

Change in train travelling behaviour during Covid-19 due to anxiety

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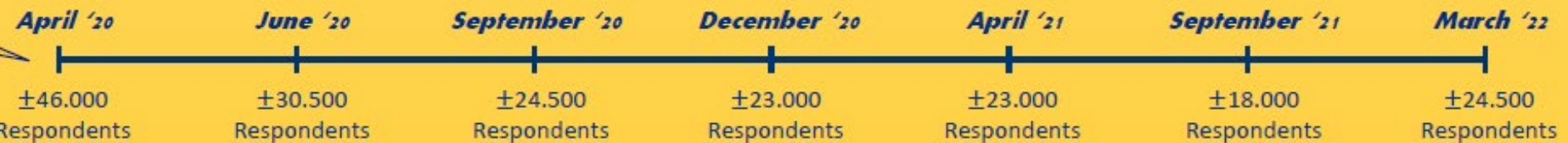
Introduction

- Reduction in public transport usage due to anxiety from Covid-19
- Investigate the anxious group
 - Characteristics
 - Change in attitude towards train and travel behaviour



Database

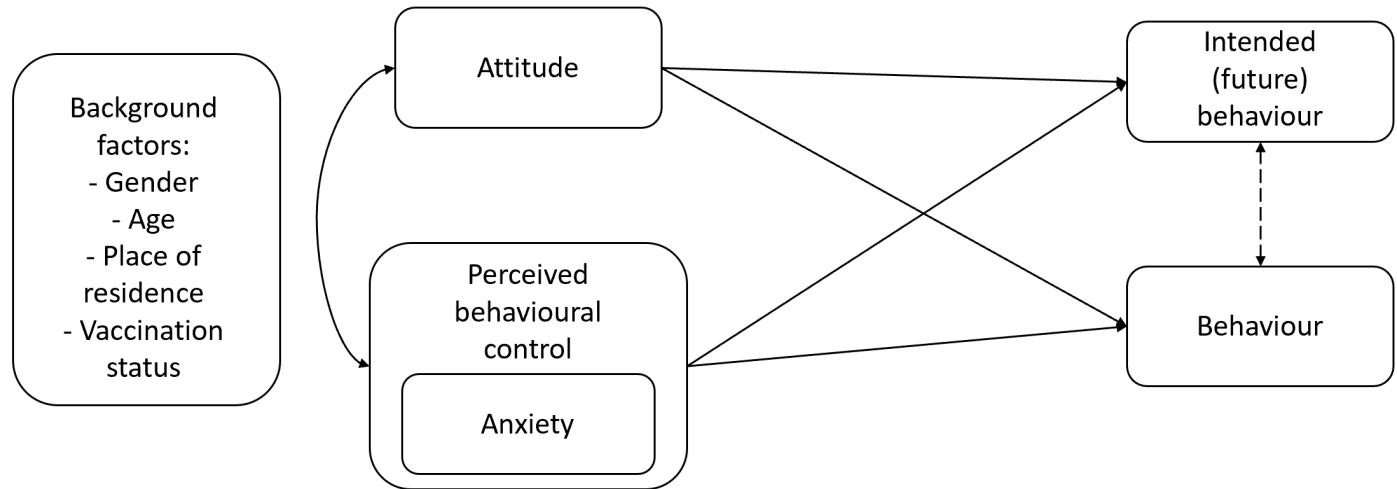
- Part of a larger project by NS and TU Delft
- Longitudinal surveys



- Anxious levels from question
 - Do you feel free to travel by train?



Theory



Methods

- Survey of April 2021
- Statistical relationship determined
 - Chi-square test
 - Post hoc test that tests for cell significance
 - Classification tree analysis
 - Cramer's V coefficient

