

# Trust & Optimism

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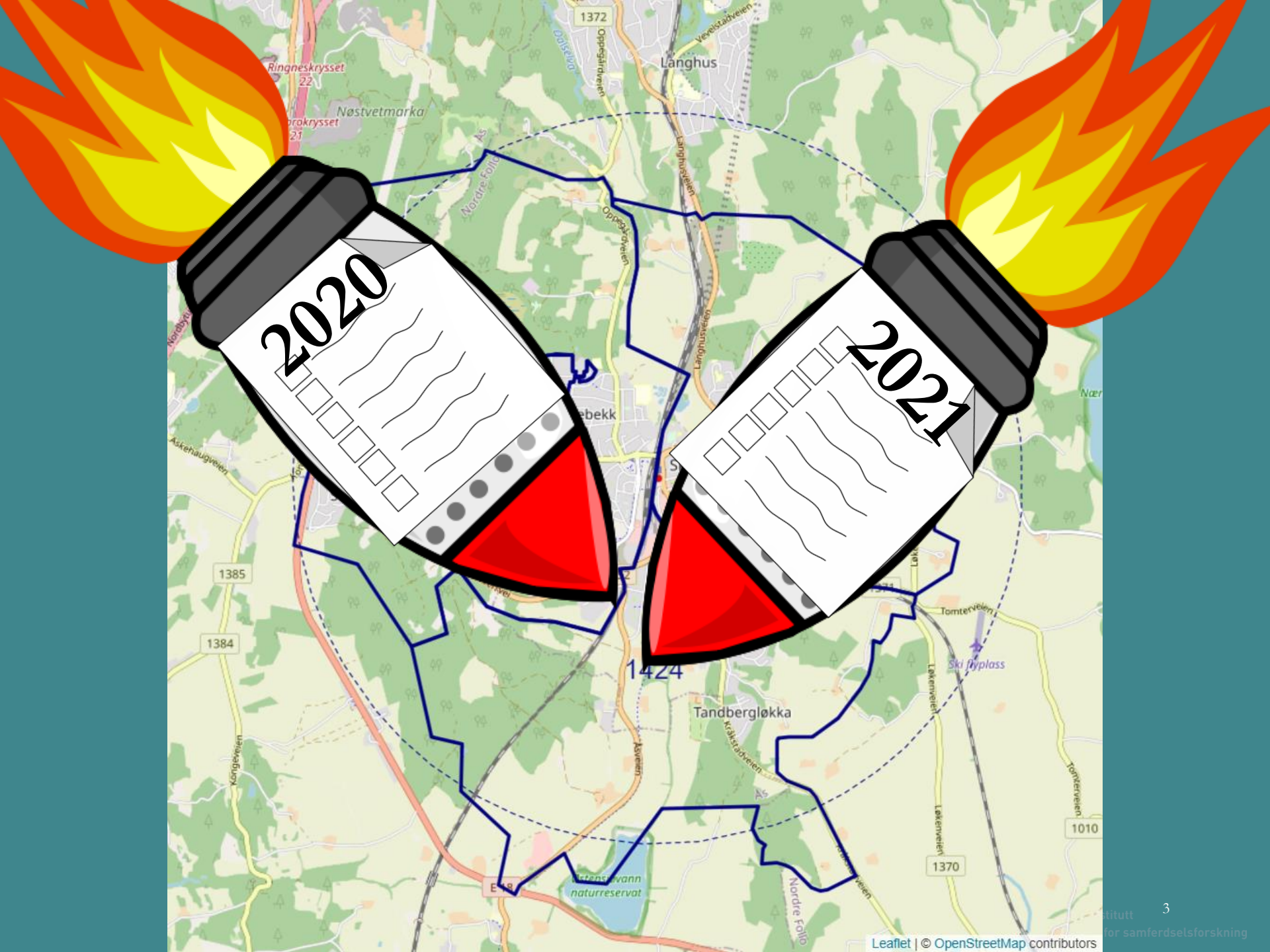
Forskning i bevegelse

