

# 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



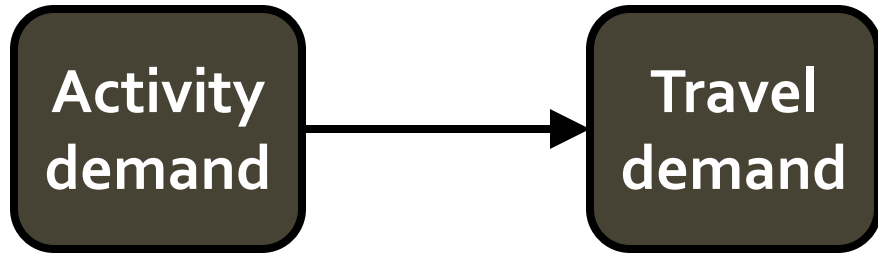
- Research questions
- Background
- Study design & data
- Results
- Implications



# 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.

# Destination activities

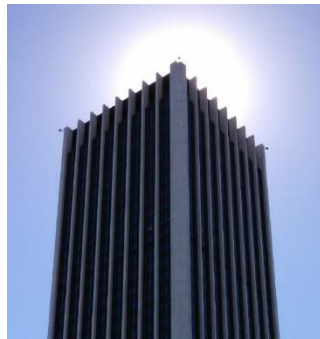
“The activities conducted at the destination.” (MS, 2001)

**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)

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

**Examples:**



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

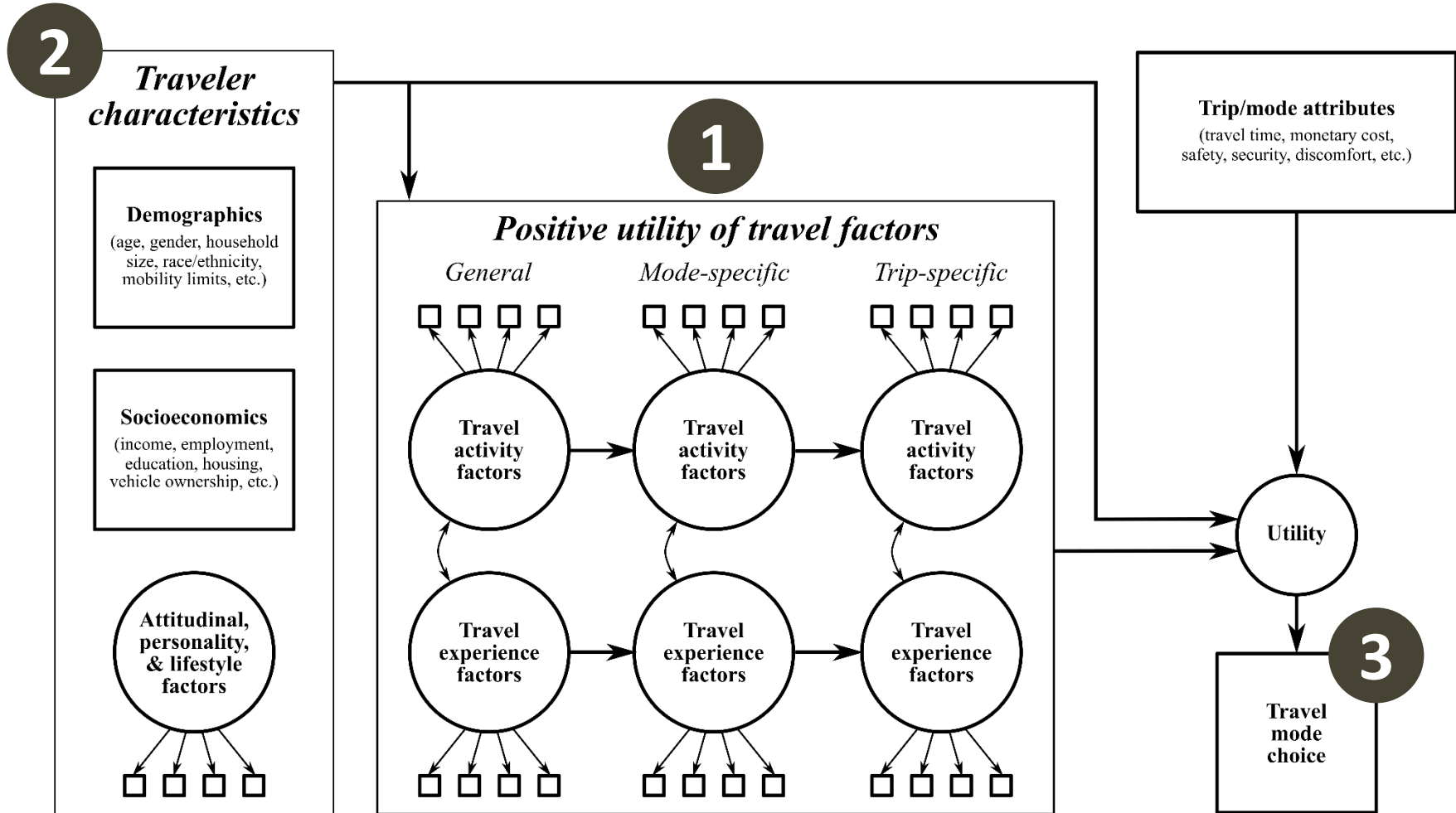


<https://www.flickr.com/photos/aerialcamera/10238940444/>





# 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](https://portlandstate.qualtrics.com//SE/?SID=SV_3t2rJXyc3zavf)

≈ 30 minutes

ten \$100  
gift cards

...not be shared with your employer. Please complete  
This study was conducted by Dr. Kelly Clifton, from the Department of Civil & Environmental Engineering at Portland State University. The study is a doctoral dissertation, with funding from the National Institute for Transportation and Communities, a program of the Transportation Research and Education Center for Portland State University. If you have any questions about the study, please email

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

Commuter trips  
by mode, &  
mode shares  
(N = 690)



