

The Attitudes and Values Behind the Mobility Habits of the Helsinki Capital Region Inhabitants

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Climate change mitigation puts pressure on societies to change their mobility habits. People are at the centre of this change and, therefore, it is crucial to understand the determinants behind people's mobility habits. The objective of this master's thesis research is to find out what kinds of values and attitudes guide the daily mobility habits of the Helsinki capital region inhabitants. The research was conducted as an assignment for MaaS Global and the aim is to provide information that can support development of the Mobility as a Service (MaaS) concept, which is seen as a one of the ways of making the transport sector more sustainable.

The data were collected with a survey posted to the social media channels of the Helsinki, Vantaa and Espoo municipalities and to an informal Facebook page for Vantaa inhabitants. The data were analysed mainly with statistical methods. The answers were grouped into seven mobility segments that were formed based on the primary and secondary modes of transport used by the survey respondents. The mobility segments are (1) active users of public transport, (2) primary car users / secondary public transport users, (3) primary public transport users / secondary car users, (4) sporty car users, (5) sporty public transport users, (6) committed car users, and (7) pedestrians and cyclists. The mobility segments form the basis for the analysis.

The results show that most people have positive attitudes towards walking and cycling. As modes of transport, cycling and walking are also seen as beneficial forms of exercise. However, positive attitudes towards walking and cycling are not necessarily reflected in actual mobility habits because some other values, such as comfort, are higher on a person's value hierarchy and, therefore, guide them to choose other modes of transport, such as a private car or public transport. In addition to comfort, the reasons for using a private car are usually practical, whereas status and image related reasons do not have much influence on private car usage. Among active public transport users, pedestrians and cyclists, and sporty public transport users, there are people who have negative attitudes towards private car usage – they also see that a private car is not suitable for their image. Most people have neither status nor safety related obstacles for using public transport. The group of committed car users is rather small and most people combine different modes of transport. The opportunity to combine different modes of transport is seen as a way to achieve freedom of mobility.

Keywords: Mobility, Attitudes, Values, Mobility as a Service, Climate change mitigation

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Foreword

Initially, I became interested in people's attitudes, values and the mobility as a service concept (MaaS, a mobility distribution model that converts mobility into a service) as part of a project that aimed to pilot the MaaS concept in two different user cases. I was able to develop a perspective to the topic from a humanistic point of view - I found it important to provide an understanding about end-users' behaviour. In the end, the project that I was involved in was not carried out, but I still wanted to continue with the topic as I found it inspiring and important in the current situation where climate change demands actions and, on the other hand, the transport sector is rapidly changing and evolving. I also consider myself a potential user of a functioning MaaS system.

Even though the original project was not carried out, I considered it important to write my thesis as a commission to a company that could potentially benefit from the research. As the MaaS concept has been the core of my master's thesis from the beginning, I wanted to provide information to a company or an organisation that works with the MaaS concept. MaaS Global, a start-up company that puts the MaaS concept into practice, got interested in the master's thesis research and the perspective on the topic. This master's thesis was commissioned by MaaS Global. I want to express my gratitude to Satu Kantola and Jonna Pöllänen from MaaS Global for their useful and encouraging comments throughout the thesis project.

1. Introduction

Adaptation to climate change effects and to problems caused by decreasing natural resources requires people to change the way they live. At the same time, on-going urbanisation causes problems like traffic congestion and poor air quality. 23% of the world's energy-related greenhouse gas emissions come from the transport sector ¹. Climate change mitigation puts pressure on the transport sector to find more sustainable ways of organising people's mobility. Our mobility is deeply intertwined with the lifestyle we have. The adoption of a more sustainable lifestyle requires us to change our attitudes and values. People are at the centre of the change and, therefore, it is crucial to understand people and to take their perspective into account on the creation of a more sustainable future. The aim of this study is to understand people's mobility behaviour through their attitudes and values, and to implement this information in the process of developing a new and more sustainable mobility system.

1.1 The need for changing the mobility system

Modern life, especially in the rich North, is based on increasing incomes, wealth, security, wellbeing, longevity, and fast and frequent mobility. Maintaining this “modern dream”, as John Urry calls it, is based on systems that use massive amounts of fossil fuels. ² Mobility represents an example of a high-carbon system that is crucial for maintaining modern life. Life is no longer in close neighbourhoods like it was before the emergence of private cars, air traffic and high-speed trains. The mobility of people and goods has become a necessity for the practices of modern life. Freedom of mobility is also seen as a basic human right – both the UN and the EU enshrine the right to mobility in their constitutions. ³ Fast and frequent mobility is currently based on oil, which is cheap and easily available. 95% of all motorised mobility uses oil as an energy resource. ⁴ This makes mobility and traffic one of the central challenges when finding ways to control global warming and decreasing oil resources.

¹ Kahn Ribeiro et al. 2007, 325

² Urry 2011, 48

³ Urry 2011, 66-68

⁴ Urry 2011, 77

Climate change mitigation requires changes in the mobility system. Mobility needs to be more efficient and less carbon-consumptive. Societies need a shift from private car usage to public and shared transport usage to tackle global warming. Statistics show that private cars are also essential to the Finnish people's (Finland's total population in 2015 was just under 5,5 million ⁵) way of life: there were over 2,5 million private cars in use in the year 2015 and the amount has increased every year since 1980 ⁶, apart from a small decrease during the time of economic depression in the early 1990s. Private cars also represent much more than just a rational mobility choice to people – they are as much about aesthetic, emotional and sensory responses to driving as patterns of family life, sociability, habitation, and work ⁷. Private car usage and mobility choices in general are also affected by a person's attitudes, values and orientations ⁸. Private cars are deeply intertwined with many people's lives. This creates enormous challenges for developing a new mobility system that is not as dependent on private cars and high carbon consumption.

According to Anthony Giddens, climate change and its negative consequences are well known, but people are not willing to change their habits of high carbon consumption. Even when the threats are known, they feel somehow unreal in everyday life. Global warming is not tangible and immediate in everyday life, so most people do nothing to mitigate climate change effects.⁹ Giddens also argues that most likely any strategy to reduce carbon consumption that is based on threats and intimidation is not going to work. Because threats do not seem to make people to change the way they live, Giddens argues for a positive approach to reducing carbon dependency. Incentives are more important than threats when developing a less carbon-dependent future. ¹⁰

Urry concurs that the new mobility system should be as comfortable, flexible and safe as the system based mainly on private car use. The new, less energy-consumptive mobility system should be desirable and fashionable in order to achieve significant reduction on private car use. ¹¹ As the threats of global warming do not motivate people to change their mobility habits, the new mobility system has to offer much more than just

⁵ Tilastokeskus 2015a

⁶ Tilastokeskus 2016

⁷ Sheller 2003, 2

⁸ Götz & Ohnmacht 2011, 92

⁹ Giddens 2009, 2

¹⁰ Giddens 2009, 57-59, 71

¹¹ Urry 2011, 132

the opportunity to use a less energy-consuming way to move. It has to be better and more desirable than the current system. It has to somehow beat the current car culture.

Finland is facing the same global problems as described above. Research focusing on urban areas carried out by the Finnish Ministry of Transport and Communications stated that mobility in Finnish society is mainly based on a “car system” that is supported by spatial (places that can only be reached by car), economical (e.g. prices of public transport) and social issues (lifestyle, norms)¹². Traffic is also causing a significant amount of greenhouse gas emissions: according to the Finnish Transport safety agency (Trafi), one fifth of the total greenhouse emissions in Finland comes from traffic and 90% of this is produced by road traffic. Private cars cause 60% of the greenhouse gas emissions of all road traffic.¹³

The Helsinki capital region has a relatively well-functioning public transport system including trains, buses, trams, and metros. The Helsinki capital region public transport system (HSL) has been internationally ranked number one in the European BEST (Benchmarking in European Service of Public Transport) survey five times in a row since 2010¹⁴. Nonetheless, there were 378 private cars registered for use per 1000 inhabitants in the Helsinki capital region at the end of year 2014¹⁵. It is less than in other parts of Finland (474/1000 inhabitants), but it still underlines the significance of private cars also in the Helsinki capital region.

Urbanisation is a phenomenon that has an impact globally and Finland is no different. According to a prediction made by the Helsinki City Planning Department, the population of Helsinki and surrounding areas will grow by 600,000 inhabitants by the year 2050. This poses challenges for transport policy. Traffic congestions are expected to get worse and, therefore, the improvement of public transport and the promotion of walking and cycling are the main guidelines for transport policy.¹⁶

In Helsinki, dense urban structure is the key element in developing a more sustainable city. According to the Helsinki City Planning Department, dense urban structure enables

¹² Pastinen et al. 2007, 21

¹³ Trafi 2014

¹⁴ HSL 2015

¹⁵ Helsingin kaupunki 2015, 2

¹⁶ Helsingin kaupunki 2013, 5, 9, 71

the improvement of public transport, thereby making the reduction of traffic emissions possible. Dense urban structure allows easy access to services and short commuter trips. Furthermore, technological solutions like robotic cars and on-demand traffic will be supported. These actions reduce the need to own a private car. Parking space is not needed as much as before, which enables even more efficient land use. The urban way of life and densification is promoted in suburban areas as well. Based on the above arguments, the Helsinki City Planning Department claims that a dense city is also a sustainable city.¹⁷

There is also some criticism of the sustainability of dense urban structure. Heinonen, Junnila and Ottelin conducted research on the carbon footprints of people living in new and old buildings in an inner urban area, an outer urban area, and a peri-urban area. The results show that people in new buildings in inner urban areas have the biggest carbon footprints because their lifestyle in general is more energy-consumptive. People in new housing in peri-urban areas have the lowest carbon footprints, even when income level is taken into account.¹⁸ Erling Holden and Ingrid T. Norland studied transport energy consumption in different residential areas in Oslo. In the context of a mobility dense inner city area residents have the highest level of leisure travel by plane, which raises their total mobility-related energy consumption, even though in the context of daily mobility they have the lowest energy consumption. Holden and Norland suggested that higher levels of leisure travel by plane might be explained by lifestyle-related factors.¹⁹ This conclusion is supported by the results of Heinonen, Junnila and Ottelin. However, it is clear that a sprawling city structure and a dependence on private cars go hand in hand, especially if an efficient public transport is lacking, and this is a major problem particularly in the United States²⁰.