# Definitions

- AV = autonomous vehicle
- SAS = shared autonomous shuttles

<https://asko.no/kontakt-oss/vare-asko-selskap/asko-maritime-as/>





2020

2021

1385

1384

1372

1424

1010

1370

2020:

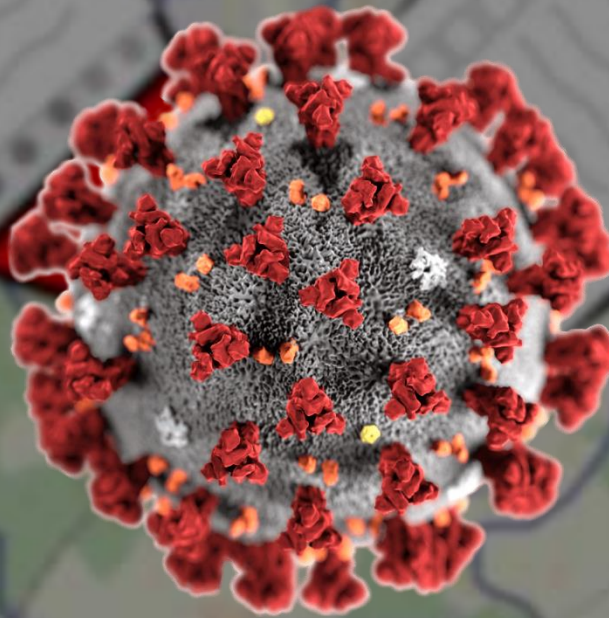
N = 1118

Response rate = 17 %

2021:

N = 636

Response rate = 11 %



# Why?

1. Build a baseline
2. Estimate effect of exposure



Trust and Optimism – two surveys investigating willingness to share autonomous shuttles with strangers.

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**Keywords:** Automated shuttles, Public acceptance, Social psychology

