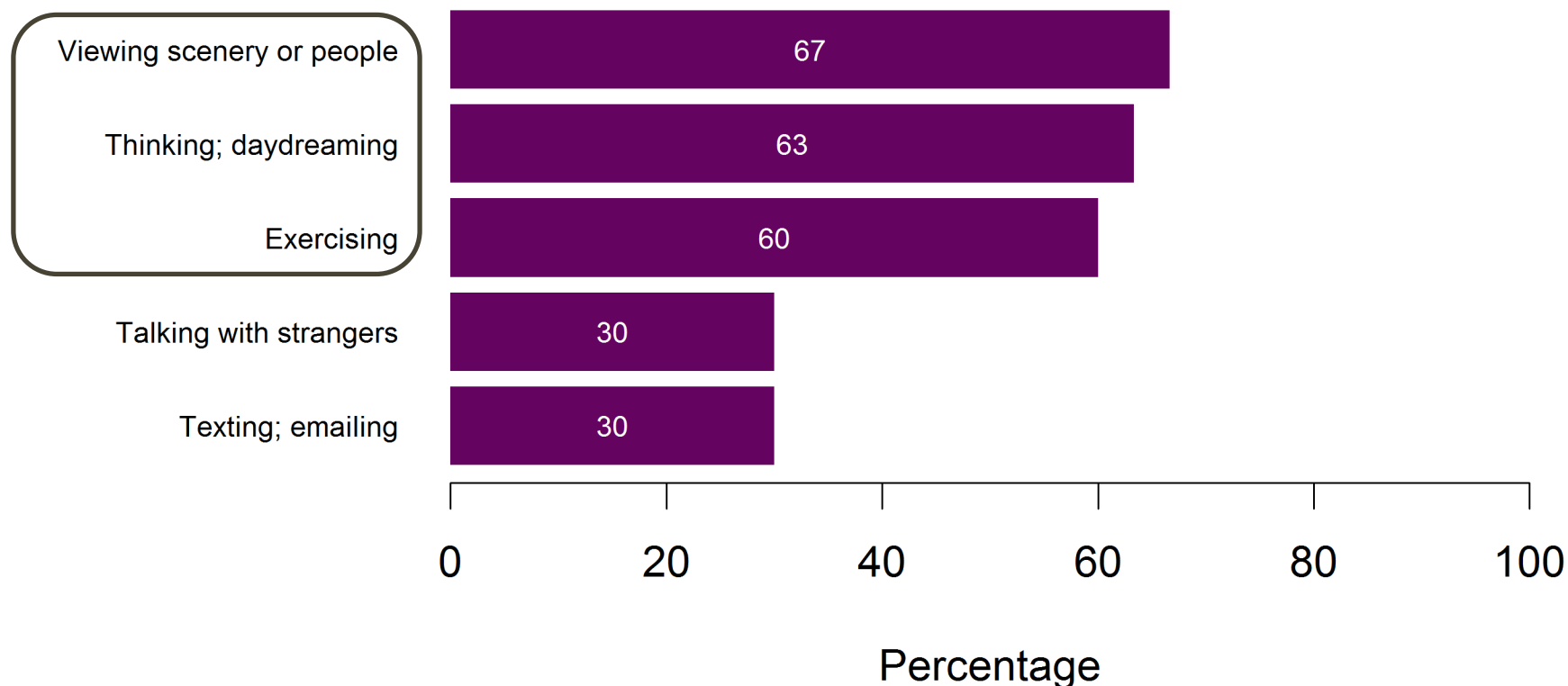


Travel multitasking

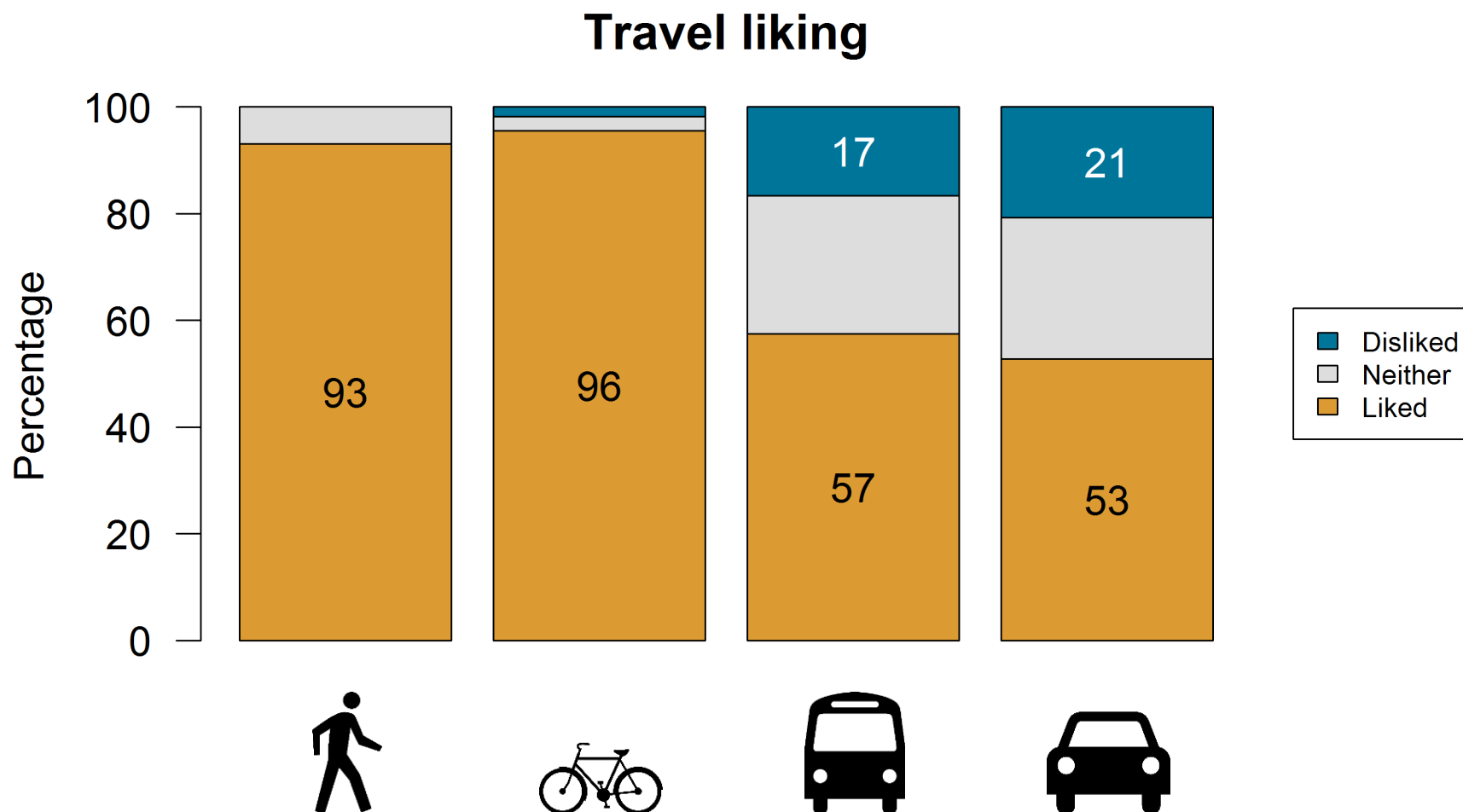


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Activities during travel (Walking)