**371**

**175**

**114**

**30**

**49%**

**30%**

**16%**

**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?**

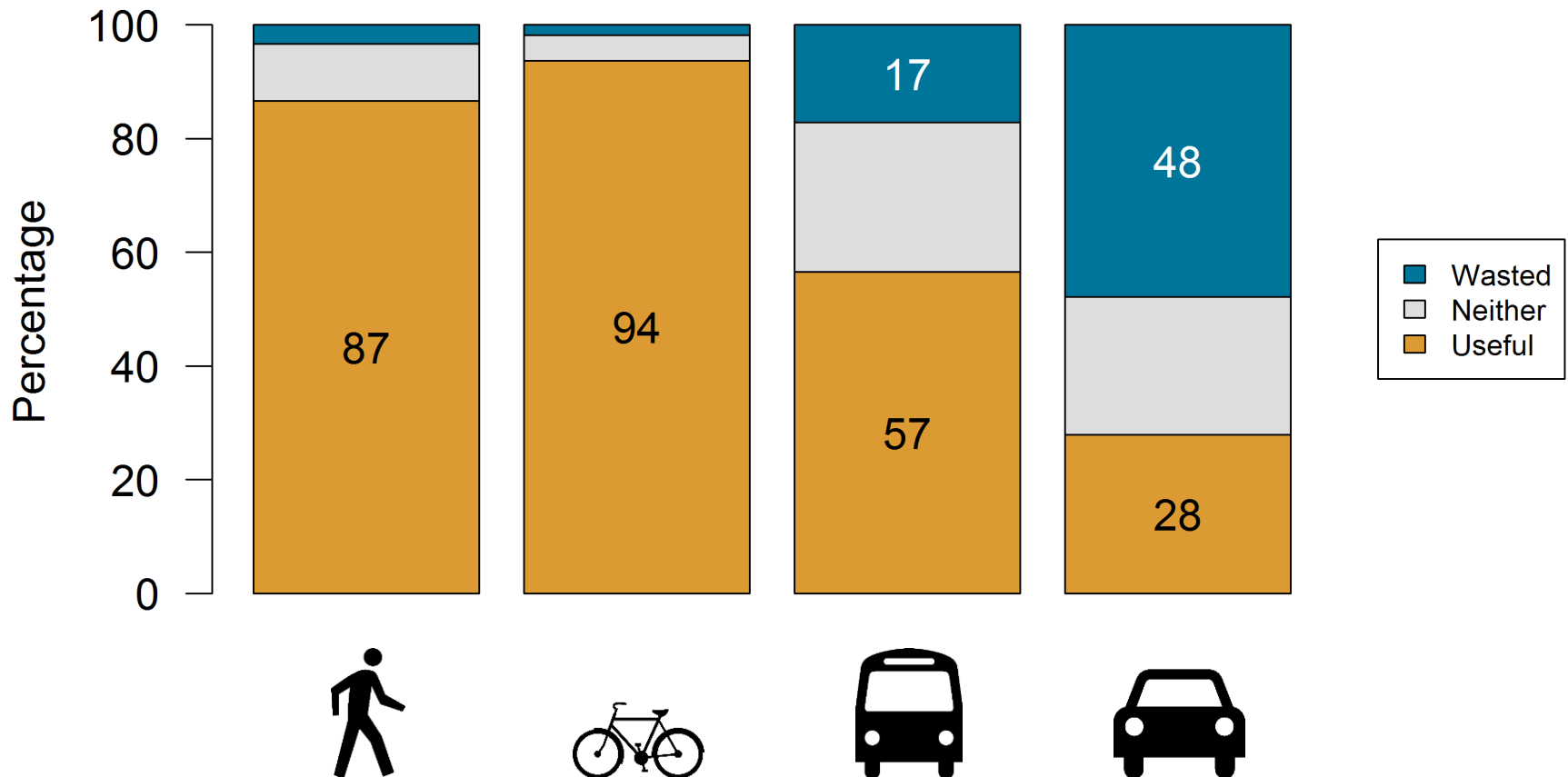


- **Commute mode**

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

# Travel multitasking

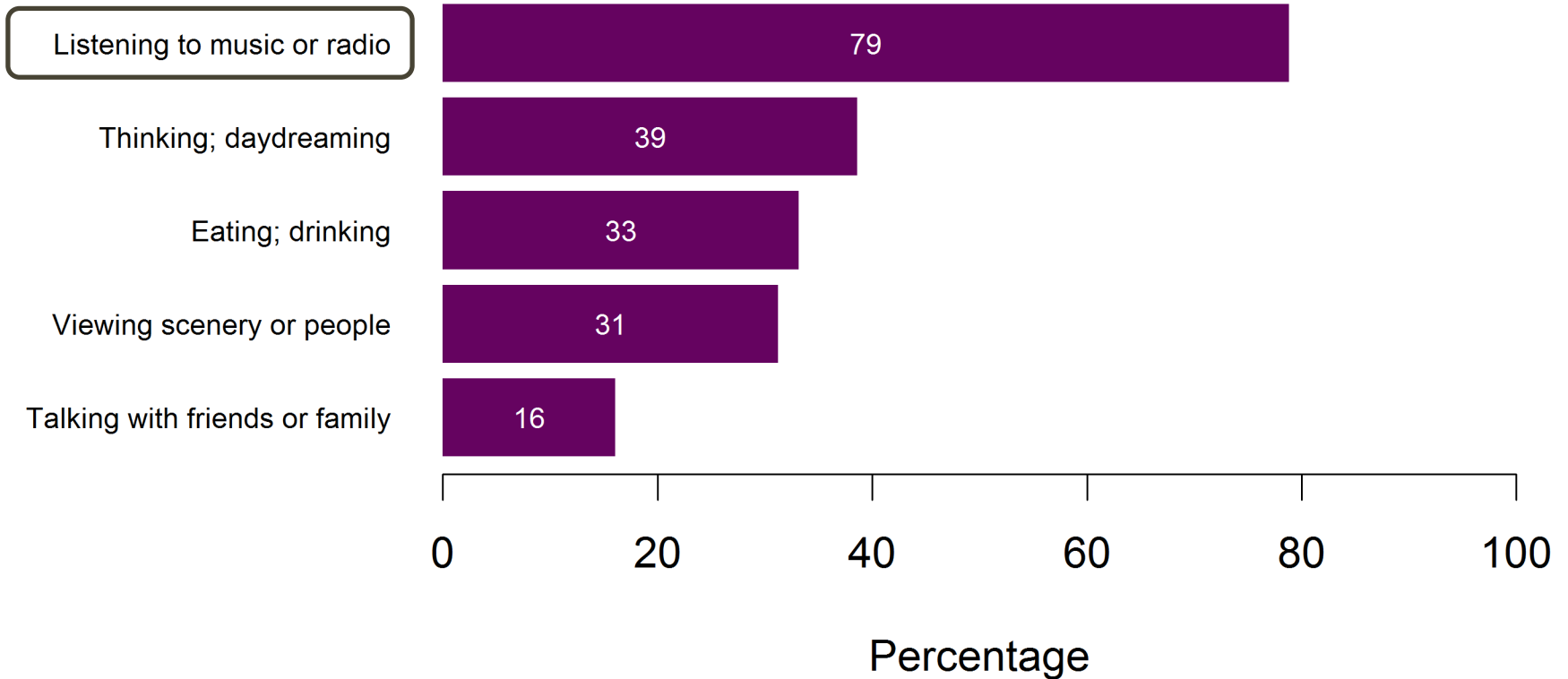