## 1 Abstract

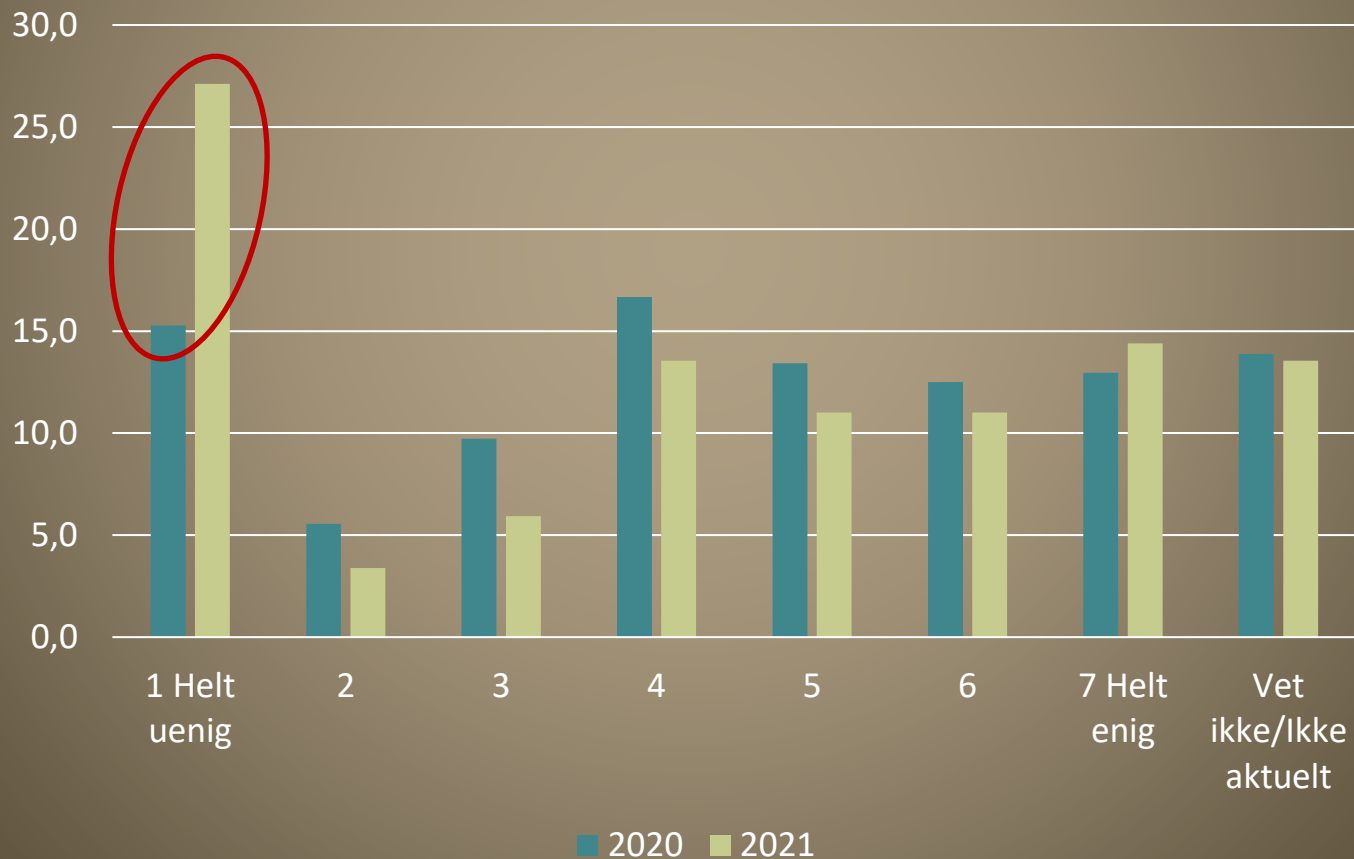
Autonomous vehicle acceptance is a cornerstone of implementing the transport system of the future. Much research has engaged in questions regarding the technology of automation or how drivers will interact with this technology. However, little research has focused on the social situation arising in small, shared shuttles used in public transport. Creating transport services that are agreeable to all members of the public will need considerable research efforts. The current article uses data collected using identical online surveys in 2020 (n=922) and 2021 (n=608). These two surveys give insight into the development of perceptions and a way to gauge reliability of results. We find that trust & safety and tech-optimism predict willingness to use, even when controlling for each other and basic socio-demographic information. There is no effect of the passage of time on answers. We find a reliable, but small effect suggesting that young women feel that it is more important to be able to keep more social distance while riding shared autonomous shuttles. Implications for transport providers and future research is discussed.