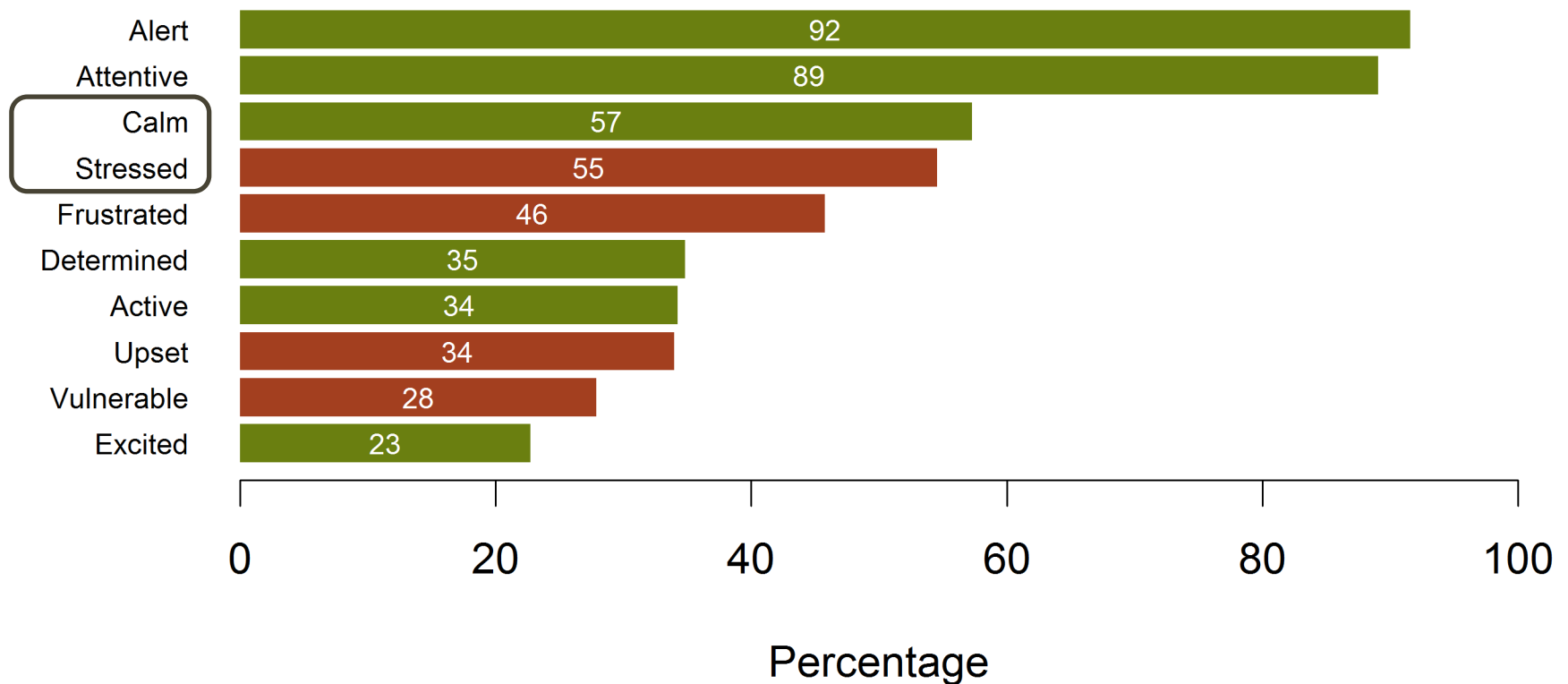
Travel experiences





Travel experiences

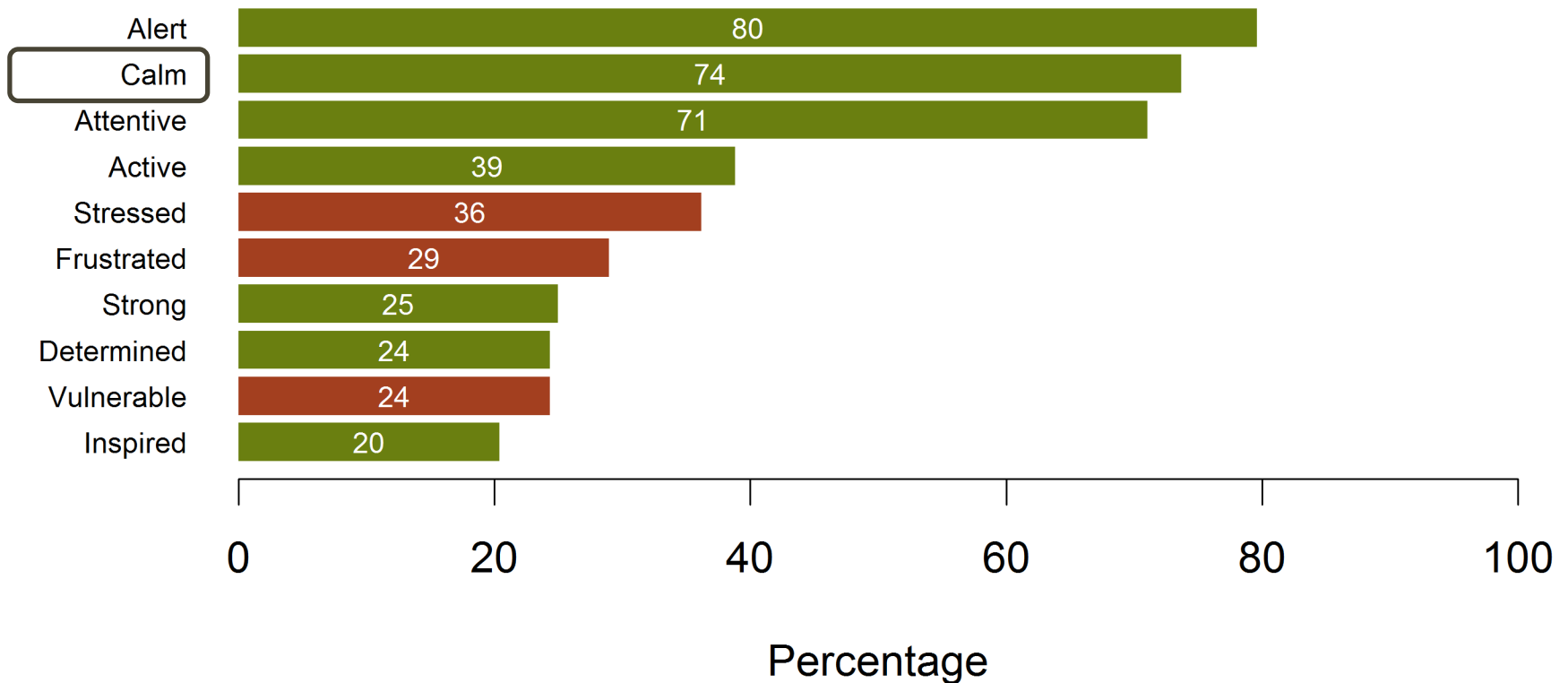
Travel affect (Automobile)