## Travel usefulness





# Travel multitasking

## Activities during travel (Automobile)

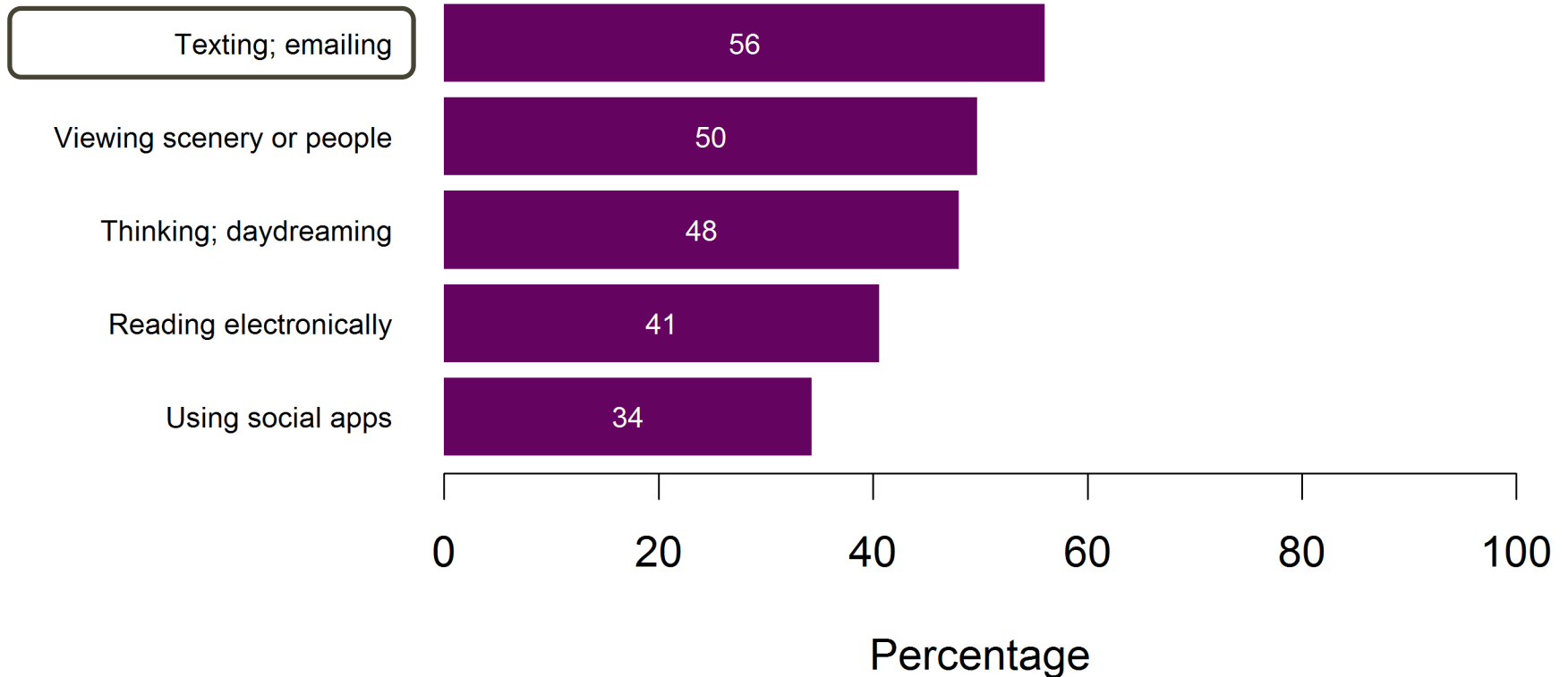






# Travel multitasking

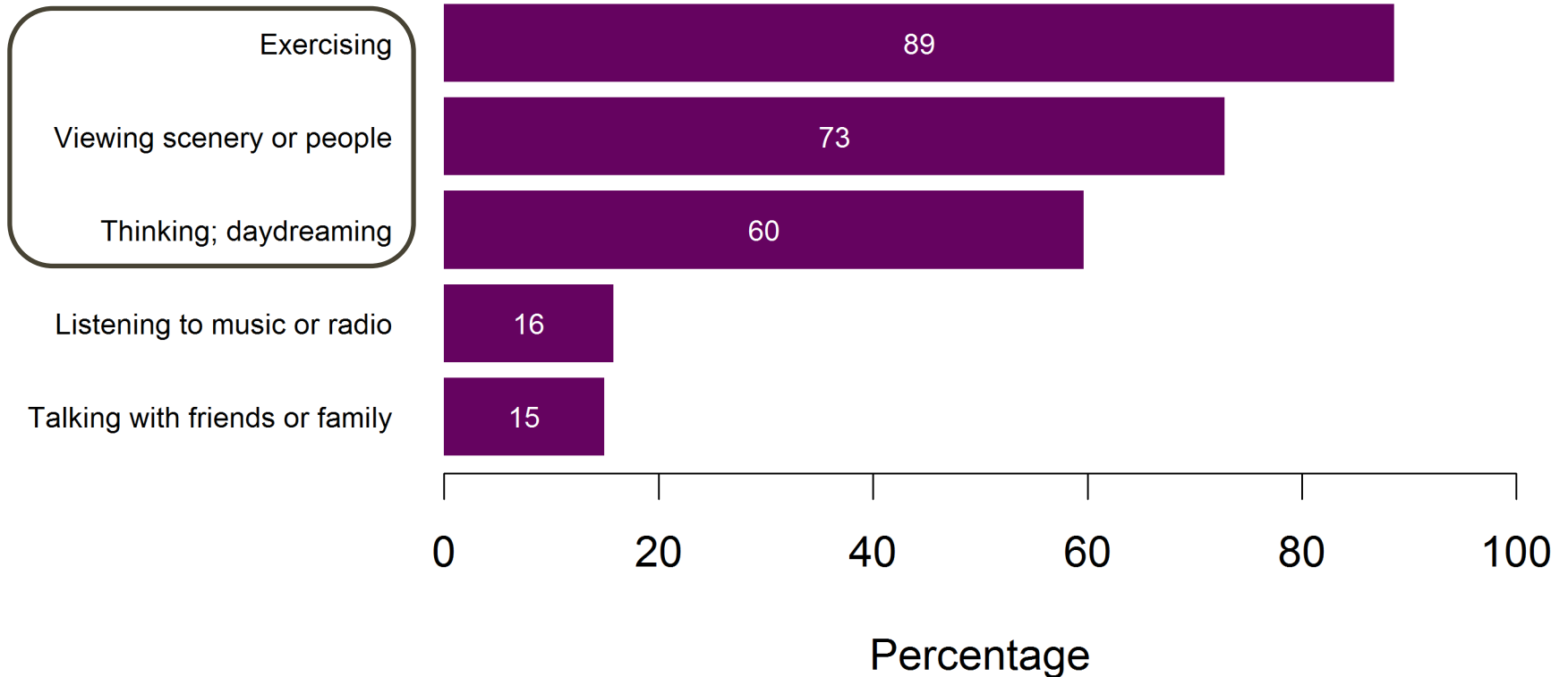
## Activities during travel (Transit)





# Travel multitasking

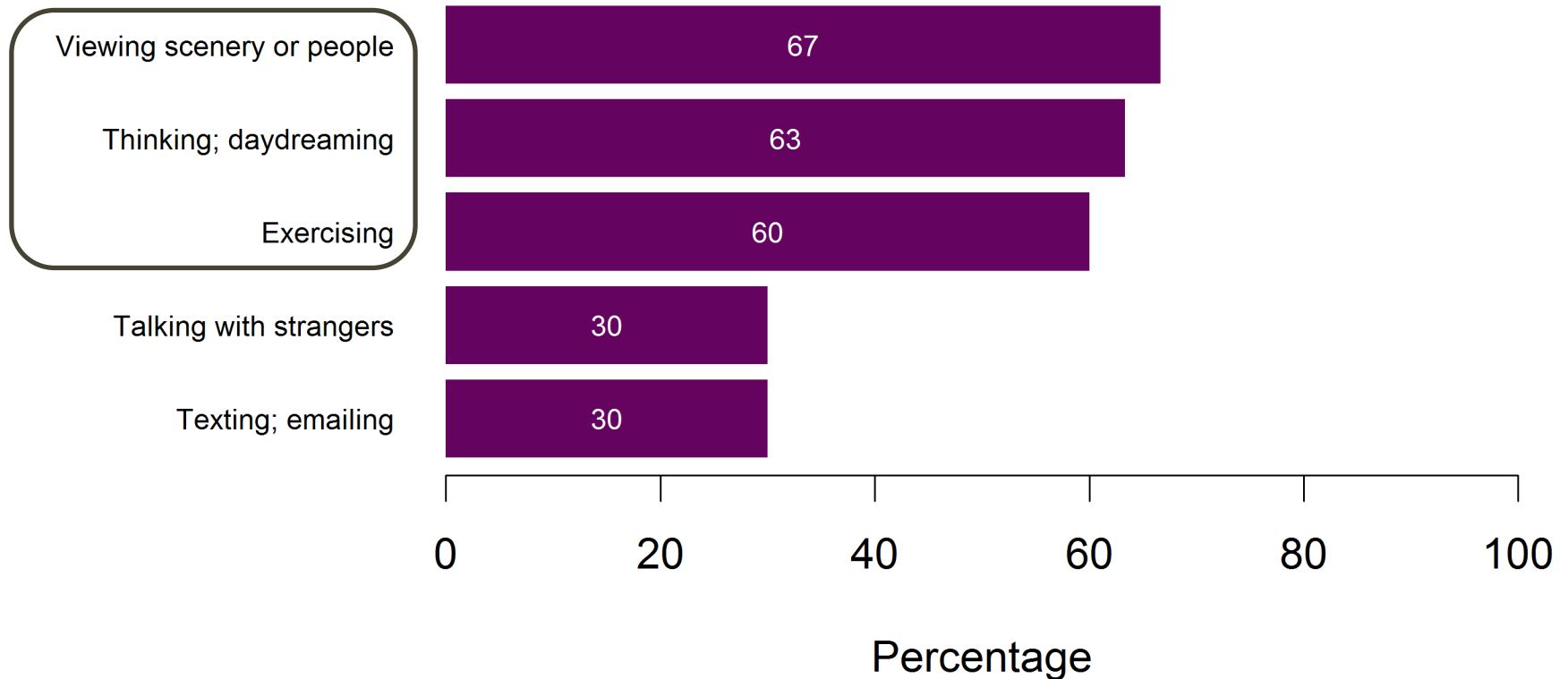
## Activities during travel (Bicycling)