The challenges described above, such as dependence on private cars, urbanisation and traffic congestions, emphasise the need for changing the mobility system. Climate change mitigation and the quality of urban life provide motivation for solving these challenges. In the Helsinki capital region, policy guidelines such as the demand for urban densification and the improvement of public transport provide a basis for develop-

¹⁷ Helsingin kaupunki 2013,10,12,17

¹⁸ Heinonen, Junnila & Ottelin 2015, 9574

¹⁹ Holden & Nordland 2005, 2145, 2159

²⁰ Urry 2011, 83

ing a new mobility system that does not rely on private cars as much as the current system. Although dense urban structure in every area of life does not result sustainability, in the context of daily mobility it reduces energy consumption. Urbanisation and related phenomena, climate change, and urban densification demand and, on the other hand, contribute to the outbreak of the new mobility system.

What kinds of actions can the transport sector take to make a shift towards more sustainable mobility? Different forms of shared mobility include features that are seen as the key principles for achieving sustainable mobility: shared mobility can lead to better use of available infrastructure and a higher utilisation rate of vehicles. Shared mobility includes services such as car [e.g. city car club] and bicycle sharing, ridesharing (also known as carpooling), and on-demand rides (e.g. Uber). The wider use of on-demand rides also includes the risk of people using public transport less, which would result in increased emissions. The development of electric and/or autonomous vehicles can also improve the sustainability of the transport sector. Electric cars together with services of shared mobility enhance sustainability; electric cars are currently better adapted for car sharing than private car ownership. Autonomous vehicles combined with shared mobility can also improve sustainability: autonomous cars could be constantly on the move and they could also improve safety, allow for a better use of travel time, and decrease congestions. The development of electric bicycles can improve sustainability as well. Compared with conventional bicycles, electric bicycles can broaden the sphere of bicycle use: for example, they make it possible to make longer trips and to carry children and goods. They are also an increasingly important option for commute trips instead of private cars.²¹ The Mobility as a Service (MaaS) concept is also seen as an opportunity to improve the sustainability of the transport sector.

1.2 Mobility as a Service concept and MaaS Global

Mobility as a Service (MaaS) is a mobility distribution model that combines different transport services into service packages. A fully functioning MaaS system would convert mobility into a service in which physical mobility and digital services merge into a door-to-door service that meets the specific needs of the end-users. This requires vari-

²¹ European Environmental Agency 2016, 61-67

ous transport service chains that work seamlessly together. Simultaneous technological development in many sectors, such as the widespread use of smart phones, real-time traffic data and intelligent cars, makes it possible to turn mobility into a service.²² The MaaS system requires a mobility operator (cf. current mobile operator services) that bundles together transport services' components and provides mobility packages that take into account the varying needs of end-users²³.

The vision is that a fully functioning MaaS system would reduce the need to own private cars. At the same time, the customer's mobility service level would not fall from the current situation. A successful MaaS system would make the whole traffic system more sustainable. Other actions towards sustainable traffic, such as shared mobility services and autonomous vehicles, could be bundled into the MaaS system to make it potentially more successful. The visions of MaaS are not just about more sustainable mobility, climate change mitigation and the reduction of traffic congestions, but also about improving people's mobility services with a new user orientated system. The MaaS concept reflects Anthony Giddens's ideas about a positive approach to mitigating the impacts of climate change.

Finland is a pioneer in "mobility as a service" thinking. The public sector is working to enable favourable operating conditions, whereas responsibility for innovations and development of the service lies with the private sector.²⁴ The MaaS concept has aroused plenty of interest and many actors²⁵ are working to support the deployment of the MaaS system.

Established in 2015, MaaS Global is a pioneering company in the development of the MaaS system. Currently, MaaS Global is working on developing a functioning MaaS system for Helsinki and for the West Midlands, UK. MaaS Global has created an application called "Whim" which combines different modes of transport into service packages. The Whim application was launched in Helsinki in the beginning of June 2017. Whim provides "basic", "go" and "business" mobility service packages with monthly payments as well as a "pay as you go" option. At the moment, the service includes pub-

²² Ministry of Transport and Communications 2017

²³ ITS Finland 2017

²⁴ Ministry of Transport and Communications 2017

²⁵ Cf. e.g. Ministry of Transport and Communications 2017 & HSL 2016

lic transport, taxi and rental car services, and the future aim is to include more transport providers into the system to enable a fully functioning MaaS system.

MaaS Global commissioned the research reported in this thesis. The aim is to provide an understanding of the factors that affect people's mobility habits. This information could help with the future development of the service. The values and the attitudes are important to understand in order to develop the service so that it can satisfy the motivations underlying the mobility habits. The question of private car ownership is also crucial for MaaS Global and, therefore, themes relating to private cars are important in this study. Since the MaaS concept is seen as a way to reduce traffic congestions and emissions, MaaS Global also encourages the use of public transport to some extent. Therefore, it is also important to understand the obstacles to and reasons for using public transport and modes of transport other than a private car.

1.3 Research questions

Knowing the end-users and the determinants behind their behaviour is crucial when developing new services. The need to move from one place to another is not the only factor that affects mobility decisions – the determinants underlying mobility habits are much more complex. This underlines the importance of understanding the attitudes and values related to mobility habits. The main research question to answer in this study is:

- What are the attitudes and values behind the mobility habits of the Helsinki capital region inhabitants?

In this study, Helsinki capital region refers to Helsinki, Espoo and Vantaa (Kauniainen is excluded). The study focuses on the context of daily mobility and the attitudes and values that determine the decisions to use a certain mode of transport. Mode of transport in this research refers to all modes of mobility: motorised mobility as well as human-powered mobility, such as cycling and walking. Values and attitudes play an important role also in the development of a new mobility system – it is essential to know what the factors behind mobility behaviour are in order to develop a system to satisfy end-users and achieve a shift in mobility habits. In addition, the following questions will be studied:

- What kinds of groups can be formed based on the mobility habits of the Helsinki capital region inhabitants?
- How do the attitudes and values of the groups with different mobility habits differ?

Findings from the research will be reflected to the future development of the MaaS system.

2. Studying values and attitudes

2.1 Definition of values and attitudes

Values tell us what is important in life. All people have many values and the degree of importance of these values varies. According to social psychologist Shalom Schwartz, there are 6 common features that define values. These features form the basis of Schwartz's value theory (section 2.2). (1) Values are beliefs linked to affect: when values are activated, they become infused with feeling. If an important value is threatened people will stand to protect it, despair if they cannot protect it and be happy when they are able to maintain the value. (2) Values guide us to desirable goals that motivate people to certain action. (3) Values guide people's actions in different situations and they transcend specific actions and situations. (4) Values form standards or criteria. Values guide people on whether something is right or wrong, worth doing or avoiding, etc. According to Schwartz, the connection between values and actions in everyday life is rarely conscious, but when a situation or action causes conflict between a person's cherished values, they become conscious. (5) Values are ordered by importance. (6) The relative importance of different values guides action. Any attitude or behaviour is typically the result of multiple values. The compromise between primary and secondary values guides attitudes and behaviour.²⁶

Values are culturally shared and people may stand for the same values. People may prioritise values differently, which may cause different choices among people in the same

²⁶ Schwartz 2012, 3-4

community.²⁷ Values are relatively stable. People usually overemphasize the change of values and underestimate the stability of values, but the values of ordinary people usually change slowly.²⁸

According to Schwartz, attitudes are varying evaluations of objects, whether concrete or abstract, as good or bad, desirable or undesirable. Values form the basis of our attitudes. People form positive attitudes towards other people, behaviours, events etc., if they represent or protect the goals they value and vice versa.²⁹ Attitudes usually refer to people in specific actions, objects or situations, unlike values, which are valid in different situations. The hierarchical nature of values also distinguishes values from attitudes.³⁰