## 2 Introduction

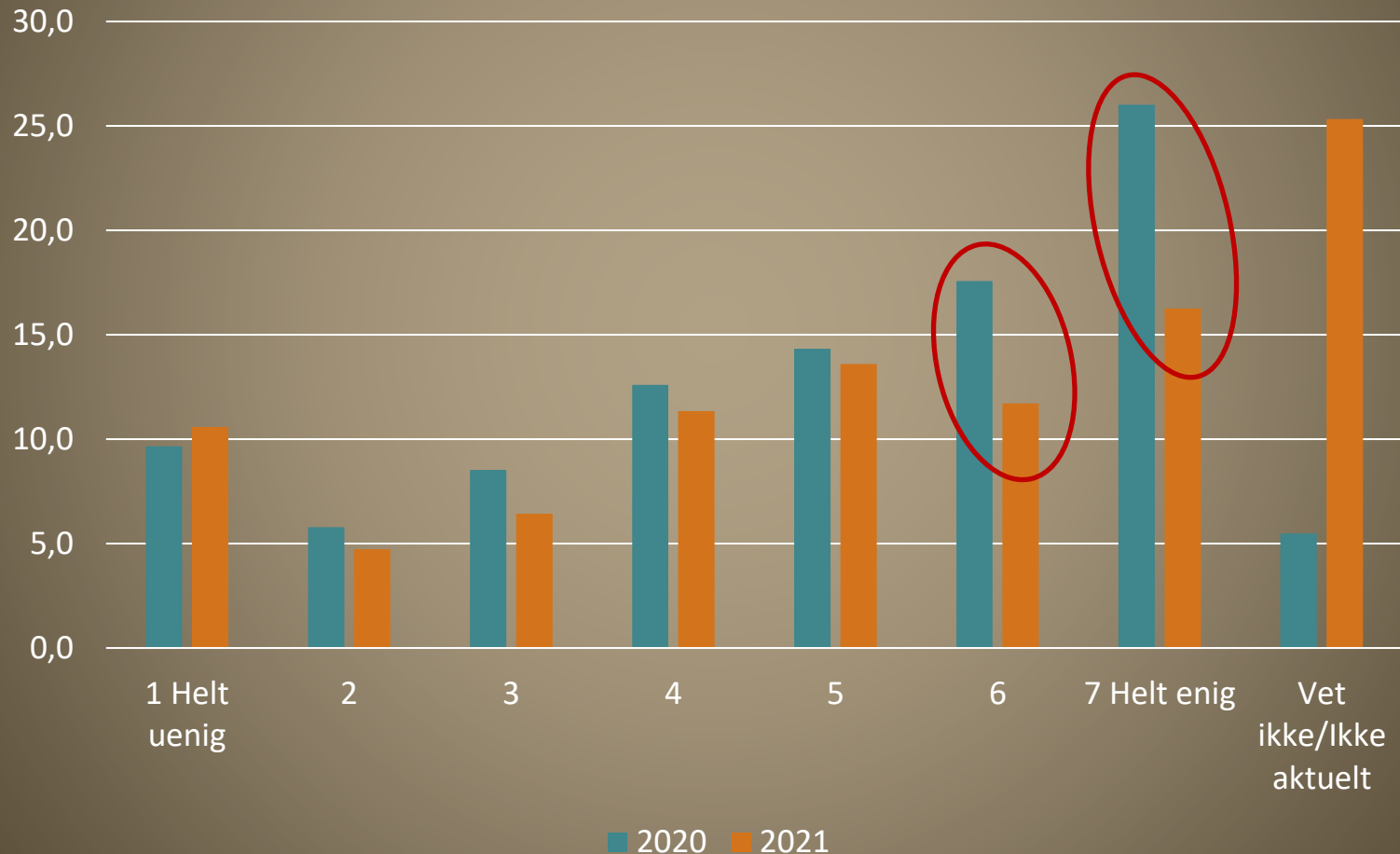
Acceptance of autonomous vehicles (AVs) is one of the great barriers to implementing this new transport technology on public roads. AVs are heralded as

# Bjørnskau reports

«I think autonomous buses will become a more efficient and faster means of transport than today's public transport»



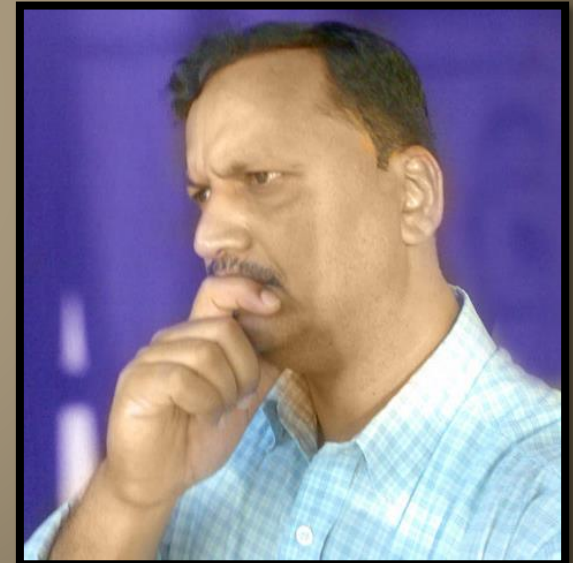
# «I trust that the introduction of AVs in Ski are done in a **safe** fashion»





# Torkel concludes

- More car use in 2021
- 8 used bus
- 48% «other transportation modes better»
- «Not right area»
- People (in Hebekk) are generally more skeptical of AVs
  