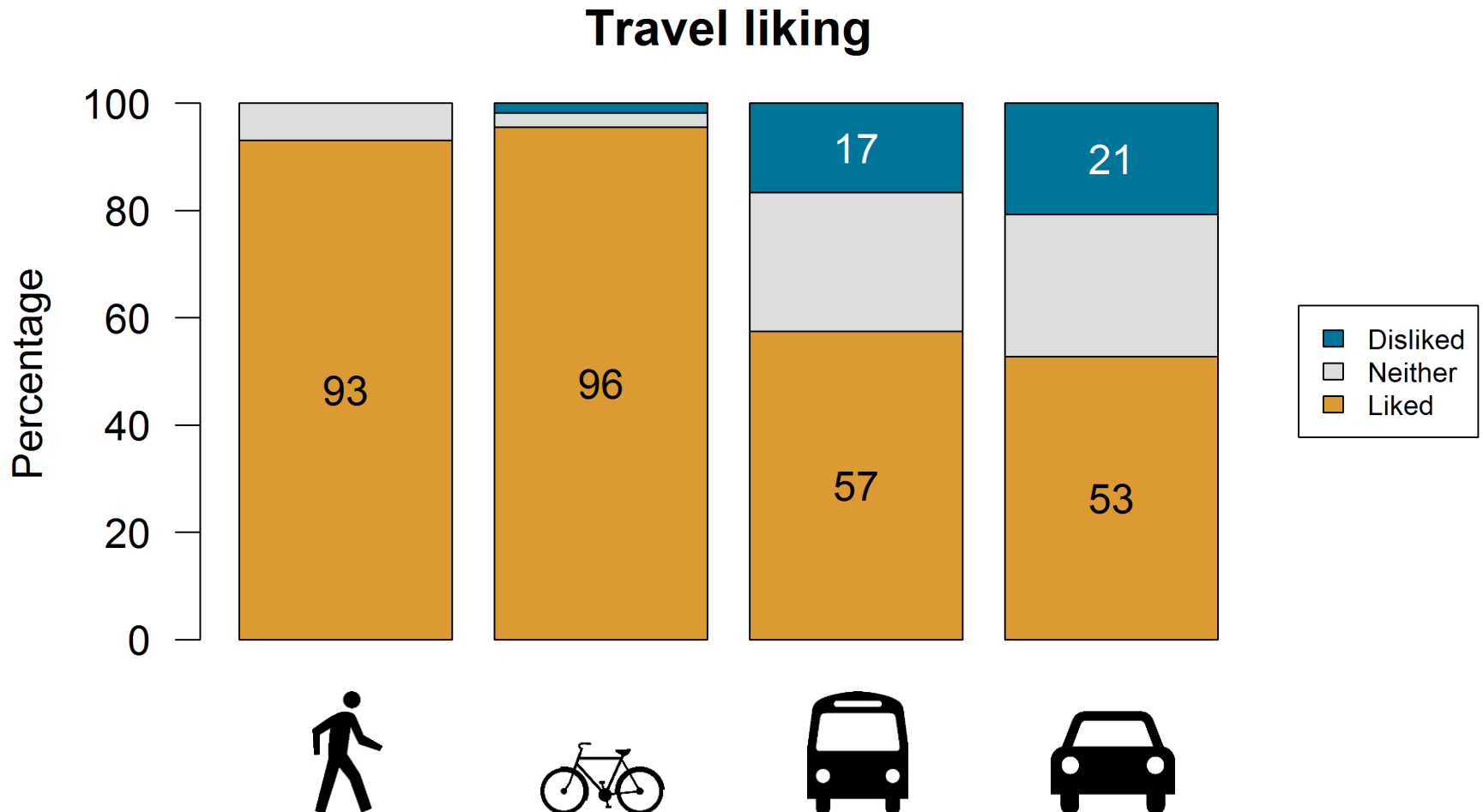


# Travel multitasking

## Activities during travel (Walking)



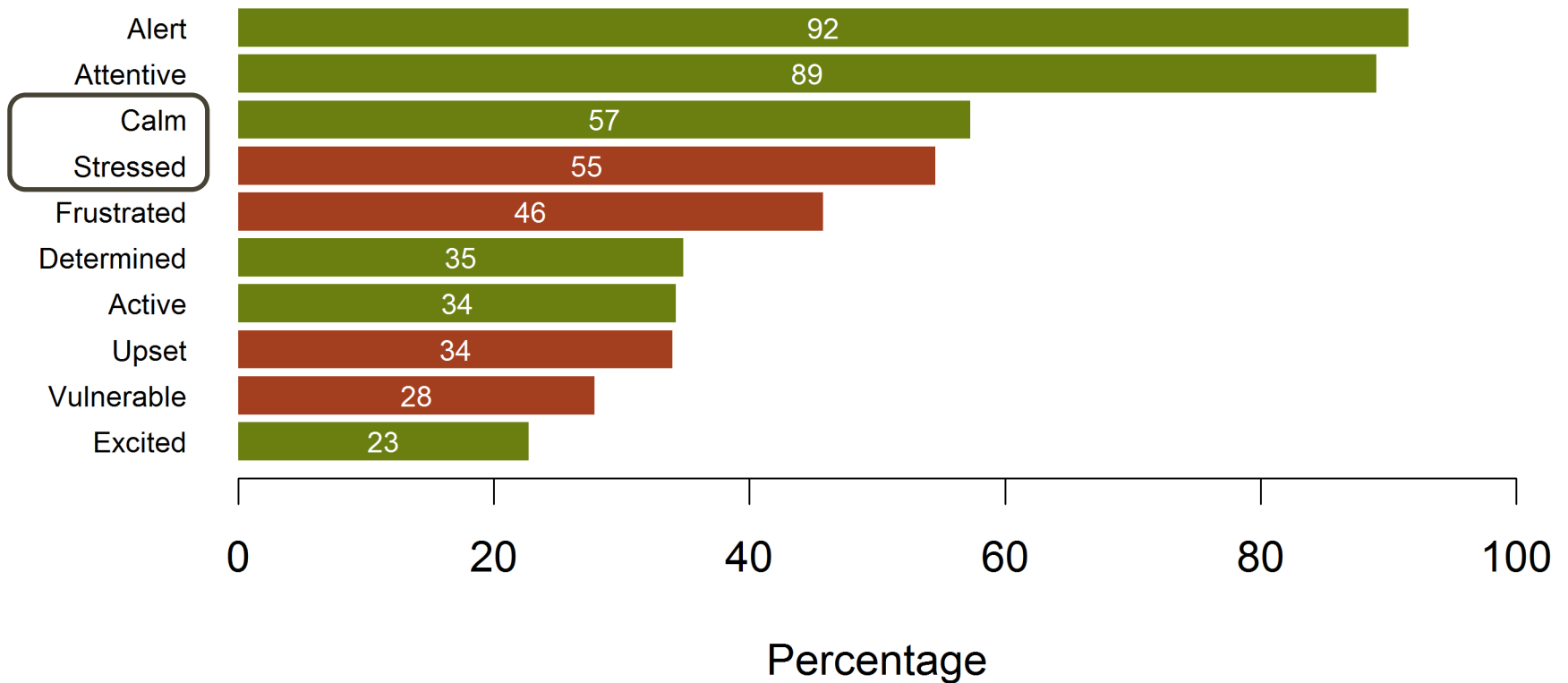