Social psychologist Martti Puohiniemi defines attitudes as habits that define how we react to the world around us. Attitudes are positive, neutral or negative features that help us to decide how to act in different situations. People form attitudes when they face new situations, for example, new trends or hobbies. Even if people constantly form new attitudes, some attitudes are extremely stable. For example, attitudes relating to political opinions are usually stable. Attitudes are connected to the zeitgeist, the spirit/picture of the times.³¹ According to Puohiniemi, zeitgeist is an impression of our times and the media, personal experiences and new scientific information create it. Zeitgeist cannot be defined objectively since it is always based on the interaction of a person and the surrounding reality.³² Zeitgeist is, for example, how we dress, what kinds of cars we drive (or do we drive at all), what kinds of movies we watch, how we decorate our homes, how we spend our holidays, and what the cityscape around us looks like. When new features appear in the zeitgeist, people are forced to form attitudes. For example, in the early 1990s most Finns did not have attitudes about the Internet, because the Internet was still a marginal phenomenon. Ten years later, most Finns had used the Internet and they had formed attitudes towards it. Zeitgeist appeals differently to people – it can be exciting or frightening depending on the values that people have. For example, a rapidly changing reality might feel frightening to someone who prioritises the values of tradition and security, whereas the same situation can be exciting for someone who values

²⁷ Lurvink, et al. 2014, 165

²⁸ Helkama 2015, 203

²⁹ Schwartz 2012, 16

³⁰ Schwartz 2012, 3-4

³¹ Puohiniemi 2002, 5

³² Puohiniemi 2002, 7 (vii)

courage and is open to change. Zeitgeist, attitudes and values form a triangle in which values are the basis of the system. People form attitudes towards phenomena that appear in the zeitgeist based on the values they have.³³ Discussion about global warming and efforts to mitigate climate change effects appear in the media – climate change mitigation can be seen as one of the features that defines the zeitgeist at the moment. The development of a new mobility system aims to mitigate the emissions of the traffic sector. The attitude one has towards global warming may also affect attitude towards an evolving mobility system, even if climate change mitigation is not the only objective of the MaaS system.

Studying values is not simple. Values are not directly observable because they are expressed in action through thinking and talking, and they are reflected in our attitudes, behaviour and decisions. It is evident that values affect people's actions, but we cannot easily draw conclusions about values by simply observing behaviour, because other features also affect behaviour. Values cannot be studied on their own, because values do not exist by themselves.³⁴ People cannot always follow their values in real life, which also creates limitations when trying to study values. People might also state that a certain value is important for them, but it really does not affect their behaviour. When we ask about values, a person might try to answer according to the values that are cherished in the surrounding society.³⁵

Attitudes are the key features when studying values. Attitudes are visible features in people's behaviour, and data about attitudes can be collected, for example, with a survey. Values affect attitudes, but the connection between values and attitudes is not straightforward. By studying attitudes, it is possible to find evidence about the values that underlie attitudes. Value orientations, which are a group of similar connected attitudes, help to identify values from attitudes. Through value orientations, evidence about certain values can be found in attitudes.³⁶

³³ Puohiniemi 2002, 5-6

³⁴ Van Deth & Scarbrough 1995, 29-31

³⁵ Helkama 2015, 14-15

³⁶ Van Deth & Scarbrough 1995, 31-33, 40-41

2.2 Schwartz's value theory and application to daily mobility context

According to Schwartz, the six features that define values (section 2.1) are common for all values. What distinguishes values from each other is the motivation or goal that underlies a certain value. Schwartz's value theory defines ten basic values that are broad and universal and based on the motivation behind the values. The ten values are: self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence and universalism. According to Schwartz, "these values are likely to be universal because they are grouped in one or more of three universal requirements of human existence with which they help to cope. These requirements are needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups."³⁷

Schwartz defines values in terms of the motivation or goal that they express. In addition, Schwartz's theory includes value items, which are reflections of basic values and operate as an instrument to measure each value. Some value items, such as self-respect, intelligence and social recognition, express motivational goals of more than one value listed in Figure 1.³⁸

How can the values defined by Schwartz be applied in the context of daily mobility? In Figure 1 below, there are some hypothetical examples of how mobility habits could reflect Schwartz's value theory.

| Basic value | Defining goal/motivation | Value items = instruments to measure basic value | Hypothetical examples how value can be linked to daily mobility |
|-----------------------|--|---|---|
| Self-direction | Independent thoughts and actions, need to control and mastery, creativity and exploring, autonomy and independence | Creativity, freedom, choosing own goals, curious, independent, self-respect, intelligent, privacy | Need to find a transport mode that enables freedom of mobility. People's need for privacy can guide the use of a private car. |
| Stimulation | Need to look for excitement, novelty and challenge and maintain optimal and positive level of activation | A varied life, an exciting life, daring | "Extreme" cycling culture: long distances, high speed and rigorous exercise. |

³⁷ Schwartz 2012, 4

³⁸ Schwartz 2012, 4

| | | | |
|---------------------|--|--|---|
| Hedonism | Pleasure or sensuous gratification | Pleasure, enjoying life, self-indulgence | Pleasure and enjoyment of driving a car or cycling. |
| Achievement | Personal success through demonstrating competence according to existing social standards | Ambition, success, capability, influence, intelligent, self-respect, social recognition | Car as a status symbol or, conversely, a carless, hip lifestyle. |
| Power | Need for social status and prestige and control or dominance over people and resources | Authority, wealth, social power, preserving public image, social recognition | Car as a status symbol or, conversely, a carless, hip lifestyle. |
| Security | Need for safety, harmony and stability in relationships, society and in personal life | Social order, family security, national security, cleanness, reciprocation of favours, health, moderate, sense of belonging | Need to find a mode of transport that creates the strongest perception of safety: private car in order to avoid walking out alone or being harassed in public transportation; other transport modes in order to avoid collisions with private cars. |
| Conformity | Control of actions, inclinations and impulses that might harm others and break the norms or expectations of surrounding society. | Obedient, self-discipline, politeness, honouring parents and elders, loyalty, responsibility | Need to maintain the lifestyle of the surrounding society: stereotypically, for example, a detached house and two private cars or an urban lifestyle that relies on other modes of transport. |
| Tradition | Need to respect, commit and accept the customs and ideas of the surrounding culture and religion. | Respect for tradition, humble, devout, accepting my portion in life, moderate, spiritual life | Need to maintain the lifestyle of the surrounding society: stereotypically, for example, a detached house and two private cars or an urban lifestyle that relies on other modes of transport. |
| Benevolence | Preserving and enhancing the welfare of people that one is in personal contact, like family members. | Helpful, honest, forgiving, responsible, loyal, true friendship, mature love, sense of belonging, meaning in life, a spiritual life | Need to show affection and care, for example, towards children, spouse or elderly parents by giving them a lift. Need to preserve nature and resources for future generations can guide the choice of less carbon-consumptive modes of transport. |
| Universalism | Need to understand, appreciate, tolerant and protect welfare of all people and nature. | Broadminded, social justice, equality, world at peace, world of beauty, unity with nature, wisdom, protecting the environment and inner harmony. | Motivates people to reduce environmentally harmful mobility-related actions. Might mean, for example, use of public transport, cycling, walking or use of electric car. |

Figure 1. Schwartz's universal values, value items³⁹ and their application to the context of daily mobility

Some of the values have similar motivational goals. Underlying both achievement and power values, there is a need for social esteem. Achievement values are more about achieving success in concrete actions, whereas power values are more about gaining (and maintaining) a dominant role in society. Tradition and conformity values have a close motivational basis as both have goals to follow norms and expectations of the surrounding society. Conformity values are more about following the norms of the people with whom one frequently interacts, like parents, teachers and bosses, whereas tradition values are more about following the norms of religion and culture. Benevolence and conformity are also close basic values. They both promote cooperative social relations, but benevolence stems from internalised motivation and conformity from the need to avoid negative outcomes for oneself.⁴⁰ As achievement and power values as well as conformity and tradition values have close motivational bases, the hypothetical examples from the context of daily mobility are the same.

Schwartz's value theory includes a theoretical model that emphasises relations between values. The basic idea of the model is that if one pursues a certain value in action, the consequence is that it conflicts with some values and is congruent with other values. For example, if a person is seeking success, it might cause a conflict with trying to enhance the welfare of others – the situation causes a conflict between achievement and benevolence values.⁴¹

The circular structure demonstrates Schwartz's idea of the relations between the ten basic values (Figure 2).

³⁹ Schwartz 2012, 5-7

⁴⁰ Schwartz 2012, 5-7

⁴¹ Schwartz 2012, 8

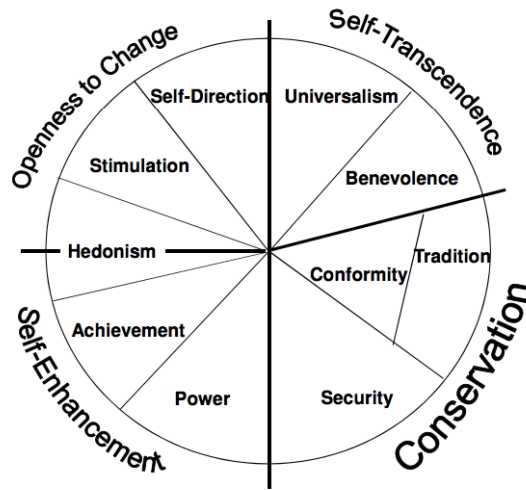


Figure 2. Schwartz's theoretical model of the relations between ten motivational types of values ⁴²