Travel experiences

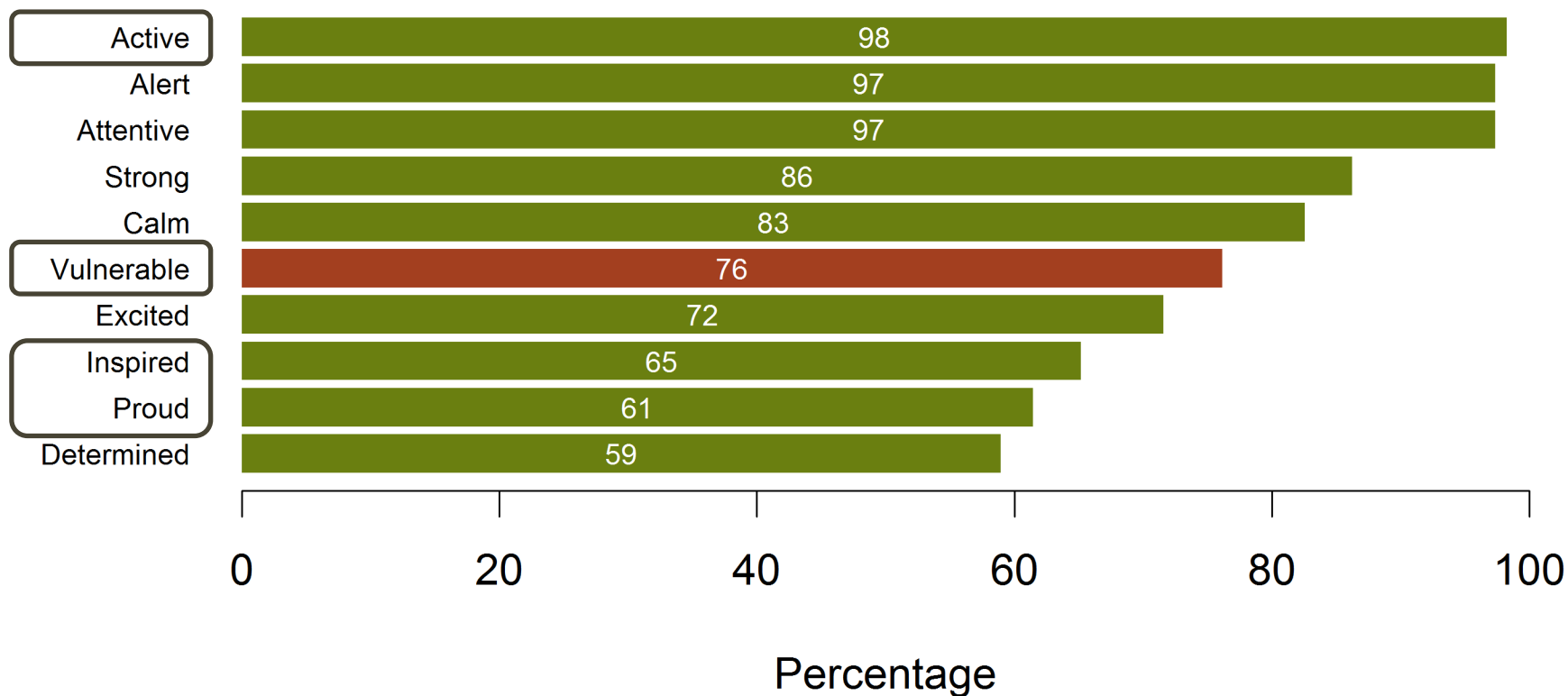
Travel affect (Transit)





Travel experiences

Travel affect (Bicycling)