# Travel experiences





# Travel experiences

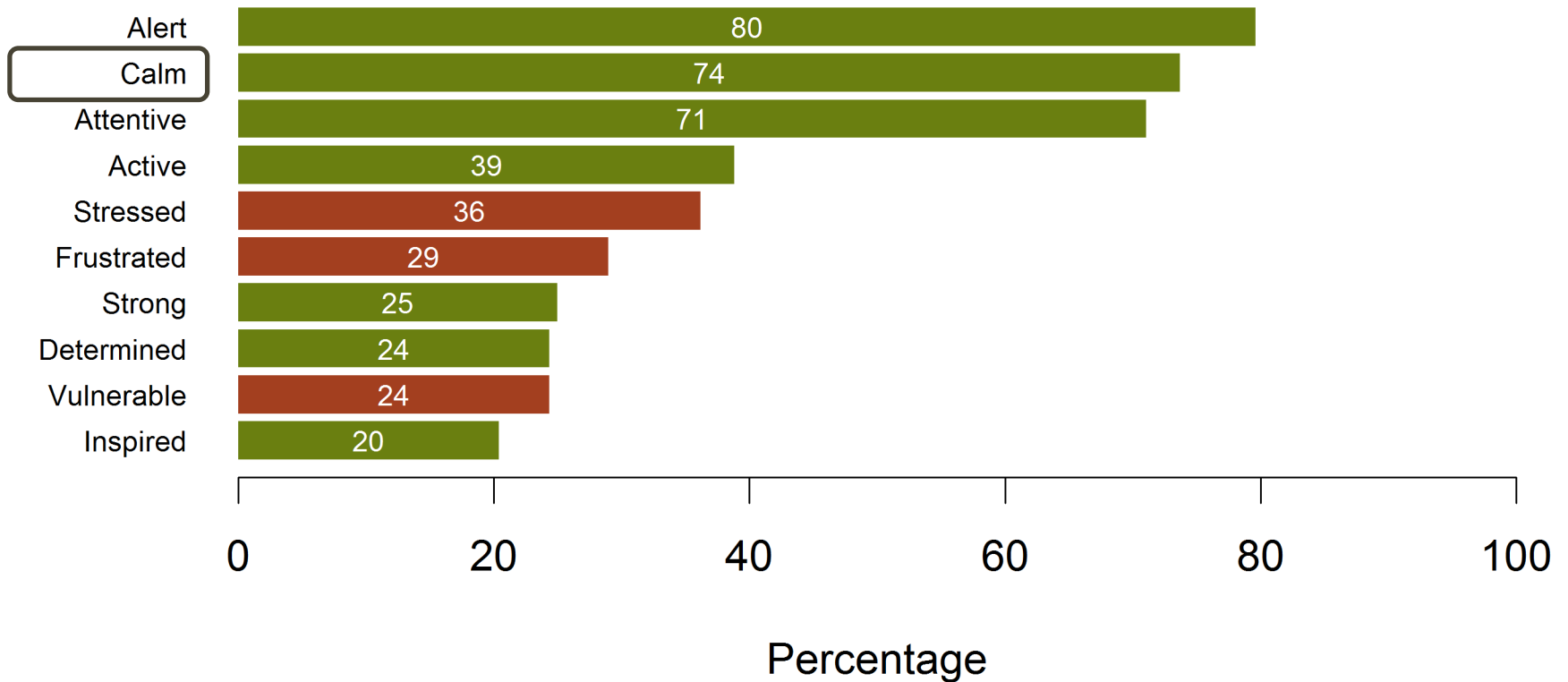
## Travel affect (Automobile)