The circular model demonstrates the structure of values and shows which ones are in conflict and which ones are related. Tradition and conformity are in the same section because these values have the same broad motivational goal. Tradition values conflict more strongly with the opposing value of hedonism (tradition is located further away from the centre). As shown in the circular model, one dimension contrasts "openness to change" with "conservation" values. According to Schwartz "this dimension captures the conflict between values that emphasize independence of thought, action, and feelings and readiness for chance (self-direction, stimulation) and values that emphasize order, self-restriction, preservation of the past, and resistance of change (security, conformity, tradition)". Other conflicting value dimension is "self-enhancement" and "self-transcendence". According to Schwartz "this dimension captures the conflict between values that emphasize concern for the welfare and interest of the others (universalism, benevolence) and values that emphasize pursuit of one's own interest and relative success and dominance over others (power, achievement)." Hedonism reflects both openness to change and self-enhancement. Schwartz also emphasises that even if each basic value has its own section in the circular model, values form a continuum and the differences between similar values are not strict. ⁴³

⁴² Schwartz 2012, 9

⁴³ Schwartz 2012, 8-9

2.3. Discussion about values, attitudes and Schwartz's theory

Finnish social psychologist Klaus Helkama questions whether all values (value items) fit to Schwartz's theory. The theory is very simplified and it is based on statistical generalities. Helkama conducted research on values and Schwartz's theory. He studied values mentioned in newspapers, magazines and public speeches in Finland and compared how they fit Schwartz's theory. One third of the values did not fit any one particular category in Schwartz's theory. However, some values, like generosity, were difficult to place in a certain category, but it obviously fits somewhere between benevolence and universalism.⁴⁴ Schwartz also states that values form a continuum and some values (like self-respect, intelligence and social recognition) fit more than one category in his theory⁴⁵. Research carried out in Estonia studied value-related words in Estonian and compared them to Schwartz's theory. The results show that values generally follow the structure in Schwartz's value theory, but a more detailed examination shows that there are some values that are only typical for Estonian culture. The results from the Estonia study show that Schwartz's theory of universal structure of values is useful, but it is not comprehensive – the surrounding culture creates values and meanings that are not understood universally.⁴⁶

All value items are not always placed in the same category in different cultures. For example, according to Helkama, in Finland, national security belongs to conformity values, unlike in the original theory where it is placed in security values.⁴⁷ Value research in Finland also identifies work as one broad value that includes value items like diligence and conscientiousness. Work is a value that clearly has an important place in Finnish culture, but it does not have a place in Schwartz's universal value theory.⁴⁸ According to Helkama, Schwartz's theory demonstrates both the similarities and differences of values in different cultures – this is one of the strengths of the theory.⁴⁹ Schwartz has also further developed his original theory in order to understand differences between value orientations in different cultures⁵⁰.

⁴⁴ Helkama 2015, 97,99

⁴⁵ Schwartz 2012, 9-10

⁴⁶ Helkama 2009, 38

⁴⁷ Helkama 2015, 94-95

⁴⁸ Helkama 2015, 141

⁴⁹ Helkama 2015, 100

⁵⁰ Schwartz 2011, xix (19) – xx (20)

Helkama states that, according to Schwartz, all choices can be understood through values⁵¹. This view reflects Schwartz's idea, that values are rarely conscious (section 2.1). In the context of daily mobility, it is quite easy to formulate the hypothesis that conscious values can also determine the chosen mode of transport. For example, environmental values or health and wellbeing (when choosing a bicycle or walking) are conscious values that might guide mobility decisions. On the other hand, it is relevant to ask: do all actions reflect values?

Puohiniemi argues that values are principles that guide our choices and values usually have a culturally accepted positive tone. At the same time, Puohiniemi sees all values as conscious motives, but not all motives are values: greediness, jealousy, anger and bitterness can guide actions, but according to Puohiniemi these are not values.⁵² Helkama argues that universalism, benevolence, tradition and conformity values can be understood as morally acceptable values. Hedonism, self-direction and maybe even stimulation values represent values that are morally less acceptable.⁵³ These values do not necessarily have the culturally accepted positive tone that Puohiniemi describes. Schwartz's notion of values is broader – the motivation that underlies values is not necessarily noble and positively tuned and, therefore, values can affect many kinds of actions.

Helkama identifies three levels of values. He discusses collective values (especially shared values on a national level) and individual values. The third level is action – what is the connection between values and action. Helkama focuses especially on the values of Finnish people. The collective values are common for all Finnish people, no matter what individual values they cherish. The idea of shared Finnish values (=collective level) is problematic because Finnish people do not share the same base values. Still the idea of national self-image exists. According to social psychological studies, every group of people includes such features to their self-image to separate them from other groups. Groups also tend to exaggerate the differences between their own group (inner group) and other groups. Inner group members also tend to see members of other groups as similar (for example “all Swedes are similar”) and members of the inner group as individuals. The idea of shared Finnish values probably does not exist in reality, but it

⁵¹ Helkama 2015, 101

⁵² Puohiniemi 2002, 19

⁵³ Helkama 2015, 101

certainly exists in mental images. This idea of shared values and national self-image is visible for example in art.⁵⁴

Values may be shared, but values also reveal the differences between individuals. This individual level of values is measured in value surveys and the aim is to see the differences between individuals. But what really matters is behaviour, which determines what people actually value (=third level). As noted above, the connection between values and behaviour (or attitudes) is not straightforward. The same action might express many values and vice versa. For example, sport might reflect competitive achievement values or hedonism values.⁵⁵ This complex link between values and behaviour (and attitudes) makes studying values challenging.

Schwarz's value theory provides a framework for the research to study values. The idea of a hierarchical structure of values helps to analyse a person's value hierarchy. A person might state that she/he cherishes certain values, but those values that are high on one's value hierarchy guide one's actions in certain situations. In the context of daily mobility, for example, if a person cherishes environmental values and private car usage for comfort reasons, these two values are difficult to pursue in action in the context of daily mobility – even if a person states to cherish them both. Previous research also shows that people may reflect environmentally friendly attitudes and values, but these values do not necessarily influence real-life actions⁵⁶. This research is not based on the assumption that all values are strictly universal and it is not expected that all values (and attitudes) visible in the findings can be fit easily into Schwartz's original theory. The aim is to compare actions (Helkama's third level of values) to the attitudes and values that people claim to cherish.

3. Values and attitudes affecting to mobility decisions – previous research

3.1 Safety

Safety-related attitudes and values are important factors that determine mobility decisions. The need for safety stems from the biological need for survival and maintaining welfare. This is one of the three universal requirements of human existence that are be-

⁵⁴ Helkama 2015, 12-13

⁵⁵ Helkama 2015, 14-15

⁵⁶ Fortner & Jurin 2002, 373

hind Schwartz's value theory. Safety is the defining goal for security values. Safety can guide mobility decisions in many ways: for example, some might choose a private car in order to maintain the perception of safety, while others might think that driving is risky (especially on highways). The importance of safety, from different perspectives, is revealed in several studies.

The Finnish Ministry of Transport and Communications conducted research on mobility groups in Helsinki and surrounding areas and in Tampere, Turku and Oulu. The results show that the perception of safety is an important factor when choosing a mode of transport, especially for women. Depending on the age group, 60–70% of women were so afraid of violence and harassment that they avoided going out alone at certain times of the day. The perception of safety also affects men's mobility decisions, especially when they get older: 14–40% of men sometimes avoided walking alone outside. Feeling unsafe is related to the use of public transport (especially public transport stations) and walking.⁵⁷

Julian Hine emphasises similar results in her article on Mobility and Transport Disadvantage. Hine states that, according to research on personal security issues in pedestrian journeys, fear and the perception of safety affect women's mobility decisions. Furthermore, older people and people from ethnic communities face the same problem. As a consequence of fear, trips are not made or people search for an alternative mode of transport that is considered safer. Hine has found in her previous research based on Scotland that fear is one of two key issues when choosing a car instead of a bus. Hine claims (according to Pain, Hine and Mitchell) that taxis can also play significant role when people are afraid to use public transport.⁵⁸

Private car usage can also be linked to fears. There are more injuries in private car traffic than in public transport, especially over long distances⁵⁹. In research on the importance of cars for Finnish people, 52 % mentioned the risk of collisions as one of the negative sides of driving on highways. Other issues linked to highway driving, like high expenses, emissions, congestions on weekends and stressful driving, were not perceived as negatively as the risk of car accidents. On the other hand, participants in the research

⁵⁷ Luoma & Voltti 2007, 50

⁵⁸ Hine 2011, 31-32

⁵⁹ Pastinen et al. 2007, 25

stated that it does not make sense to think about accident risks if one wants to use a private car. The participants also felt that they drive safely and other people represent a risk in traffic.⁶⁰

Safety is also linked to cycling. A quarter of those who use a bicycle in Helsinki feel that cycling is rather unsafe. Women see cycling as unsafe more often than men. Some of those Helsinki inhabitants who do not use bicycles stated that if cycling were safer they would cycle more.⁶¹

Safety-related issues are also behind the mobility decisions of families with children. Jensen, Sheller and Wind state that (according to Mikkelsen, Christensen, McLaren and Parusel) parents' perception of safety in an urban environment has an impact on children's daily mobility and, thus (according to Fotel, Sheller and Thomsen), parents tend to escort their children to school and hobbies. Along with safety concerns, parents also show affection and care for their children by escorting them.⁶² Parents' concerns about their children's safety has increased the practice of driving children to school and hobbies by car. Increased traffic is one of the parents' main concerns and frequent private car usage makes the environment even more frightening.⁶³ But traffic is not the only thing that creates fear. Social fears also lead parents to limit their children's mobility on their own or with friends of the same age. Children do not face violence more than before, but parents are still more afraid that strangers might hurt their children if they move around outside on their own.⁶⁴ However, in Nordic countries children are allowed to move around on their own much more freely than in other countries⁶⁵.