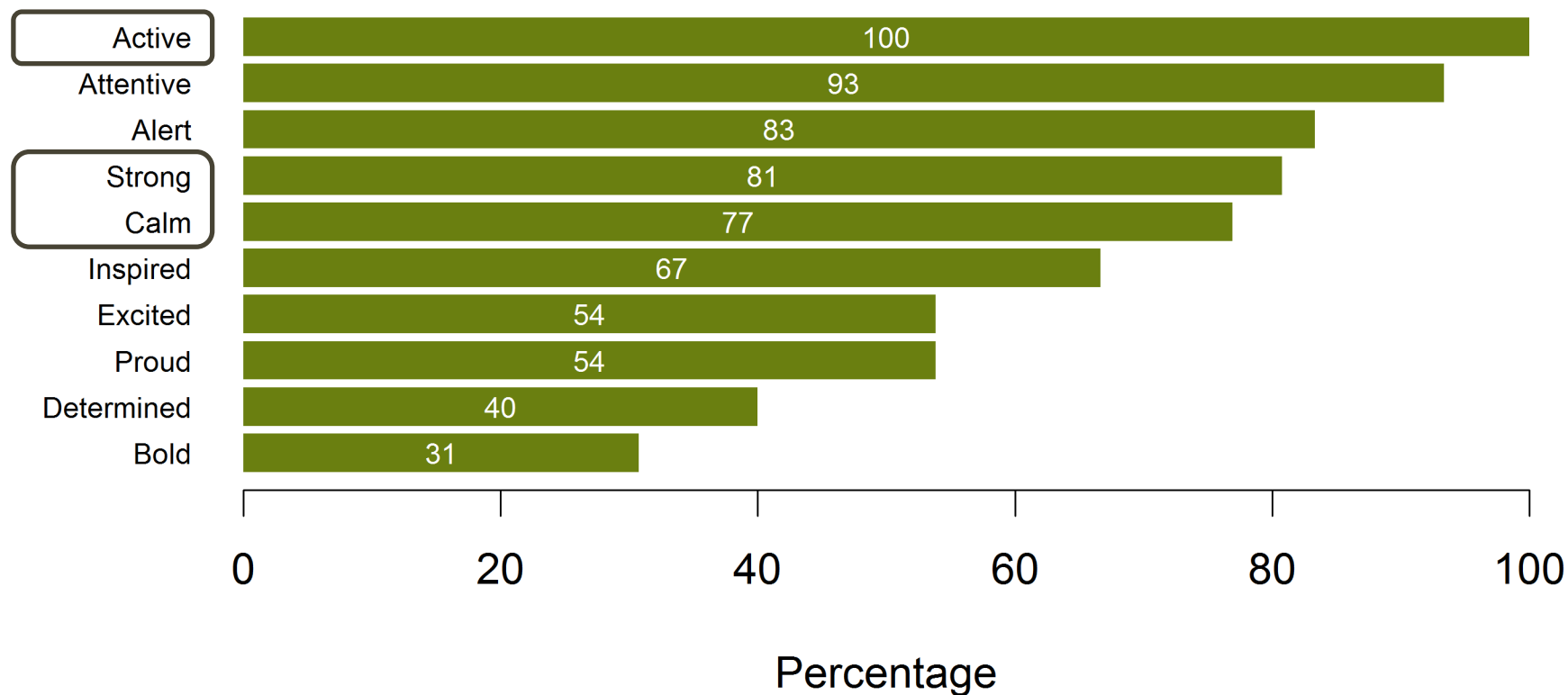


Travel experiences



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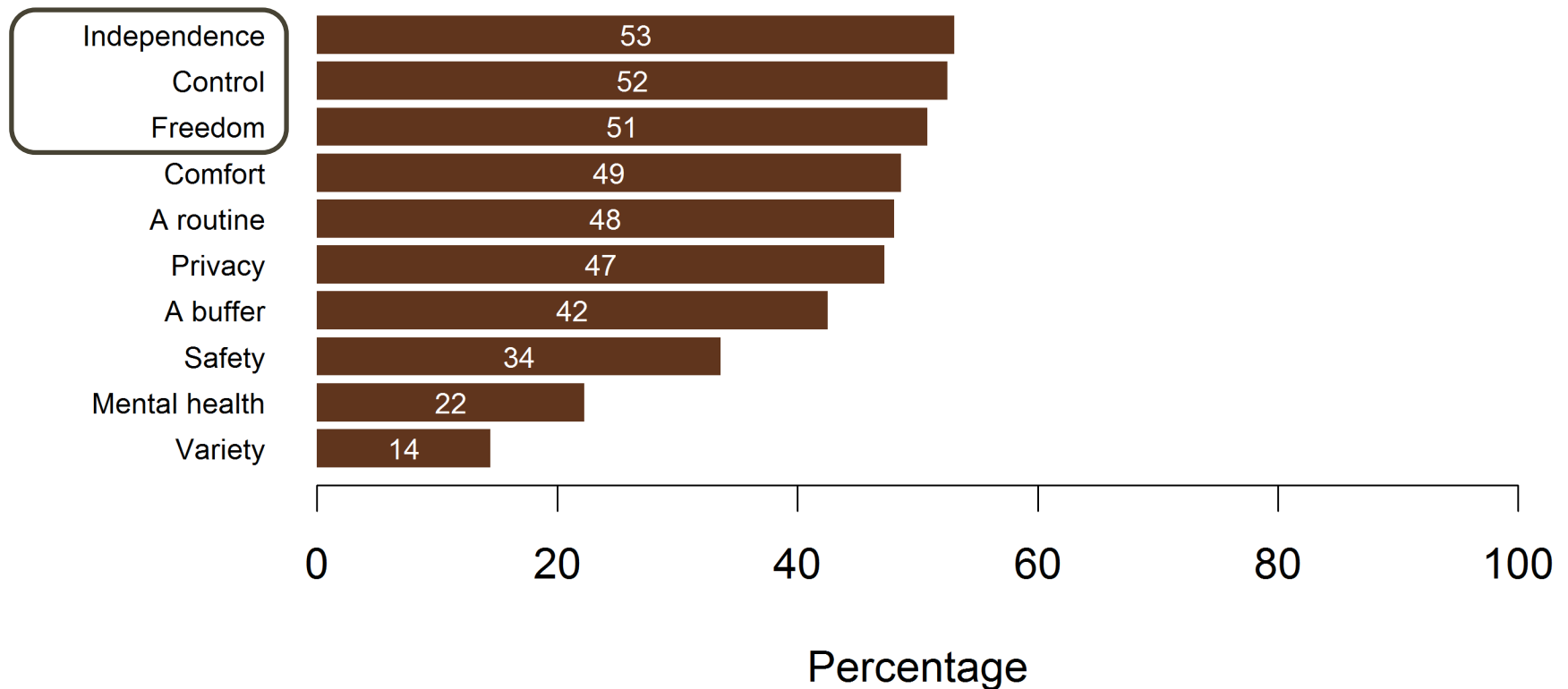
Travel affect (Walking)