# Travel experiences

## Travel affect (Transit)

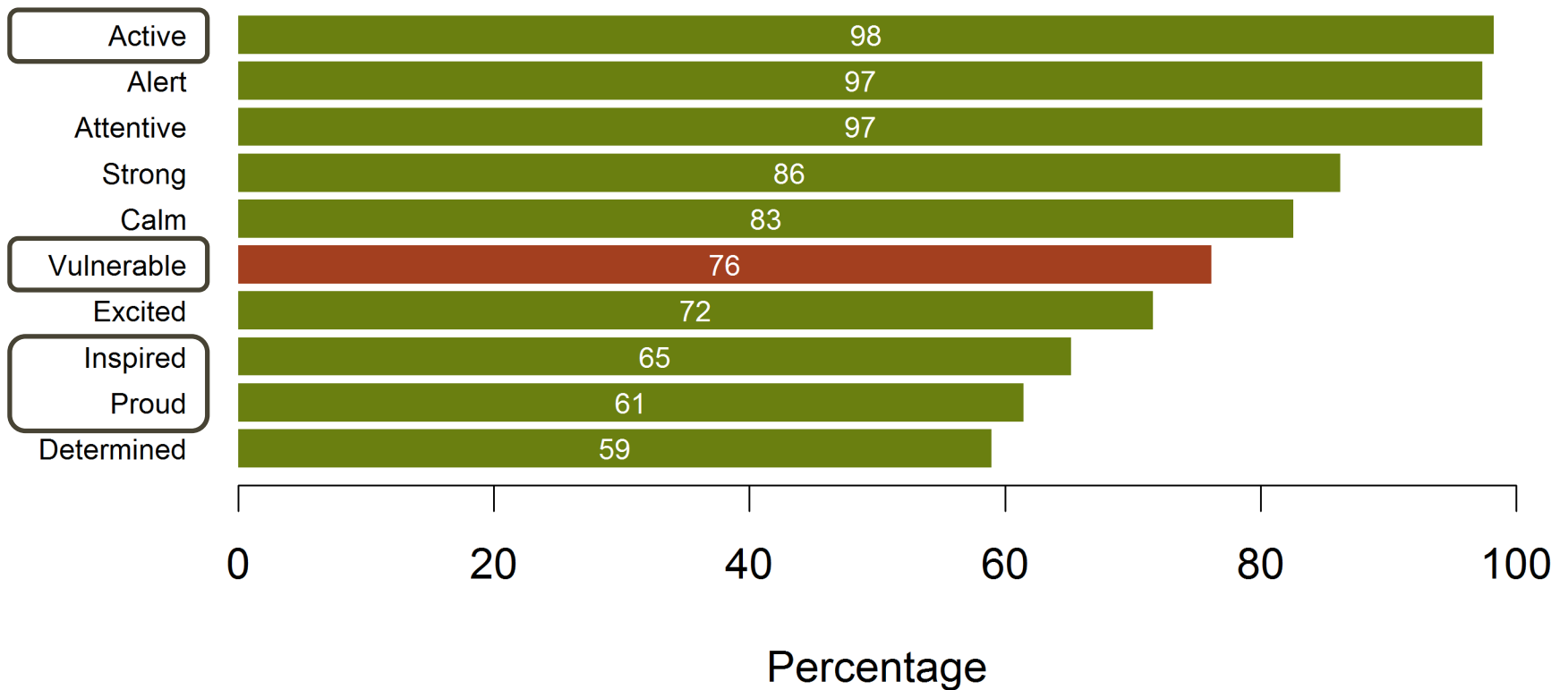






# Travel experiences

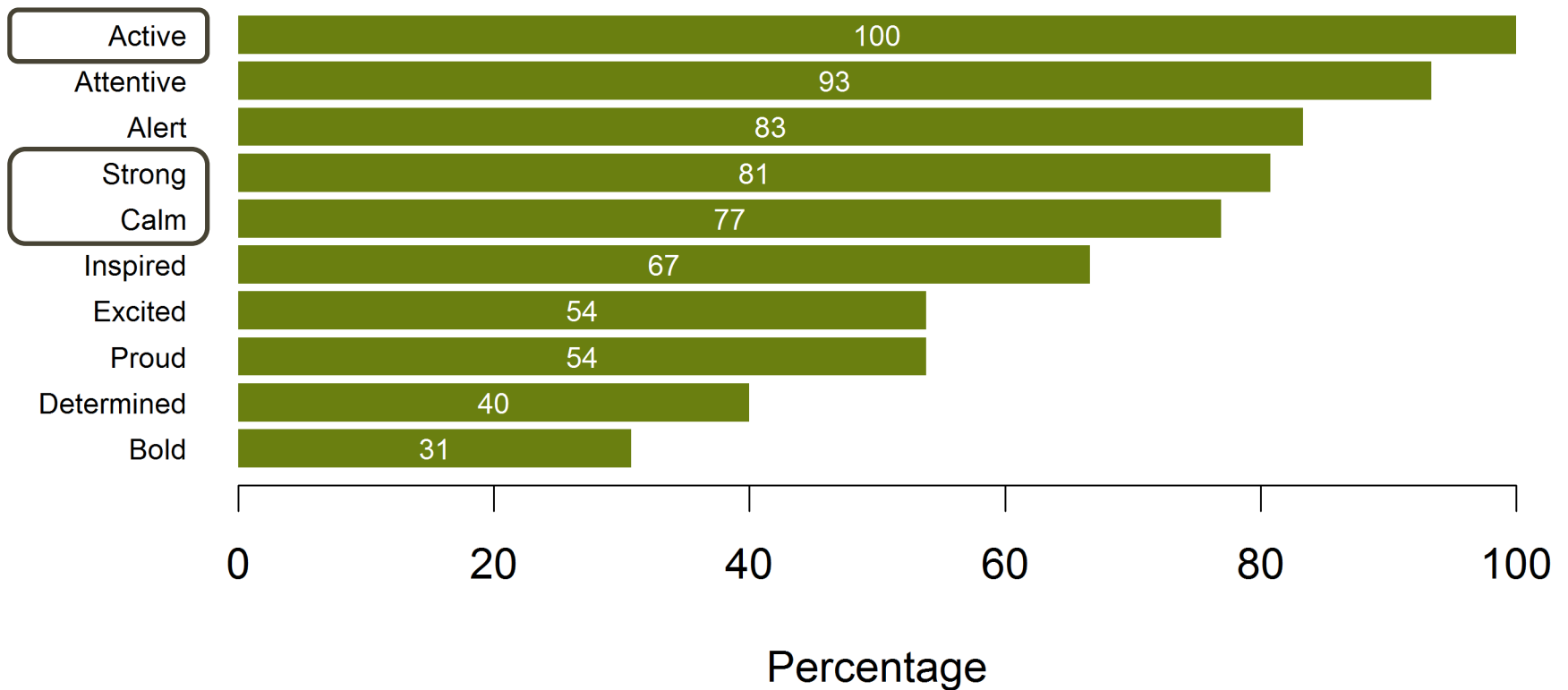
## Travel affect (Bicycling)





# Travel experiences

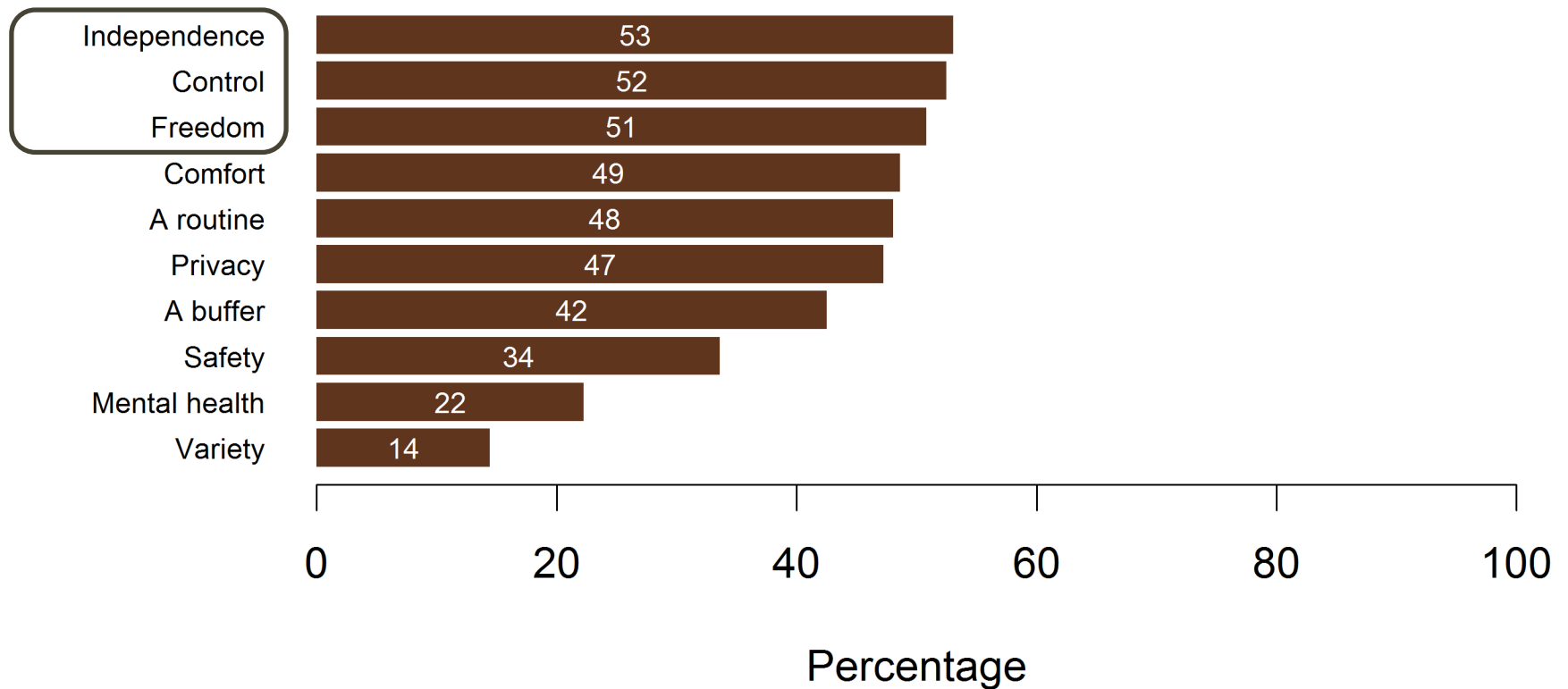
## Travel affect (Walking)