3.2 Status and power values

Car ownership is connected to status, power and competence values. Birgitta Gatersleben states (according to Dittmar) that material possession can have a symbolic meaning that can enable people to express their social status and personal identity. Material possessions stereotypically express commonly understood socio-cultural and socio-

⁶⁰ Kiiskilä 1999, 123, 131

⁶¹ Helsingin kaupunki 2016a, 16,19

⁶² Jensen, Sheller & Wind 2015, 366

⁶³ Aarnikko, Kyttä & Myllymäki 2002, 4

⁶⁴ Aarnikko, Kyttä & Myllymäki 2002, 29

⁶⁵ Aarnikko, Kyttä & Myllymäki 2002, 24

economic groups and, thus, they are used to manipulate the impression given of ourselves to others. Material possessions are symbols of identity, social standing, attitudes and beliefs. Private cars in particular have a strong symbolic meaning and can express social status, confidence, power and competence. This image has developed through years of persistent media advertisement.⁶⁶

Linda Steg argues that people do not use cars only because of their instrumental function, but also because of a symbolic and affective function. For some people, a car is a status symbol and they can express themselves with their car. Steg found in her research in the Netherlands that these symbolic and affective values, unlike instrumental values, were especially strong motives for commuter car use.⁶⁷

New York-based research on private car ownership showed that people who live in poorer neighbourhoods value car ownership as a status symbol. The situation in neighbourhoods that are characterised by a highly educated population is the reverse: non-car ownership is a status symbol.⁶⁸ This example demonstrates that status-related values are not only connected to private car usage, but also to a non-car ownership lifestyle that relies on other modes of transport.

The so-called “peak car” discussion suggests that the desire to drive and own a car is reduced especially among young people. Research on undergraduate students in the Netherlands, Japan, USA, Taiwan, Indonesia, China, and Lebanon studied the desire to own a car. The results show that status-related issues generally influence the intentions of buying a car more in developing countries. Students in Lebanon, China and Indonesia more often agreed with statements such as “car allows to distinguish oneself from others”, “car brings prestige” and “cars are cool”. Among Dutch and Japanese students, status-related statements were agreed with the least.⁶⁹

The Finnish Ministry of Transport and Communications conducted research in Helsinki on private car users and their attitudes towards and experiences of public transport. The research showed that for some people a car has an intrinsic value and is a status symbol.

⁶⁶ Gatersleben 2007, 221

⁶⁷ Steg 2004, 147-148

⁶⁸ Goetzke & Weinberger 2012, 1044

⁶⁹ Abou-Zeid et al. 2014, 1227, 1238

However, research participants mainly stated that a car is a status symbol for other people, not for themselves. A car is not connected to success as strongly as it was before. Less than 5% completely agreed with and about 20% partly agreed with the statement “Car tells about its owner’s success”. Less than 15% partly or completely agreed with the statement “public transportation is not suitable to my image”.⁷⁰

3.3 Environmental values

Environmental values reflect universalism values in Schwartz’s theory. The desire to cherish environmental values stems from the need to respect other people and nature.

Environmental values are difficult to measure. Respondents may feel that they should behave in a more sustainable way, but in practice environmental values do not affect their decisions. This moral conflict may influence answers and give environmental values a bigger importance than their real-life effect is. Some people may also believe that technology will solve environmental problems and this may prevent them from changing the way they live.⁷¹

Awareness of the impact of one’s own behaviour on future generations is an important aspect of environmental consciousness. In 1999, Kati Kiiskilä argued that individuals’ awareness of the impacts of their own behaviour on future generations may increase, but individuals only think about their own children and grandchildren, not entire future generations. A comprehensive awareness of the impacts of one’s own consumption is lacking and Kiiskinen predicted in 1999 that this situation will not improve among individuals in the next 25 years.⁷² John Urry also argues that modern life is based on a highly carbon-consumptive system that does not respect future generations and the value of their lives⁷³.

What actions environmental values and attitudes lead to is not always straightforward. Environmental values and attitudes might guide actions at home (for example, waste recycling), but in contrast, the greater effort required prevents individuals from chang-

⁷⁰ Granberg et al. 2005, 31,54

⁷¹ Kiiskilä 1999, 105-106

⁷² Kiiskilä 1999, 118-119

⁷³ Urry 2011, 120

ing their mobility behaviour. Even if some actions aiming towards a more sustainable way of life, such as waste recycling or switching to energy saving light bulbs, are quite easy to take in everyday life, changing mobility habits seems to be quite difficult.⁷⁴ This example reflects the hierarchical structure of values: a person may cherish environmental values to some degree, but in the context of mobility, some other values (for example, comfort) are higher on the value hierarchy.

Environmental actions in one area of life can also reduce a person's interest in behaving in an environmentally friendly way in other areas: "good" in one area can sometimes justify "bad" behaviour. Mobility habits may also vary depending on context: for example, a person may follow environmental values in their daily mobility choices, but still not pay attention to environmental values in their tourism-related mobility.⁷⁵ The situation may reflect the conflict between universalism values and hedonism (or stimulation) values.

The connection between environmental values and mobility behaviour is not always straightforward, but there is still evidence of the impact of environmental values and attitudes on mobility habits. Research carried out in South West England showed that people who are committed to using environmentally friendly modes of transport also display environmental values in their attitudes as measured in a survey.⁷⁶ Another UK-based study shows that there is a group (called "car-less crusaders") of public transport users who have sacrificed car ownership for environmental reasons. The same research shows that some public transport users (called "reluctant riders") only use public transport because they do not have the money for any other mode of transport or because health issues prevent them from driving. Private car owners also have varying attitudes towards environmental issues. "Malcontent motorists" feel increasingly frustrated and unhappy with driving and they feel, morally, that they should change their mobility habits for environmental reasons. This group still drives – they claim that they have a number of constraints keeping them from using public transport. The group called "aspiring environmentalist" identified in the research have already decreased their private car use for environmental reasons, but they are not ready to totally give up car ownership. The two other car owner groups identified were "Complacent Car Ad-

⁷⁴ Barr & Prillwitz 2011, 1590, 1592

⁷⁵ Barr & Prillwitz 2011, 1590, 1592

⁷⁶ Barr & Prillwitz 2011, 1598

dicts” and “Die Hard Drivers”, and the people in these groups did not feel a moral obligation to change their mobility habits because of environmental issues.⁷⁷

3.4 Comfort and pleasure

The Finnish Ministry of Transport and Communications carried out research on private car users and their attitudes and experiences of public transportation. 48% of all respondents stated that one of the most negative features of public transport is the lack of travel comfort. In general, comfort was an important factor when choosing a mode of transport. Especially traffic congestions in public transportation and harassment by other travellers were considered unpleasant.⁷⁸ Comfort is linked to the perception of safety in the context of daily mobility. Even traffic congestions were not experienced as negatively in private cars as during travel on public transport⁷⁹. Research participants who were identified as “car lovers” also stated that it is possible to relax and calm down while driving⁸⁰. This observation is related to Mimi Sheller’s conclusion that private car use is linked to emotional and sensory responses to driving⁸¹.

Jensen, Sheller & Wind argue that driving a car represents a form of relaxation for some people. Copenhagen-based research showed that a car can offer a space for relaxing and a break from the busy daily life. A research respondent tells that he enjoys the relaxed atmosphere in the car when driving back home from work. He enjoys having a slightly longer (25 to 30 minutes) drive home, because it allows him a pleasant daily moment of relaxation in his car before getting back to his active family life at home. For another research participant in the same study, driving a car was far from pleasant: parking problems and roadworks frustrated and stressed him. He found cycling and sitting on the train relaxing and pleasant, and prefers these modes of transport more than driving his own car.⁸² These examples highlight the fact that people’s attitudes towards different modes of transport vary greatly. Comfort and pleasure may influence the choice of a mode of transport, but for some people driving a car is pleasant and relaxing, while for others cycling or public transport represents comfort.

⁷⁷ Anable 2005, 70

⁷⁸ Granberg et al. 2005 9, 17, 20-21

⁷⁹ Granberg et al. 2005, 30

⁸⁰ Granberg et al. 2005, 39

⁸¹ Sheller 2003, 2

⁸² Jensen, Sheller & Wind 2015, 370-371

3.5 Freedom and independence

The perception of freedom and independence is linked to mobility decisions. Research on Finnish private car users and their attitudes and opinions on public transport showed that the feeling of independence was a significant factor when choosing a mode of transport. Dependence on public transport timetables and the waiting times at stations and bus stops were experienced as inconvenient. This was the result despite the fact that most of the respondents used private cars when going to work, which is also the time of the day when public transport service is most frequent. A steady routine might also be behind private car habits and perceptions of freedom and independence: about 70% of respondents agreed or strongly agreed that they had been used to private cars since early childhood.⁸³

For young people (age 16–17), a car represents a dream that will be fulfilled as soon as age and money permit buying one. For this group, a car primarily reflects values like freedom of mobility and independence.⁸⁴ Men are more often active private car users and it seems that active private car users become dependent on car usage already at a young age. Active public transport users rarely include children because most families with children have a private car.⁸⁵ However, “young people” are not a homogeneous group. For example, in Stockholm only 9% of 18-year-olds acquire a driving licence⁸⁶. The amount of driving licences acquired in Finland has increased every year, but in the 21st century the growth has not been as high as before⁸⁷. There is also a significant difference between urban and rural areas in the amount of driving licences among young people. In Helsinki only 33% of 18-year-olds acquired a driving licence in 2013, while in rural areas the number was 75%⁸⁸. 93% of Helsinki inhabitants support the current traffic policy, which favours public transport, and among young people (aged between 25–34) the percentage is even higher⁸⁹. Private car usage is still deeply intertwined with modern life, but there are some signs, such as the development in Stockholm described above and the recent results from Helsinki, that the current car culture and the idea of

⁸³ Granberg et al. 2005, 29-30

⁸⁴ Kiiskilä 1999, 122

⁸⁵ Pastinen et al. 2007, 17-18

⁸⁶ Yle Uutiset 2013, yle.fi/uutiset/3-6585999

⁸⁷ Liikennevirasto 2012, 39

⁸⁸ Trafi 2013

⁸⁹ Helsingin kaupunki 2016b, 10

cars as a symbol of freedom might be changing. Research on motivations for car ownership among undergraduate students in China, Indonesia, Japan, Lebanon, Netherlands, Taiwan, and USA also showed that students in the developed world have the lowest intentions of buying a car and those in developing countries have the highest⁹⁰. This result suggests that car culture might be changing, but so far it is only happening in developed countries.