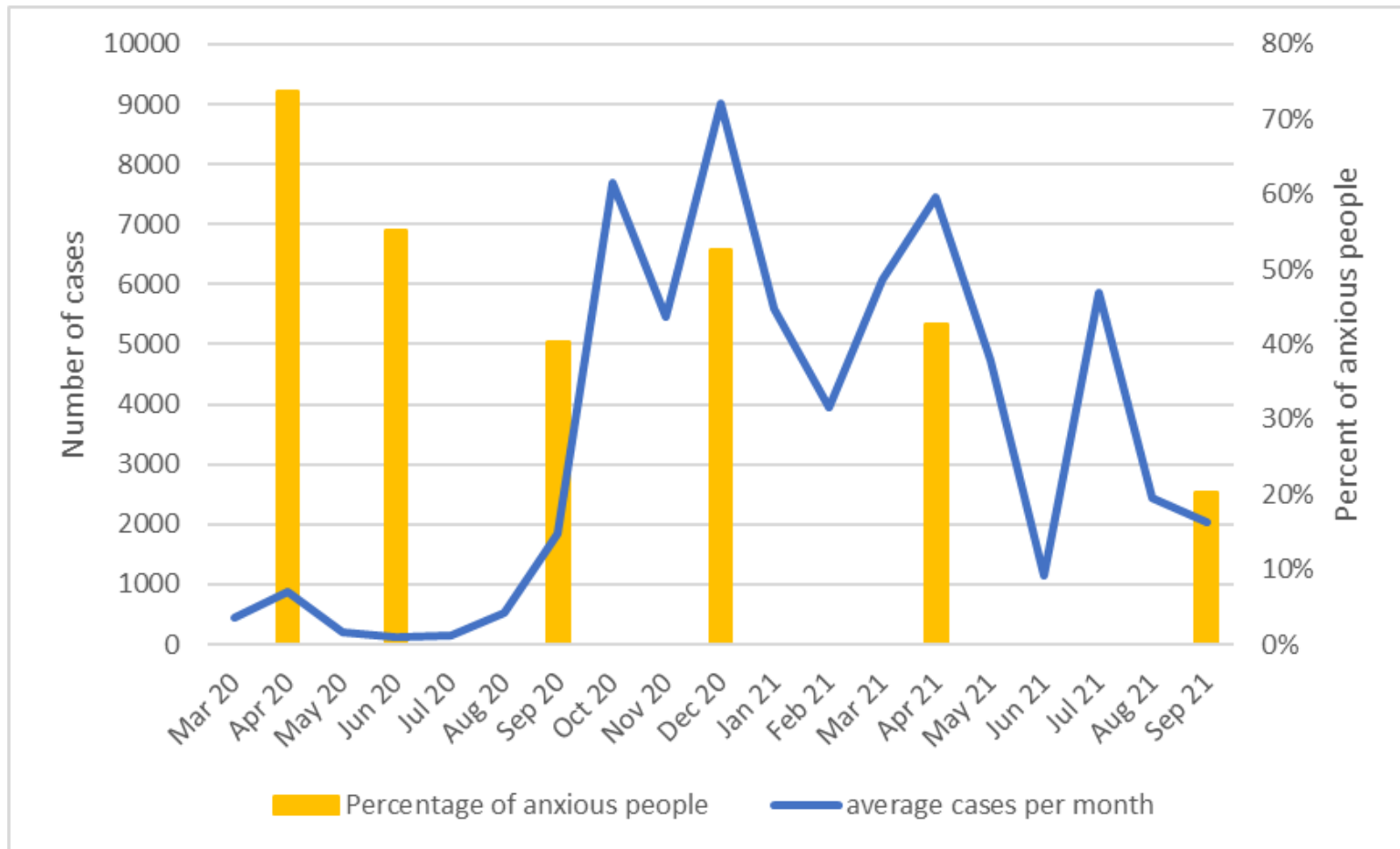


Identifying the anxious group

- Do you feel free to travel by train
- Are you afraid of getting infected
- Crosscheck
- People that do not feel free to travel by train are also afraid of getting infected
- Classified as anxious, neutral, and not anxious