Travel experiences

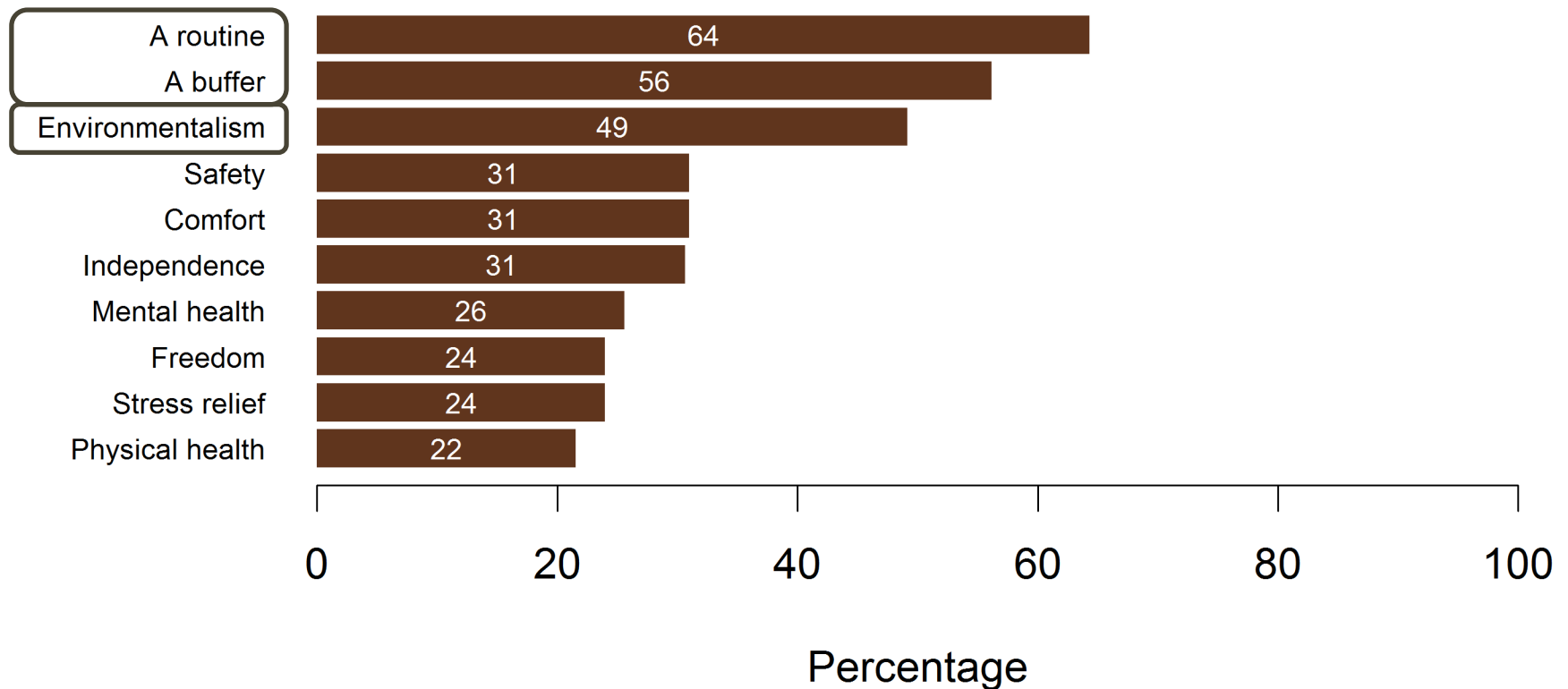
Travel well-being (Automobile)