Jensen, Sheller and Wind argue that car is not the only mode of transport that is connected to a feeling of freedom: public transport can also offer a sense of freedom, since a passenger can, for example, work while travelling and does not have to worry about things like parking⁹¹.

In general, a car is a necessity for people who live in rural areas. Ownership of a private car also enables these people to choose to live in rural areas.⁹² Research carried out in Sweden on aging couples and mobility shows that life in a suburb can also represent freedom and that a private car enables the desired lifestyle. The suburbs offer the freedom of living near the city, but access to nature is still close. A car offers the freedom to drive to the malls on the outskirts of the city without parking problems or long waiting times at the bus stops. For many people, this kind of “freedom” and a suburban lifestyle is desirable. A suburban lifestyle offers relatively easy access to the city by private car, but at the same time a calmer life is possible on the urban fringe.⁹³ Private car ownership means the freedom to choose a lifestyle and a place to live. Private cars can enable a desired lifestyle in rural areas, but also in a suburban environment.

3.6 Health and wellbeing

Values like health and wellbeing are connected particularly to walking and cycling. According to research by the Finnish Ministry of Transport and Communications, exercise is a strong motivation for going from one place to another by walking or by bicycle. This result was the same in all the cities included in the research (Helsinki, Espoo, Vantaa, Kauniainen, Turku and surrounding areas, Tampere, and Oulu). Even those who

⁹⁰ Abou-Zeid et al. 2014, 1235

⁹¹ Jensen, Sheller & Wind 2015, 371

⁹² Kiiskilä 1999, 122

⁹³ Stjernborg, Tesfahuney & Wretstrand 2015, 397

mainly use a car stated that they sometimes want to walk or cycle to a destination in order to get some exercise.⁹⁴

Jensen, Sheller and Wind also showed in a study carried out in Copenhagen that physical activity is an important motivation for cycling. In addition to physical health, the need for mental wellbeing also encourages people to use bicycles. For example, respondents stated that cycling back home from work relieves stress and helps to “clear mind”.⁹⁵

In Britain, research on policies to promote cycling and walking in four cities (Leicester, Lancaster, Leeds, and Worcester) showed that most people recognise the potential health benefits of cycling and walking. Most people in all these cities strongly agree with the statement “If I make, or were to make, journeys on foot, it would benefit my health” (average 1,5 with 1 representing “strongly agree” and 5 “strongly disagree”). The same statement about cycling was also strongly agreed with by most respondents (the average varied in different cities from 1,6 to 1,7). Interviews of the research participants showed that people value both mental and physical health in relation to cycling and walking: “Walking is calming, allows you to think through problems, clear your mind”, “Because it is good for health and definitely fresh air we can get, so definitely walking is good exercise”, “If I cycle then I get a bit of fresh air and I feel kind of a bit alive when I get to work...”, “I do my best thinking when on the bike in the morning”. Even if respondents value the health and wellbeing effects of walking and cycling, all attitudes were not positive. The results also show that things like the perception of fear caused by, for example, traffic and “bad” areas of the city prevent people from walking and cycling. Status-related issues also have an impact. As one respondent stated: “...there’s definitely a sense that as a pedestrian and a cyclist you are definitely second class citizens”. Those respondents who have small children felt that they just do not have the time to walk and cycle and, thus, they rather choose the car.⁹⁶ These results reflect the value hierarchies of the research participants. Health and wellbeing matters, but if one feels that, for example, status matters even more, he/she tends to form nega-

⁹⁴ Luoma & Voltti 2007, 48

⁹⁵ Jensen, Sheller & Wind 2015, 373-374

⁹⁶ Chisholm et al. 2013, 68-71

tive attitudes towards cycling or walking. Safety-related issues also influence mobility decisions more than health and wellbeing factors among some respondents.

4. Method and data collection

The data was collected with a questionnaire (see Appendix 1 for original questionnaire in Finnish and Appendix 2 for English translation). There are four sections in the questionnaire: (1) background variables, (2) structured attitude statements, which are evaluated with a Likert scale, (3) structured value questions, which are ranked by importance from 1 to 5, and (4) open-ended unstructured questions.

The attitude statements are mainly based on previous research on mobility and attitudes, values, motivations, and behaviour (section 3). There are themes related to values and attitudes, which are identified in previous research: safety (question 12), status and power values (question 13), environmental values (question 14), comfort and pleasure (question 15), freedom and independence (question 16), and health and wellbeing values (question 18). These themes recur in several studies. Some attitude statements might reflect several values. For example, the statement “I need to own a car to drive the children around” may reflect both safety values and benevolence values. In addition, the questionnaire includes some statements (question 19) that reflect respondents’ attitudes to private cars. The potential customers of the MaaS system are those people who do not own a private car and those who could give up car ownership so, for this study, it is essential to understand people’s attitudes towards private cars. Some of the attitude statements were only for respondents who have a private car, which they drive, in their household (question 9). The attitude statements relating to family life and children were for the people who drive a private car and have an underage child/children in their household (question 11).

The value questions (questions 20–32) are based on Schwarz’s value theory. Each value (high status, success, comfort, excitement, freedom, independence, environmental values, taking care of each other, following norms, moderation, safety, health, easiness) has (either a weaker or stronger) link to the sections in Schwartz’s value theory. The basis for the questions is the hypothesis that these values can be linked to mobility decisions and attitudes (section 2.3).

As a data collection method, the questionnaire has some limitations. Since the attitude questions are operationalized mainly based by previous research, there is very little room for research respondents to express values and attitudes that do not occur in the previous research. By including two unstructured open-ended questions to the questionnaire, it is possible for respondents to express attitudes and values that are unforeseen and unexpected. The unstructured question about the most important reasons for choosing the mode of transport that respondents most often use (question 7) was placed before the structured questions in order to avoid the influence of unstructured attitude statements. In addition, on the advice of MaaS Global, there is also an unstructured open-ended question: “What does freedom of mobility mean to you?”. The answers provide useful information for MaaS Global since they promote “freedom of mobility” through the use of the MaaS system and their application Whim.

A link to the questionnaire was distributed through the social media channels of the Helsinki, Espoo and Vantaa municipalities. The link was posted to the “Helsinki suunnitelee” Facebook page and Twitter account, the City of Espoo Facebook page and the Vantaa City Planning Facebook page. The post on the Vantaa City Planning Facebook page resulted in only 14 answers from Vantaa inhabitants, so the link to the questionnaire was also posted on the “Vantaan puskaradio” Facebook page, which is an informal forum for people who live in Vantaa. The link to the questionnaire was posted to the “Helsinki suunnitelee” Facebook and twitter page on the 3rd of March, to the Vantaa City Planning Facebook page on the 6th of March, to the City of Espoo Facebook page on the 8th of March, and to the “Vantaan puskaradio” Facebook page on the 13th of March. The link to the questionnaire was closed on the 17th of March.

The answers were mainly analysed with statistical methods. The analysis was conducted with SPSS. In addition, some figures were created in Excel, and QGIS was used to create a geographic information map. To analyse the answers of people with various mobility habits, the respondents were aggregated by their primary and secondary modes of transport. As a result of the aggregation, seven mobility segments were created. These mobility segments form the basis of the analysis. The mobility segments do not include the same amount of people and, therefore, the opinions of the bigger segments represent the values and attitudes of a larger group of people. The unstructured open-ended ques-

tions were used to deepen the analysis. Answers to the unstructured questions provide explanations for the trends that were revealed in the attitude statements.

Answers to the attitude statements and to the value questions (questions 20–32) were cross-tabulated with the mobility segments. Bar chart figures based on the percentage from the cross-tabulations reveal the differences between the mobility segments.