Change over time



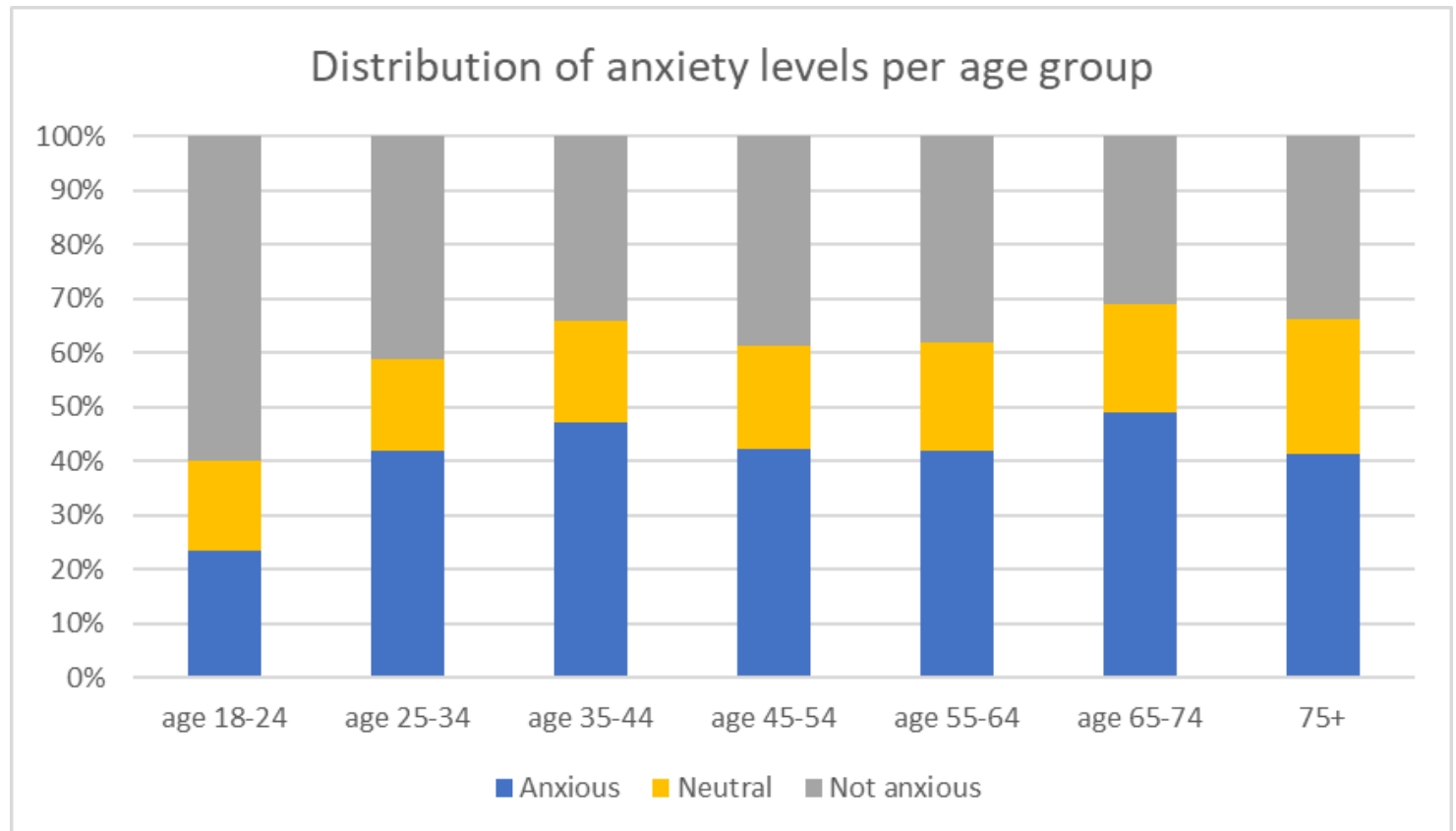
Characteristics of anxious group

- Classification tree analysis
- First split on age
- Then split on gender
- Split on vaccination status