# Travel experiences

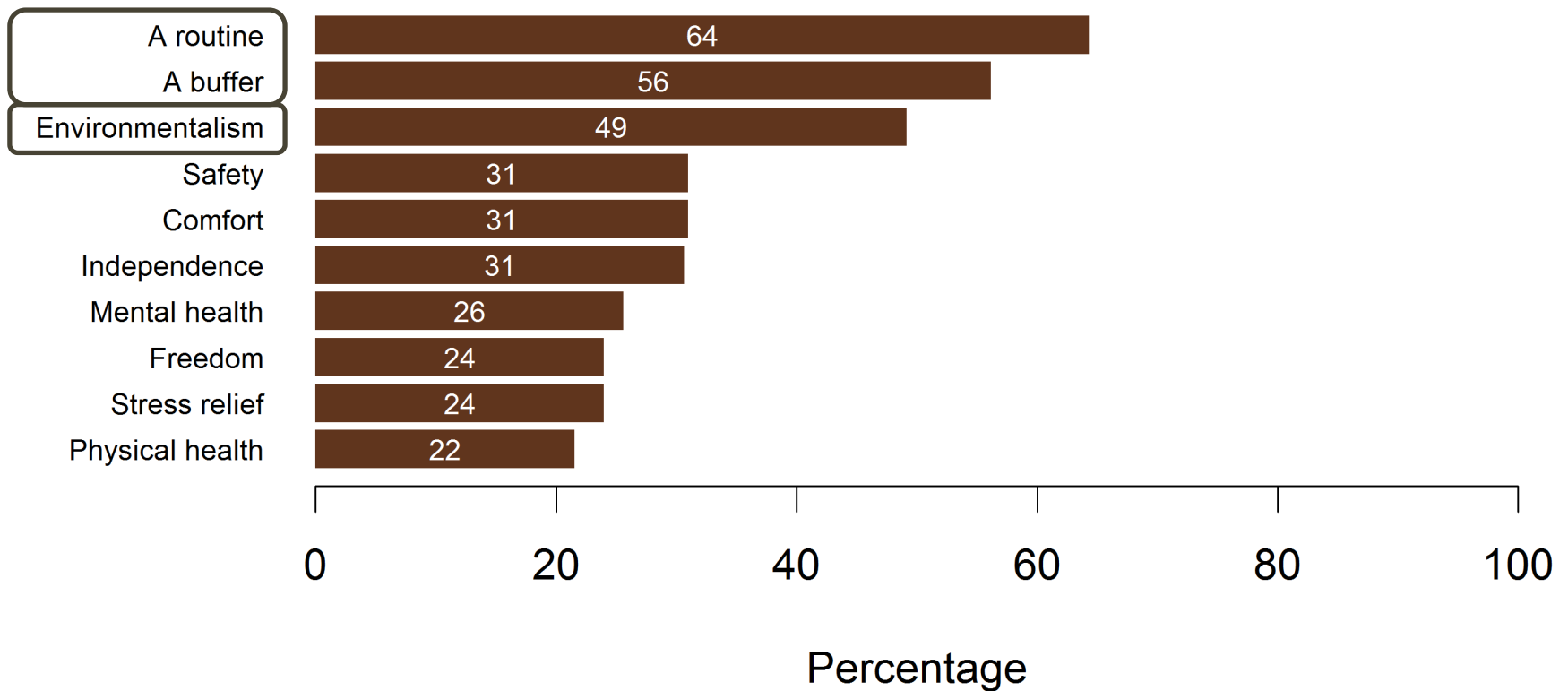
## Travel well-being (Automobile)





# Travel experiences

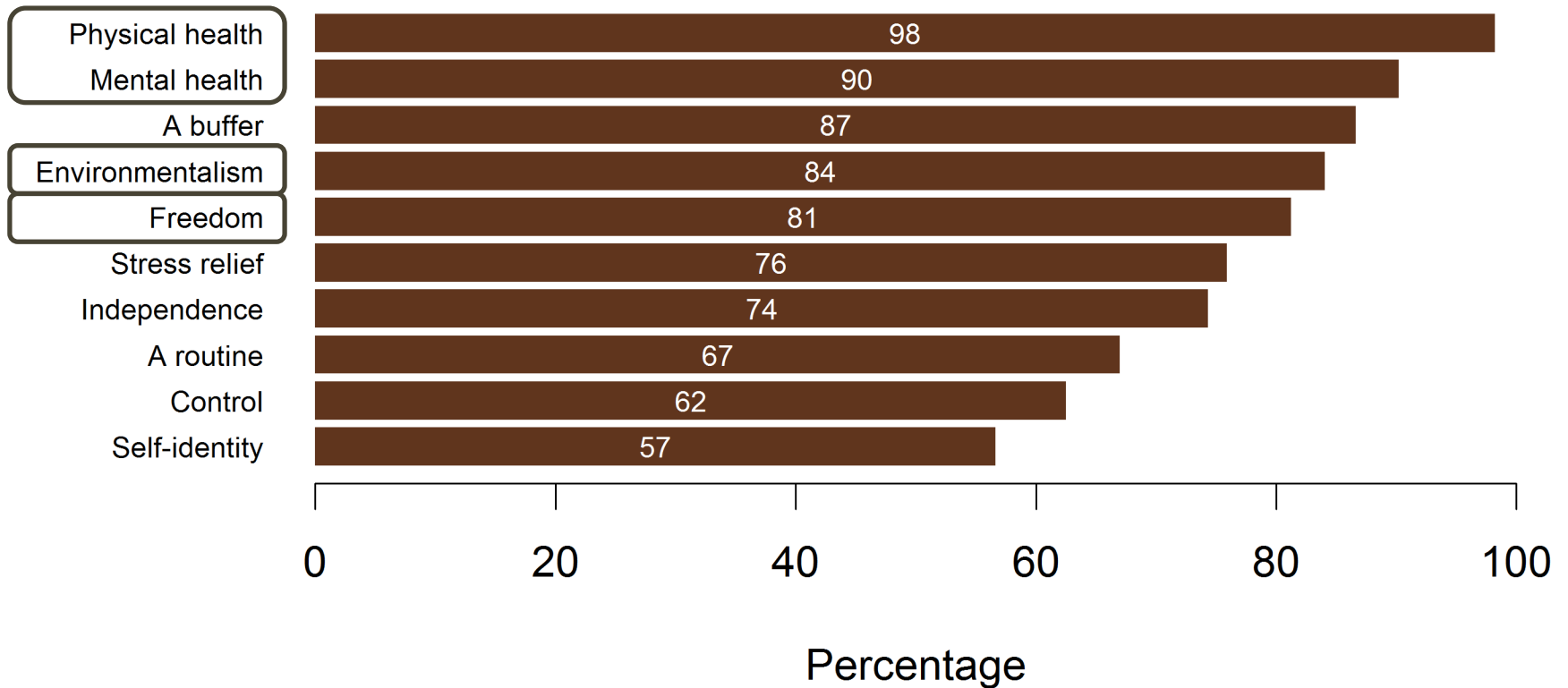
## Travel well-being (Transit)