- 36 had tried any SAS 2021
- 8 tried Ski-buses

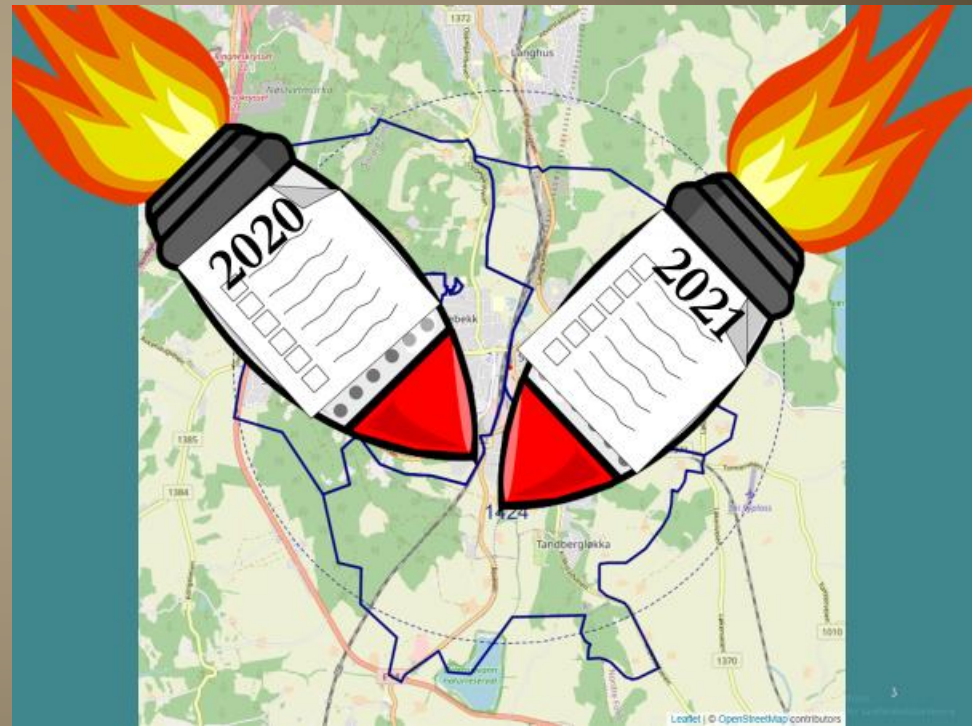


# Why?

- **Build a baseline**
- ~~Estimate effect of exposure~~



Investigating  
the social  
situation in  
SAS



1. I would use such a means of transport even though it involves traveling with strangers without a steward on-board
2. It is important that I don't have to sit close to strangers

**Sample year:**

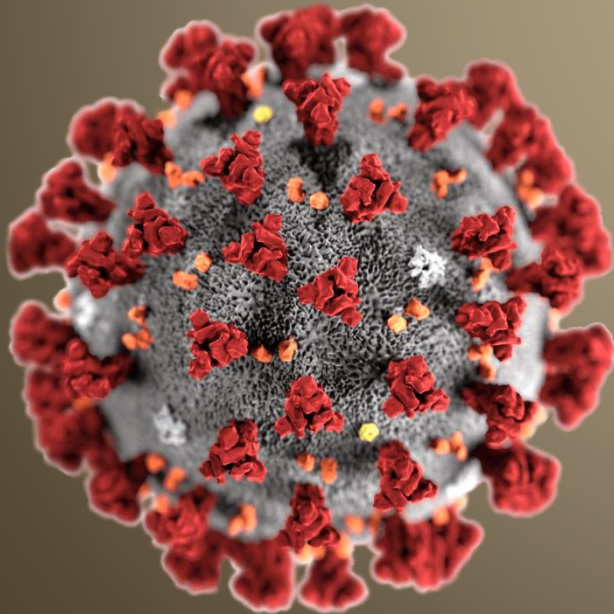
$p = 0.164$   $\eta^2 = 0.001$

1. I would use such a means of transport even though it involves traveling with strangers without a steward on-board

**Sample year:**

$p < 0.001$   $\eta^2 = 0.094$

2. It is important that I don't have to sit close to strangers



- Controlling for: Trust&Safety, Tech-optimism, Age, Gender, Familiarity with pilots