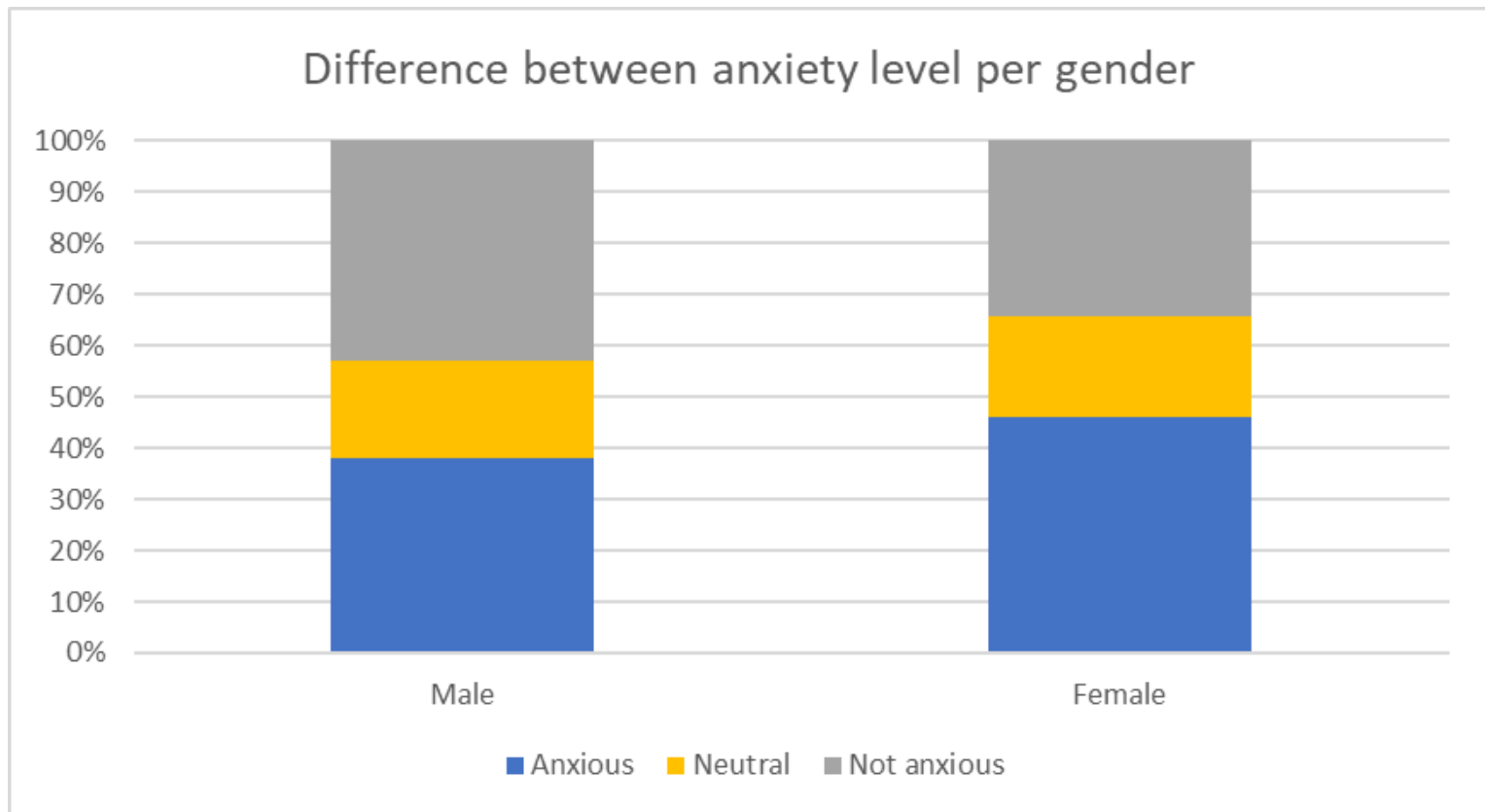
Age group

- Most important characteristic is age
- Older age groups are more anxious