# Travel experiences

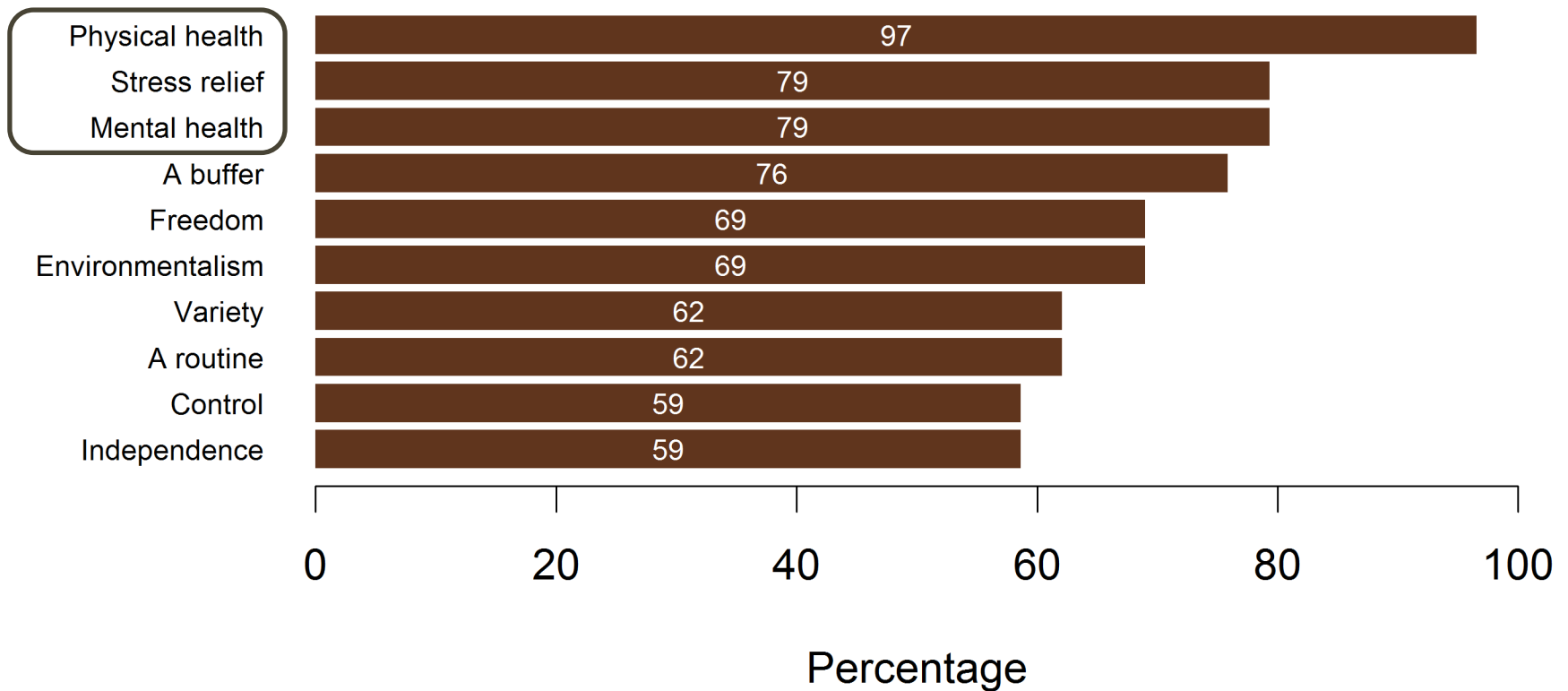
## Travel well-being (Bicycling)





# Travel experiences

## 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



<https://hypebeast.com/2016/12/uber-san-francisco-autonomous-cars>

## Autonomous vehicles (self-driving cars)



<http://www.techrepublic.com/article/ces-2016-carmakers-kick-off-the-year-with-big-moves-in-autonomous-vehicles/>



<https://www.google.com/selfdrivingcar/images/gallery/prototype-early.jpg>

# Implications

Value of travel time savings → Cost-benefit analysis

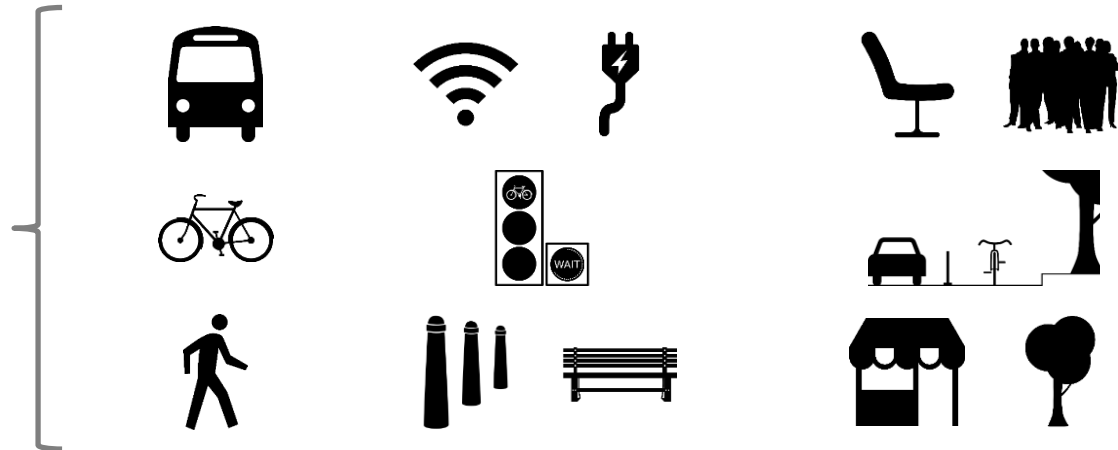
Mode Choice



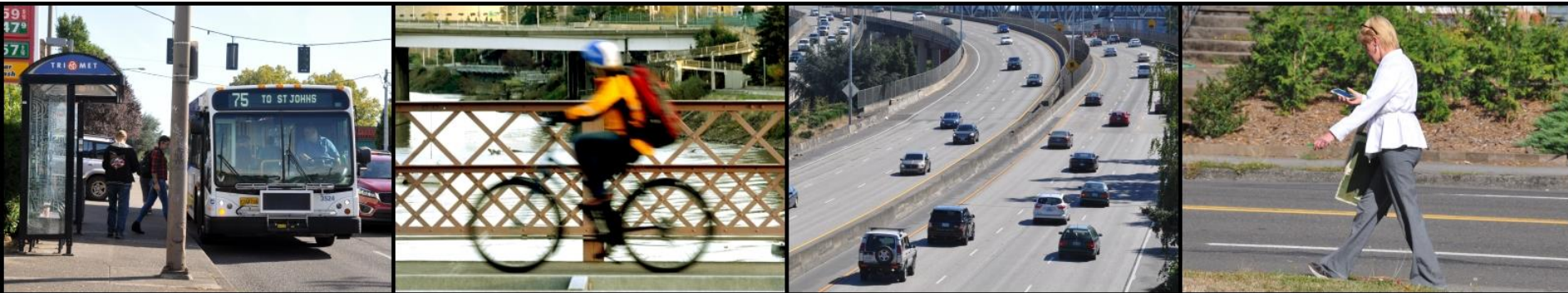
Activity

Experience

Improving  
quality of  
service



# Questions?



**Patrick A. Singleton**

**[patrick.singleton@pdx.edu](mailto:patrick.singleton@pdx.edu)**