Travel experiences

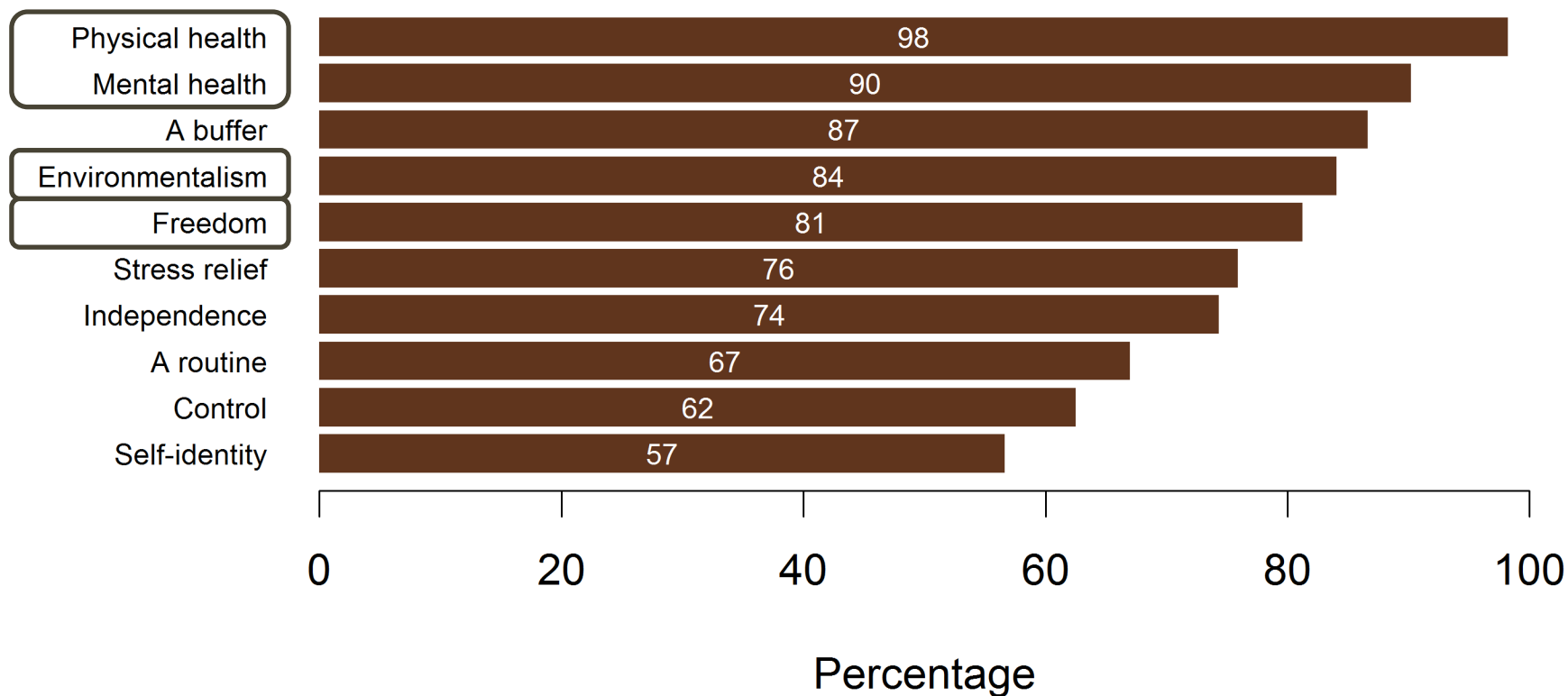
Travel well-being (Transit)





Travel experiences

Travel well-being (Bicycling)