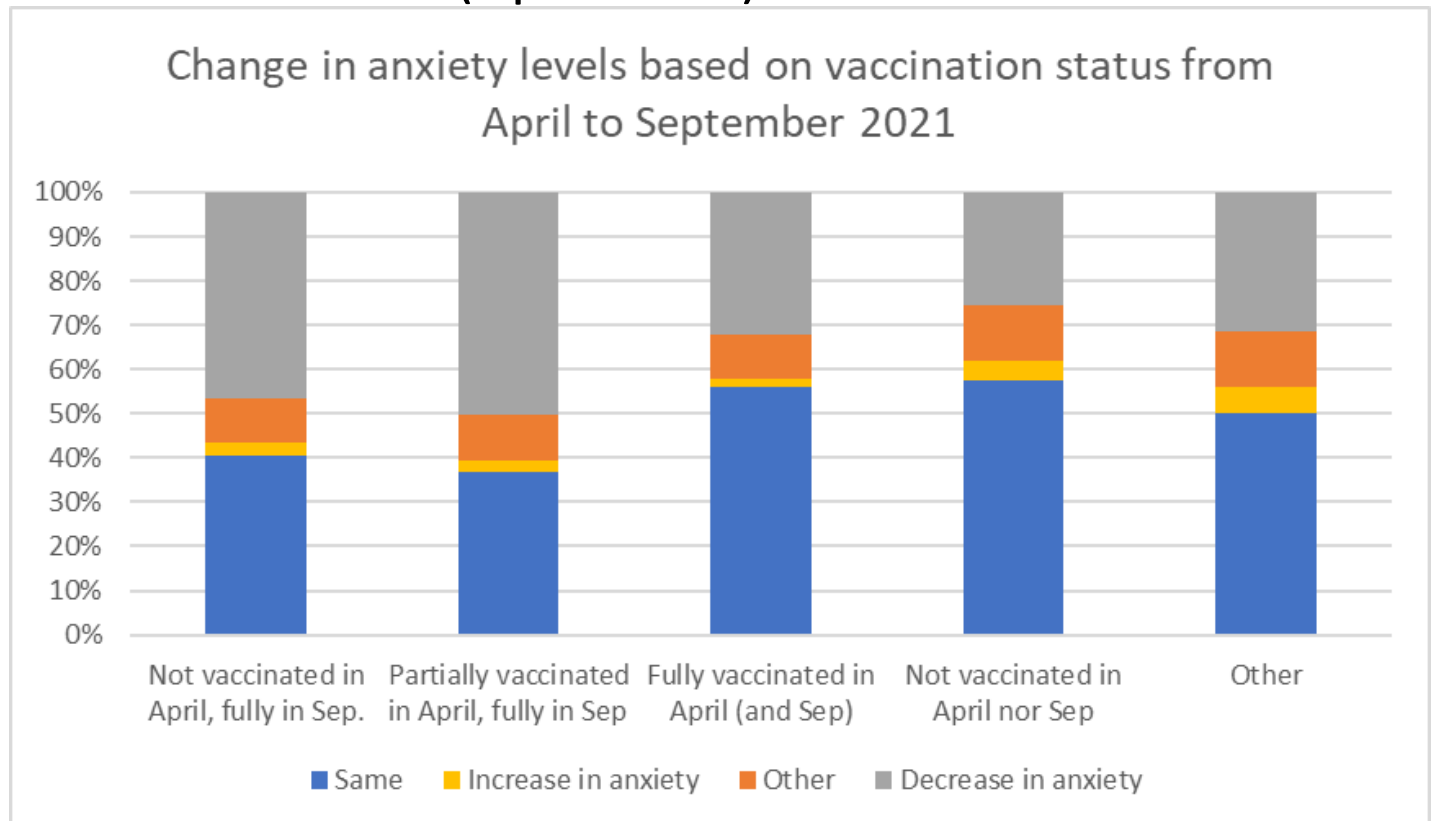
Gender

- Second most important characteristic
- Females more anxious

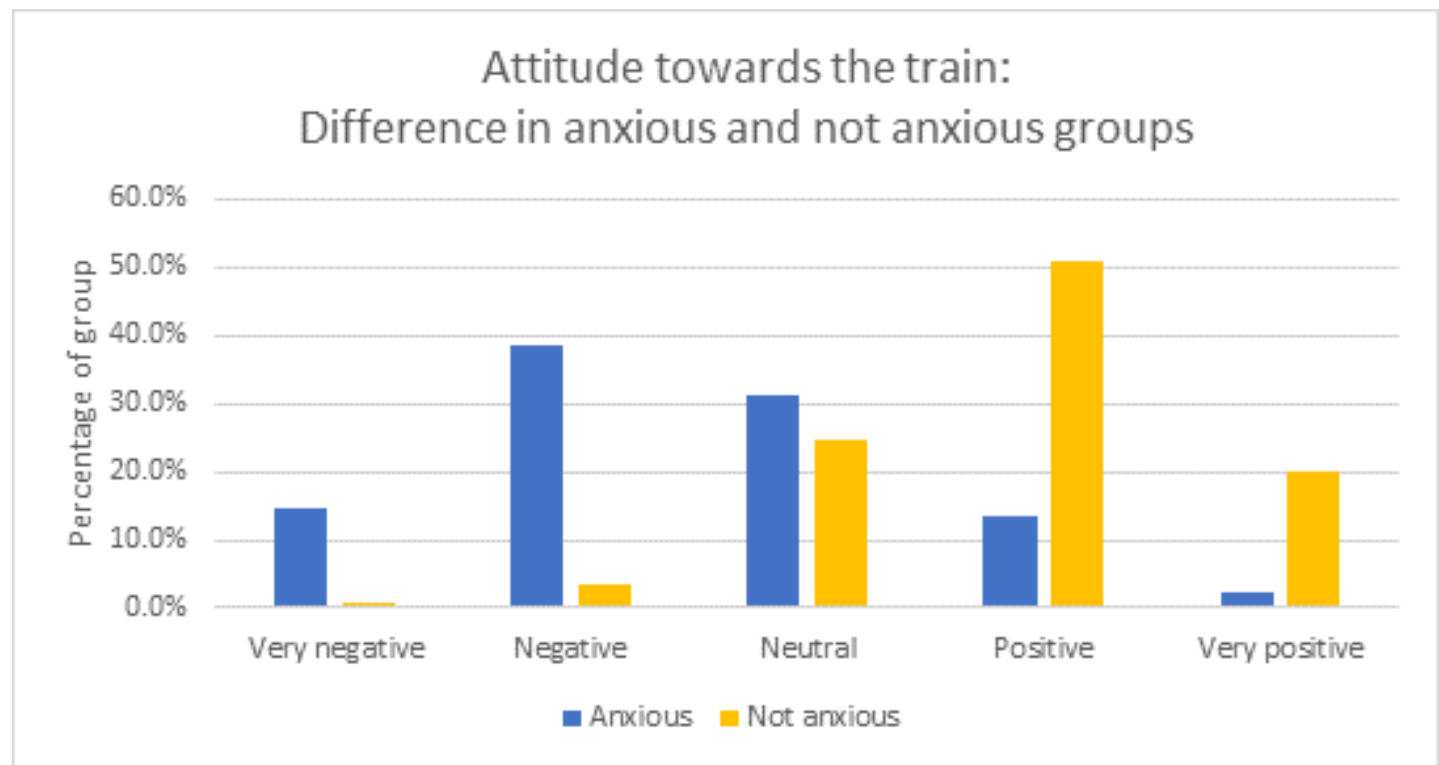


Vaccination status

- Third most important characteristic
- Planning to get vaccinated and partly vaccinated more anxious (April 2021)