# Tech-optimism

	2020	2021
Cronbach's $\alpha$	0.811	0.76
Mean	4.53	4.25
SD	1.49	1.5
N	922	608

1	I have read a lot about self-driving vehicles (Jeg har lest mye om selvkjørende kjøretøy)
2	I believe that autonomous vehicles can help meet future transport needs (Jeg mener selvkjørende kjøretøy kan løse mange av fremtidens transportbehov)
3	<b>I believe that autonomous buses can become an important part of our public transport system</b> (Jeg tror selvkjørende busser kommer til å bli en viktig del av kollektivtransporttilbudet)
4	I believe that in 2-3 years, we will have self-driving minibuses driving on their own in Ski (Jeg tror at vi i løpet av 2-3 år vil få selvkjørende minibusser som kjører helt på egen hånd i Ski)

# Trust & Safety

	2020	2021
Cronbach's $\alpha$	0.788	0.916
Mean	4.20	4.09
SD	1.17	1.46
N	922	608

1	I am certain self-driving vehicles are safe and secure (Jeg mener selvkjørende kjøretøy er trygge og sikre)
2	As a pedestrian/cyclist I would feel safer in traffic when cars become self-driving instead of human-controlled (Som gående/syklende vil jeg føle meg tryggere i trafikken når bilene blir selvkjørende i stedet for menneskestyrte)
3	<b>I trust that the introduction of self-driving vehicles in Ski are done in a safe fashion</b> (Jeg har tillit til at innføringen av selvkjørende kjøretøy i Ski gjennomføres på en trygg og sikker måte)
4	I think that self-driving buses would be more efficient and faster than today's public transport (Jeg tror selvkjørende busser vil bli et mer effektivt og raskere transportmiddel enn dagens kollektivtransport)

5	Using self-driving buses for everyday travel would be better and more practical than the means of transport I use today (Å bruke selvkjørende busser på mine daglige reiser vil være bedre og mer praktisk enn de transportmidlene jeg bruker i dag)
6	(Reversed) I think self-driving buses will create problems for other traffic (Jeg tror selvkjørende busser kommer til å skape problemer for annen trafikk)
7	I think self-driving minibuses will stop if necessary to avoid collisions (Jeg er sikker på at de selvkjørende minibussene vil stoppe hvis det er nødvendig for å unngå en kollisjon)
8	I think self-driving minibuses are safe to drive in residential areas in Ski (Jeg tror det er trygt at en selvkjørende minibuss kjører i bolig gatene i Ski)

**1. I would use such a means of transport even though it involves traveling with strangers without a steward on-board**

- Trust in tech
- Tech-optimism

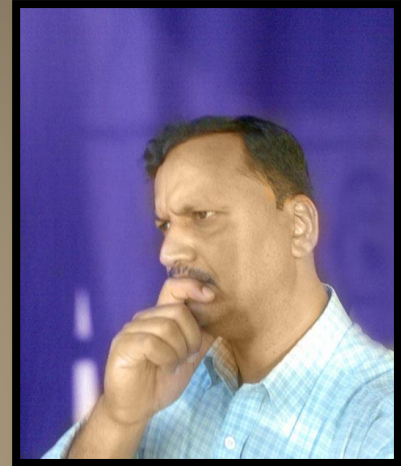
- Controlling for:  
Each other, Age,  
Gender, Familiarity  
with pilots