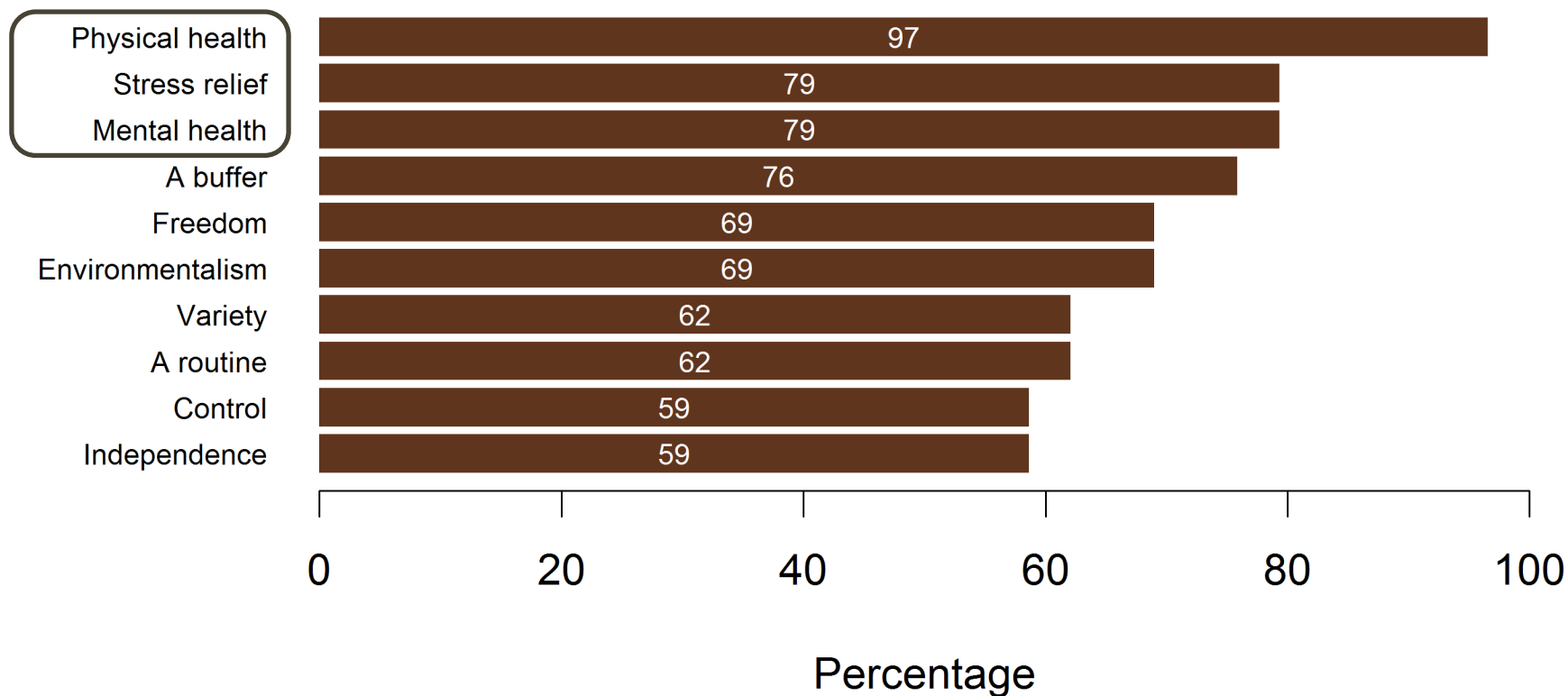


Travel experiences



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Travel well-being (Walking)



- **Positive utility of travel...**
 - ★ – **Exists and can be measured!**
 - ★ – **Strongest for walking & bicycling, because:**
 - Valuing exercise, physical and mental health
 - ★ – **Moderate for public transit, because:**
 - Ability to relax and/or multitask
 - ★ – **Weakest for automobile, because:**
 - Few activities; some negative affect (congestion?)