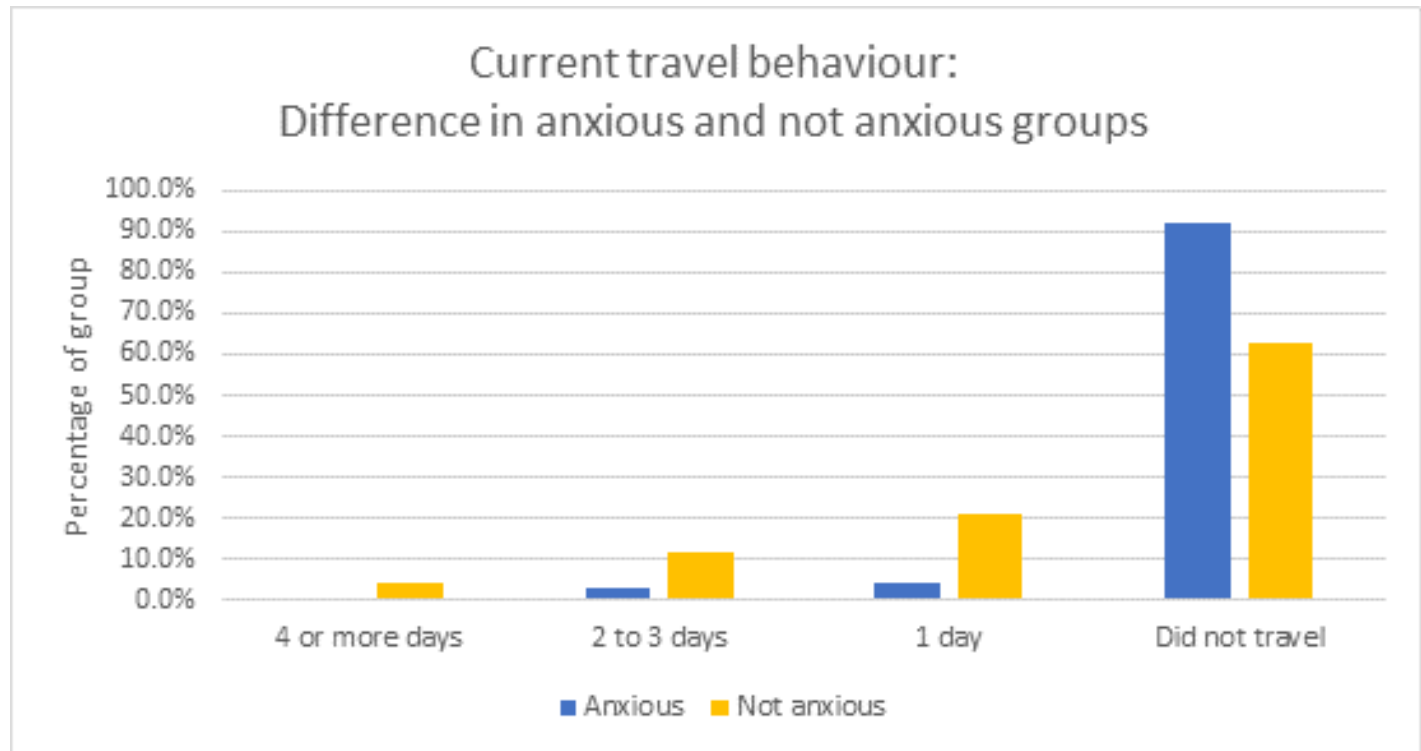


Effects of anxiety on attitude and behaviour



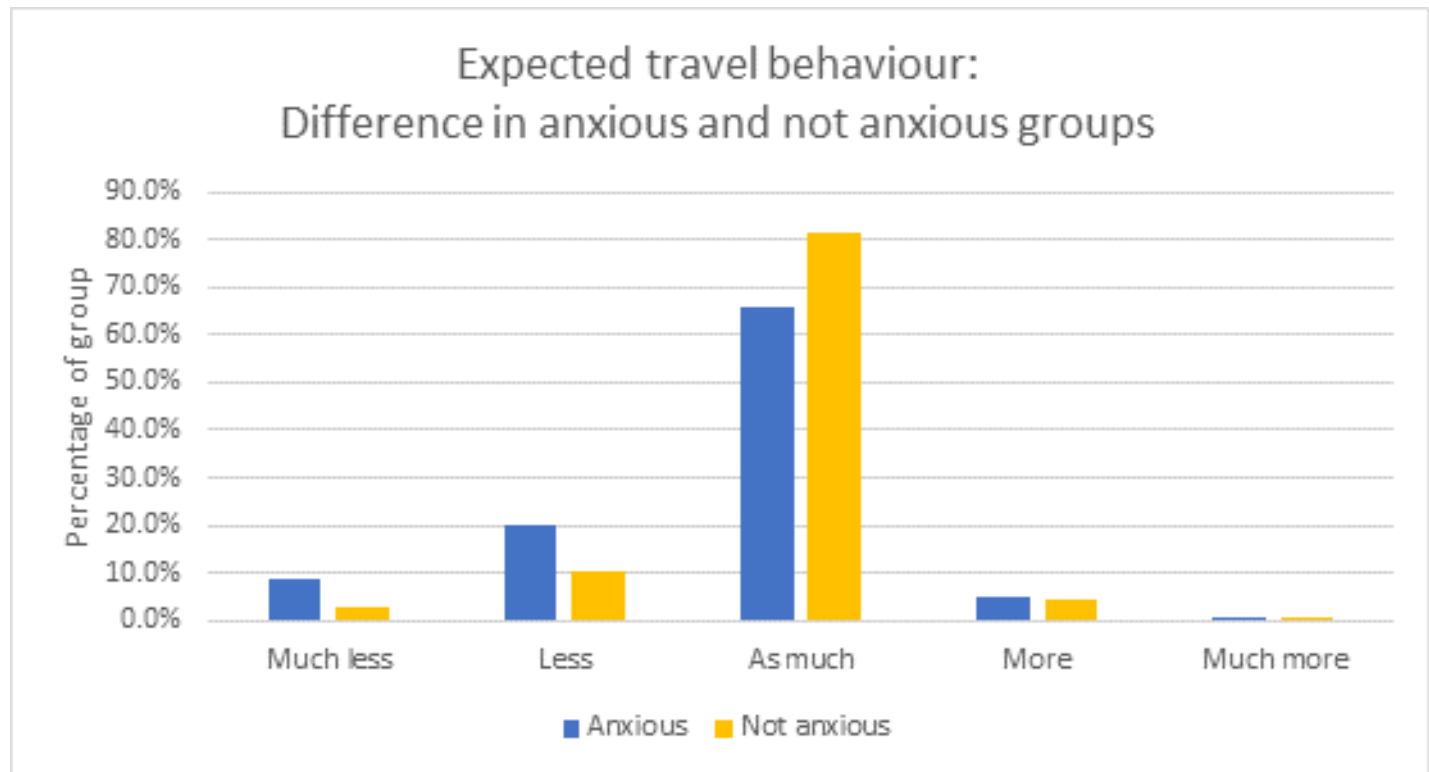
Effects of anxiety on attitude and behaviour