**It is important that I don't  
have to sit close to strangers**

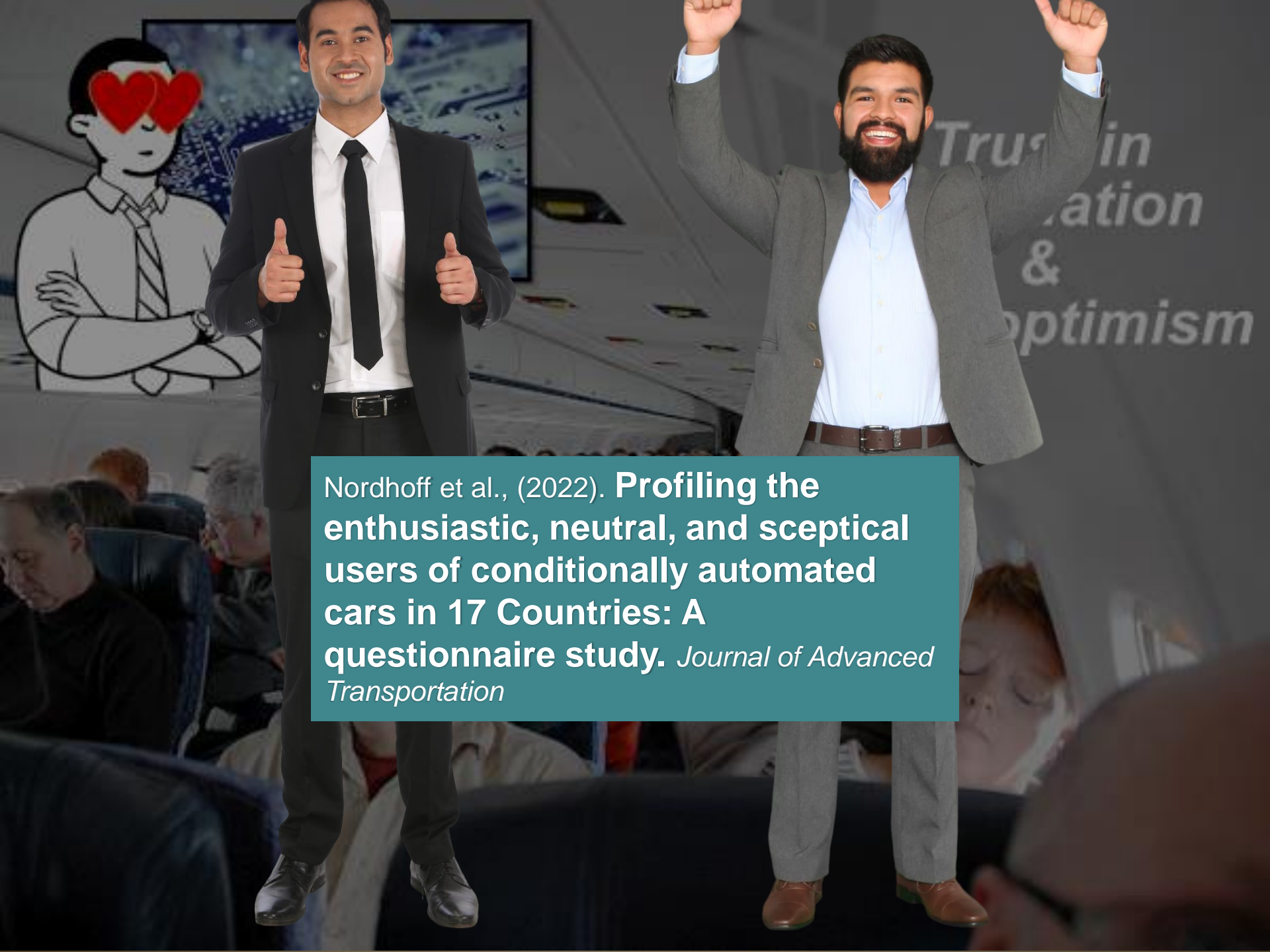
- ...females?

- Controlling for:  
Trust&Safety, Tech-  
optimism, Age, Gender,  
Familiarity with pilots





*Trust in  
automation  
&  
Tech-optimism*



Nordhoff et al., (2022). **Profiling the enthusiastic, neutral, and sceptical users of conditionally automated cars in 17 Countries: A questionnaire study.** *Journal of Advanced Transportation*

The image features a vibrant red background with a series of concentric black circles centered in the middle, creating a bullseye effect. Overlaid on this pattern is the text "The End" in a white, elegant cursive font. The text is positioned slightly to the left of the center, with "The" and "End" separated by a wide space. The overall aesthetic is classic and dramatic, typical of a film's closing credits.

*The End*