In the value questions, differences between the mobility segments were in most cases quite small or insignificant. To reveal slight but still statistically significant differences, a non-parametric Kruskal-Wallis test was used. The Kruskal-Wallis test is statistical test that is based on a comparison of medians and does not require normal distributed data⁹⁷. The Kruskal-Wallis test shows whether the variations of the medians of different mobility segments are statistically significant. Boxplot figures (for example, Appendix 8) are used to demonstrate the slight statistical differences between mobility groups. The line in the middle represents the median and the box around it the upper and lower quartiles. The rest of the observations are placed on the lines above and/or below quartile boxes. Single deviant observations are demonstrated with points.⁹⁸

⁹⁷ Nummenmaa 2009, 259, 266

⁹⁸ Nummenmaa 2009, 83-84

5. Results of the survey

5.1 Survey respondents

Altogether 369 people answered the questionnaire and 339 respondents were included in the analysis. The reasons for excluding 30 respondents from the analysis were: (1) did not mention the postal code (could not verify that the person belongs to the population targeted by the survey), (2) incorrect postal code, (3) were not Helsinki, Espoo or Vantaa inhabitants, (4) did not answer the question related to transport modes (question 6), (5) missing answers to value-related questions (questions 20–32), and (6) missing answers in all structured questions. Some respondents did not mention their annual income (9 persons), gender (2 persons) or age (3 persons), but they completed all the other questions, so they were included in the analysis. There were also some isolated missing answers to the attitude statements, but none of the respondents left all attitude statements relating to a certain theme (safety, status etc.) unanswered.

217 (64%) of valid respondents were female, 117 (35%) male and 3 (1%) represented other gender. In the Helsinki capital region (Helsinki, Espoo and Vantaa), the gender distribution was 52% female and 48% male at the end of year 2015⁹⁹. In this sample women are overrepresented.

The survey was targeted to all inhabitants in the Helsinki capital region (Helsinki, Espoo and Vantaa) over 18 years old. Figure 3 shows that the sample of inhabitants over 60 years old is remarkably small and those 30–44 years old are overrepresented. Inhabitants who are 45–59 years old are also slightly overrepresented in the sample.

| Age groups | Sample % | Total population % (Statistics Finland) ¹⁰⁰ |
|---------------|----------|---|
| 18–29 years | 24% | 25% (age group 15–29) |
| 30–44 years | 39% | 27% |
| 45–59 years | 29% | 23% |
| Over 60 years | 8% | 25% |

Figure 3. Age groups in the sample and the total Helsinki capital region population

⁹⁹ Rounded per cent counted from information provided by: Tilastokeskus 2015b

¹⁰⁰ Rounded per cent counted from information provided by: Tilastokeskus 2015c

Compared with the annual incomes of the entire population of the Helsinki capital region, the people in the sample are slightly wealthier (Figure 4). Out of the total population, 22% have annual incomes of less than 10 000 €, whereas in the sample that share is only 9%. The annual income group of 10 000 € – 19 999 € is also smaller in the sample than it is in the total population. All the rest of the annual income groups, except the last one (over 80 000 €), are bigger in the sample than in the total population. However, the difference in the group 20 000 € – 29 999 € is only 0.43%.

| Annual income groups | Sample % | Total population % (Statistics Finland) ¹⁰¹ |
|----------------------|----------|---|
| Less than 10 000 € | 9% | 22% |
| 10 000 € – 19 999 € | 11% | 17% (10 000 € – 20 000 €) |
| 20 000 € – 29 999 € | 17% | 17% (20 000 € – 30 000 €) |
| 30 000 € – 39 999 € | 19% | 15% (30 000 € – 40 000 €) |
| 40 000 € – 49 999 € | 17% | 10% (40 000 € – 50 000 €) |
| 50 000 € – 59 999 € | 13% | 6% (50 000 € – 60 000 €) |
| 60 000 € – 79 999 € | 9% | 6% (60 000 € – 80 000€) |
| Over 80 000 € | 5% | 6% (over 80 000 €) |

Figure 4. Annual income groups in the sample and the total Helsinki capital region population

The Helsinki capital region inhabitants are mainly examined as a whole in this research. The distribution of Helsinki, Espoo and Vantaa inhabitants in the sample is rather close to the percentage in the total population of Helsinki capital region (Figure 5).

| City | Sample % | Total population % (Statistics Finland) ¹⁰² |
|----------|----------|---|
| Helsinki | 55% | 56% |
| Espoo | 26% | 24% |
| Vantaa | 19% | 19% |

Figure 5. Percentage of Helsinki, Espoo and Vantaa inhabitants in the sample and the total Helsinki capital region population

¹⁰¹ Rounded per cent calculated from information provided by: Tilastokeskus 2015d

¹⁰² Rounded per cent calculated from information provided by: Tilastokeskus 2015b

In the data, living arrangements / life situation is categorised into six segments: (1) I live with my parents, (2) I live on my own, (3) I live with my spouse, (4) I live with my spouse and child/children, (5) I live with my child/children (as the only adult in the household). If any of these categories did not describe the habitation situation of a respondent, it was possible to (6) define one's own situation. Frequencies and percentage are visible in Figure 6. Respondents who live with their partner form the biggest group (36%). People with children represent 35% of all respondents and the majority of them also share their home with a spouse (30%).

| | Frequency | % |
|--|-----------|------|
| I live with my parents | 8 | 2% |
| I live alone | 79 | 23% |
| I live with my spouse | 123 | 36% |
| I live with my spouse and my child/children | 103 | 30% |
| I live with my child/children (as the only adult in the household) | 14 | 4% |
| Other, please specify | 12 | 4% |
| Total | 339 | 100% |

Figure 6. Living arrangements, frequency and rounded percentage

5.2 Mobility segments

The mobility segments are based on the data collected with structured question 6 in the questionnaire. Respondents were asked to name the two modes of transport they mostly use (1=primary use, 2=secondary use). If only one mode of transport was used clearly more than the other, respondents were asked to name only one mode of transport. The options were: (1) own car as a driver or as a passenger, (2) public transport, (3) cycling as a main mode of transport of a journey, (4) walking as a main mode of transport of a journey, (5) taxi, (6) other, please define. Seven mobility segments were formed based on the data: (1) active users of public transport, (2) primary car users / secondary public transport users, (3) primary public transport users / secondary car users, (4) sporty pub-

lic transport users, (5) sporty car users, (6) committed car users and (7) pedestrians and cyclists. Figure 7 shows the frequencies and percentage of each segment.

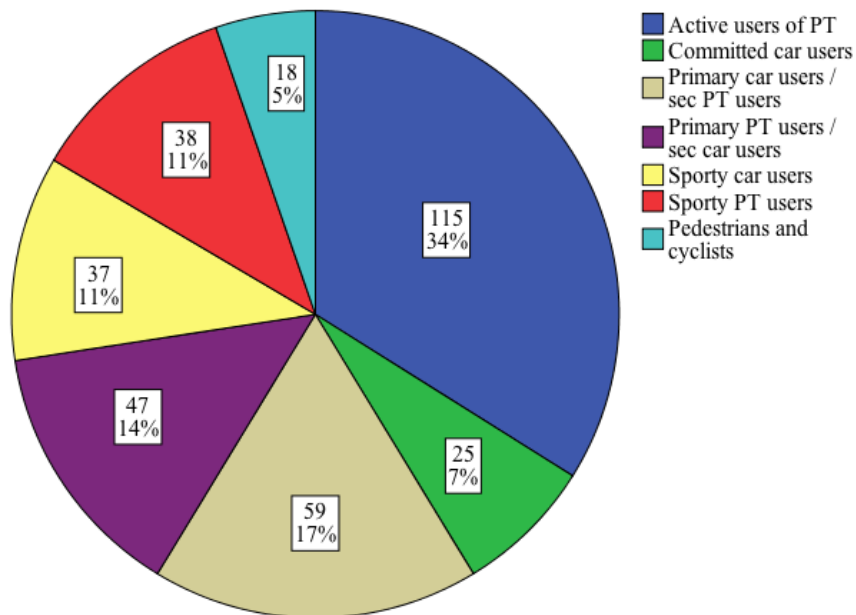


Figure 7. Mobility segments, frequencies and percentage

Active public transport users were the biggest segment: 34% of all respondents belong to this group. All respondents in this segment chose public transport as their primary mode of transport. Secondary mode of transport was either walking or cycling, and some respondents (14) answered that they mostly use only public transport. Some individual respondents chose other (skateboard, scooter) for secondary mode of transport. Active in this context relates to the active use of public transport and, on the other hand, walking and cycling as physically active modes of transport. 41% of Helsinki inhabitants belong to this segment, while in Espoo and Vantaa that portion is only 24% and 26%, respectively (Appendix 3). HSL (Helsinki region transport) had similar results in their research on the Helsinki capital district: there are more people who own HSL travel cards, which suggests regular use of public transport, in Helsinki than in Espoo and Vantaa ¹⁰³. The relative amount of women (36%) is slightly greater than the amount of men (31%) (Appendix 4). Nearly half of the respondents (49%) who live alone belong to this segment. In addition, families with children (two-parent families 27% and one-parent families 21%) and those respondents living only with their spouse (31%) are represented in this mobility segment. (Appendix 5.) Almost half (48%) of the respondents

¹⁰³ Elolähde et al. 2013, 29

from age group 18 to 29 belong to active public transport users. However, all the other age groups are also represented. (Appendix 7).

The segment *primary car users / secondary public transport users* includes all respondents who answered that they primarily use a car, either as a driver or a passenger, and secondarily use public transport. The relative portion of Vantaa inhabitants (25%) and Espoo inhabitants (23%) in this segment is greater than Helsinki (12%). (Appendix 3.) 19% of the women and 15% of the men belong to this segment (Appendix 4). In relative terms, two-adult families with children are the biggest group in this mobility segment: 23% of the respondents who live with their spouse and child/children belong to primary car users / secondary public transport users. Other life situation based groups are represented in smaller numbers. (Appendix 5.) All age groups are represented in this mobility segment, but the relative amount of people over 45 years old is the greatest (Appendix 7).