* Preliminary findings. Additional analyses use multivariate models to statistically control for other explanatory factors.

Implications



Autonomous vehicles (self-driving cars)



Implications

Value of travel time savings → Cost-benefit analysis

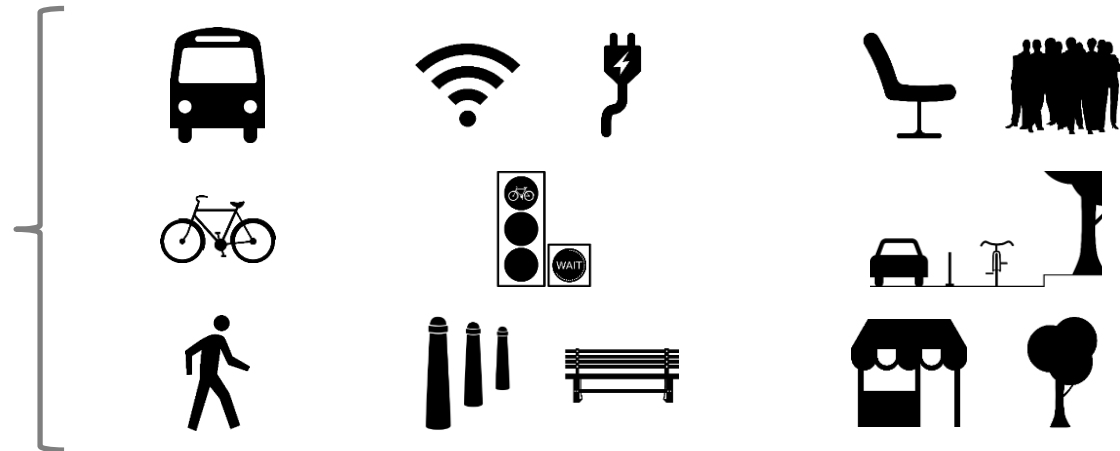
Mode Choice



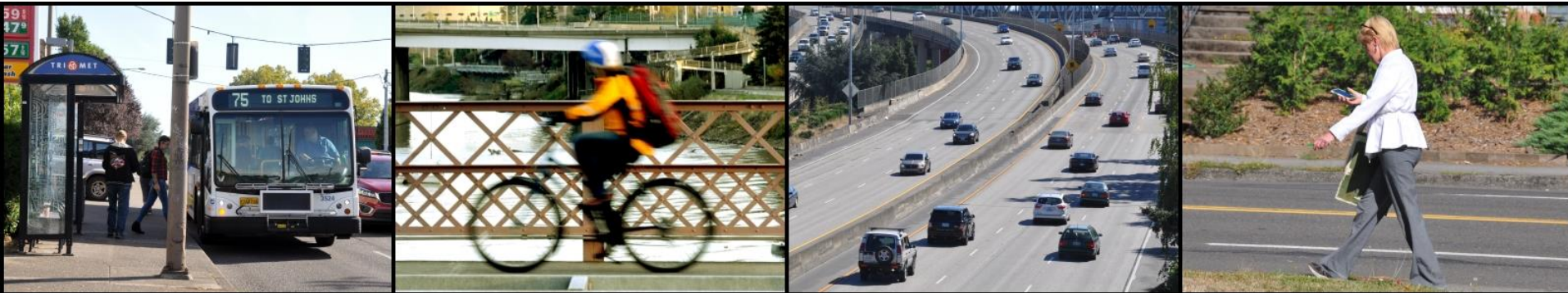
Activity

Experience

Improving
quality of
service



Questions?



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