- Travel frequency in April 2021



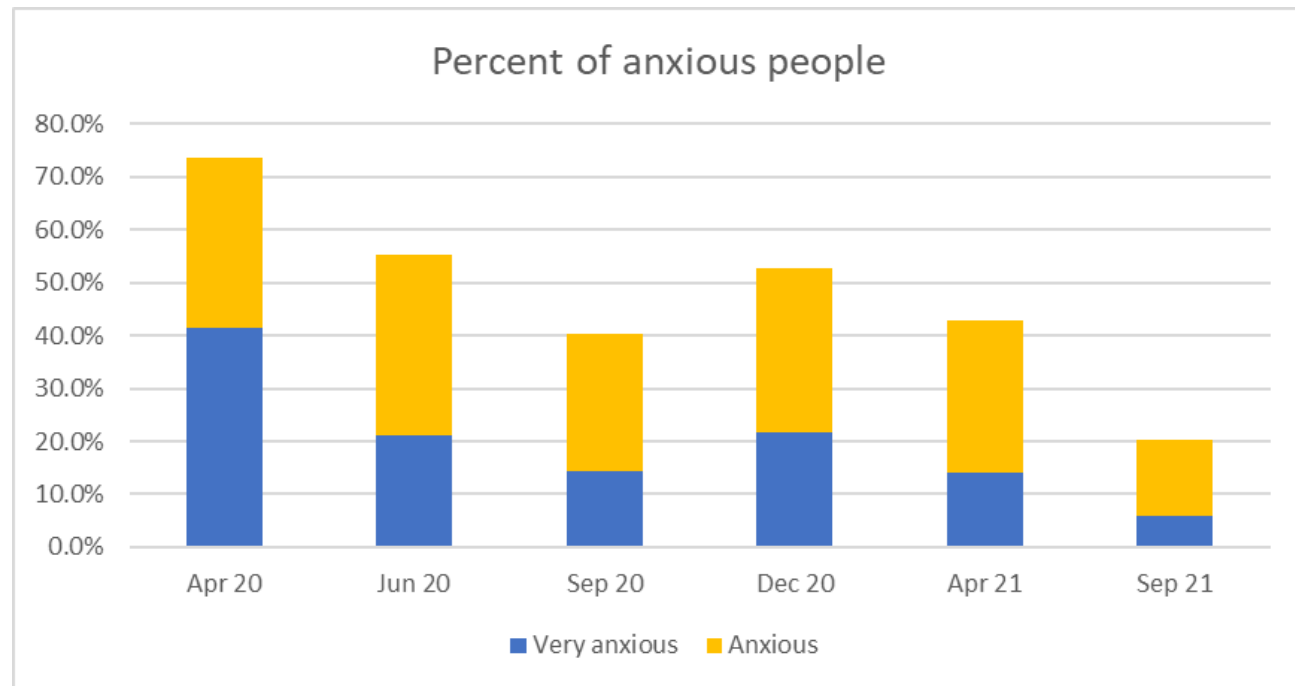
Effects of anxiety on attitude and behaviour

- Expected travel after Covid-19 compared to before Covid-19



Expected situation after Covid-19

- Still anxious people in September 2021
 - 6% train travellers very anxious



Conclusions

- Relationship between vaccinations and number of anxious people
- Anxiety has negative effects on attitude towards the train
 - Negative effects on train usage, both current and future

Typical profile of anxious person



Older
than 25



Female



Not
vaccinated

Recommendations

- Try to reduce anxiety
 - Reducing crowding in the trains
 - Information/education
 - Frequent cleaning
- Gains information about the anxious group
 - Can help with timetables and other planning



Recommendations

- Research further why is there still a group of anxious people?
 - What factors might contribute to this anxiety?
 - Look more into the group that is fully vaccinated and are still anxious
 - Change to other modes/ use other modes more often



Questions/more info?



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Full research report:

<https://repository.tudelft.nl/islandora/object/uuid%3A3abe1504-645a-4685-b412-cac0e8e2bdcd?collection=education>

More findings Covid research:

<https://nielsvanoort.weblog.tudelft.nl/de-gevolgen-van-de-coronacrisis-op-treinreisgedrag/>