People in the segment *primary public transport users / secondary car users* answered that they primarily use public transport and secondarily use their own car as a driver or as a passenger or use a taxi (only one respondent). The relative number of Espoo inhabitants is the largest: 21% of Espoo inhabitants belong to this segment, while the corresponding percentage for Vantaa is 15% and for Helsinki 10% (Appendix 3). The relative amount of women in this segment is bigger: 15 % of the women belong to this group compared with 10% of the men (Appendix 4). A significant portion of those respondents who live with their parents (38%) belong to this mobility segment. Only a few of all the respondents (8) live with their parents and, therefore, 38% of those amounts to only 3 persons. 17% of families with child/children and two adults, and 15% those who live alone with their spouse, belong to this mobility segment. The relative shares of other life situation groups are smaller. (Appendix 5). The ages of the people in this segment vary a lot (Appendix 7).

The segment *sporty public transport users* includes all respondents whose primary mode of transport is either walking or cycling and secondary mode of transport is public transport. Sporty public transport users usually live in Helsinki: 17% of respondents living in Helsinki belong to this segment. In Vantaa (3%) and in Espoo (5%) only a few individual respondents are sporty public transport users. (Appendix 3.) Sporty public

transport users are clearly more often men: 17% of men are sporty public transport users, whereas among women the portion is only 8% (Appendix 4). Sporty public transport users often live either with their spouse, on their own or with a flatmate (Appendix 5). All age groups are represented in this mobility segment, but the relative amounts of respondents from age groups 18 to 29 and over 60 are bigger than the other groups. The amount of sporty public transport users over 60 years old is only 4 persons because only 8% of all research participants belong to this age group. (Appendix 7.)

The segment *sporty car users* includes respondents who use a car as a driver or passenger as either primary or secondary mode of transport. In addition, the people in this group said that their either primary or secondary mode of transport is walking or cycling. The relative amount of especially Vantaa (19%) but also Espoo (15%) inhabitants is greater than Helsinki inhabitants (7 %) (Appendix 3). Sporty car users include both men (12%) and women (11%) (Appendix 4). Members of families with children are most often sporty car users: 29% respondents who live with child/children as the only adult in the household and 15% of those who live with a spouse and child/children are sporty car users. 25% of respondents who live with their parents also belong to this mobility segment, but, again, because of the small size of the group this includes only 2 respondents. (Appendix 5.) The ages of sporty car users vary, but 53% of them are 30–44 and this share represents 15% of all respondents aged 30 to 44 (Appendix 7).

The segment *committed car users* includes all respondents who reported that they only use their own car as a driver or a passenger (they did not choose any other mode of transport). In addition, this segment also includes respondents who said that they primarily use their own car as a driver or passenger and secondarily use either taxi or plane (only one respondent). The relative numbers of Espoo (9%) and Vantaa (11%) inhabitants are greater in this segment than the amount of Helsinki inhabitants (5%) (Appendix 3). The relative number of men who are committed car users (9%) is slightly larger than that of women (7%) (Appendix 4). Committed car users have varying life situations: people who live with their children belong to this segment more often than others, but all the other groups, except those who live with their parents, are also represented (Appendix 5). The majority of committed car users are over 45 years old and this segment does not include any respondents from age group 18–29 (Appendix 7).

Pedestrians and cyclists include respondents who either reported only walking, only cycling or both walking and cycling either as a primary or secondary mode of transport. One respondent who is included in this segment reported running as a main mode of transport. The relative number of Helsinki inhabitants is the largest in this segment (Helsinki 7%, Espoo 5% and Vantaa 2%) (Appendix 3). Pedestrians and cyclists are more often men than women (men 7%, women 5%) (Appendix 4). Pedestrians and cyclists usually either live on their own or with their spouse (Appendix 5). Most often pedestrians and cyclists are 30–44 years old (Appendix 7).

Annual incomes vary quite a lot among different mobility groups. For example, all mobility segments include people who belong to highest income group (over €80 000). The medians vary from 4 (€30 000 – 39 999) to 5 (€40 000 – 49 999). (Appendix 6.) Nonetheless, there are some statistically significant differences between mobility segments (Kruskal-Wallis test, Appendix 6). Committed car users have the highest average annual incomes and this segment does not include respondents from the lowest income group (less than 10 000 €). The average incomes of active public transport users are the smallest and the standard deviation is the smallest in this group. However, public transport users still include people from all income groups. (Appendix 6.)

Figure 8 depicts the spatial distribution of the survey respondents. The data is placed on the map according to the zip code of primary residence. The size of the pie chart demonstrates the number of respondents in a certain zip code area. The largest pie chart in the southern part of Helsinki (Lauttasaari area) represents 23 respondents. The smallest dots on the map represent only one respondent. The biggest pie charts in Espoo and Vantaa are in the areas of dense urban structure, such as Myyrmäki and Tikkurila in Vantaa and Leppävaara in Espoo. In Helsinki, the inner-city area, which has a high population density, has resulted in plenty of answers. In addition, Figure 8 shows the spatial distribution of mobility segments. In inner city areas in Helsinki, people rely more on public transport, cycling and walking. In the eastern inner city there are four zip code areas that include only active users of public transport and sporty public transport users. In Leppävaara (Espoo), Tikkurila and Myyrmäki (Vantaa), the majority also rely mainly on public transport, walking and cycling. These areas have a well-functioning, frequent public transport service. Even though the map shows that some

mobility segments are more concentrated in certain areas, there is still plenty of variation in the spatial distribution of the mobility segments.

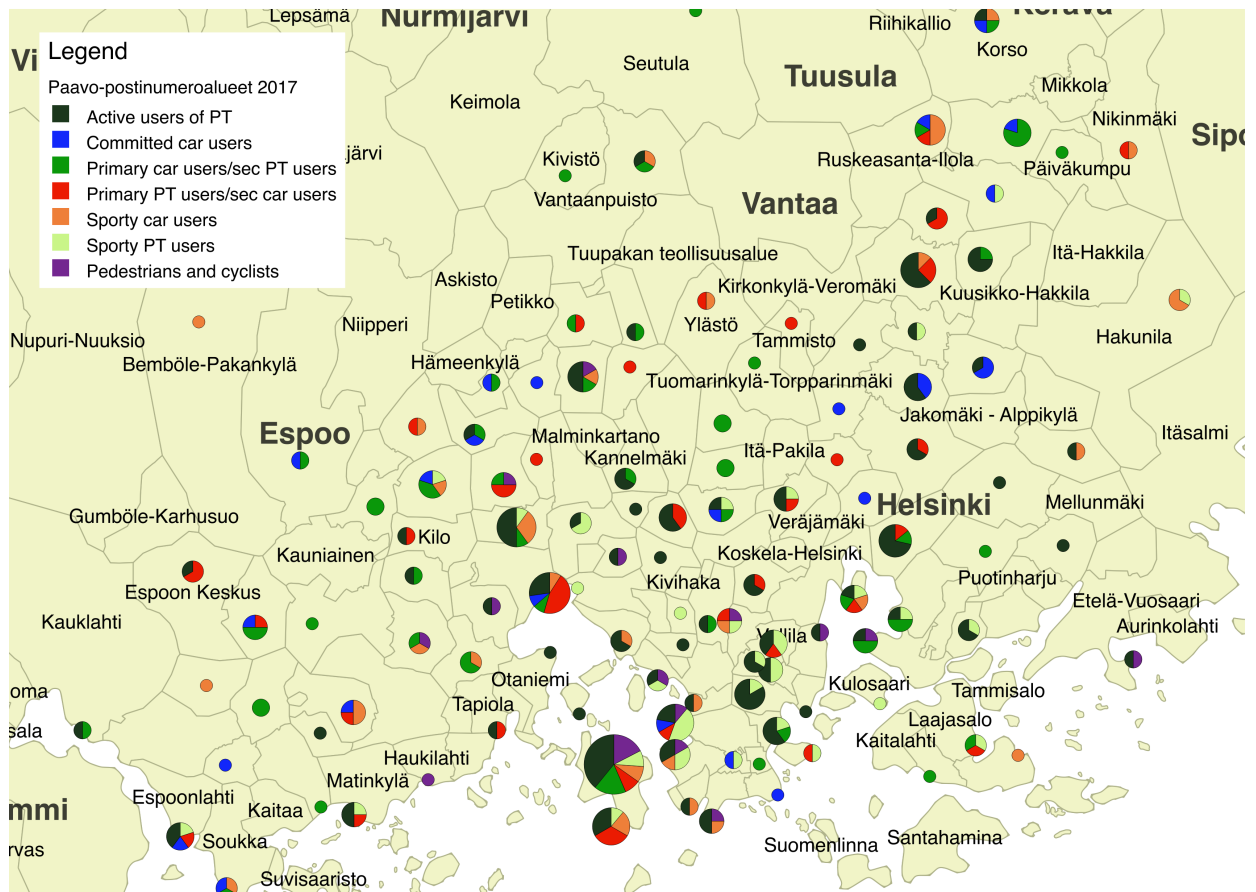


Figure 8. Spatial distribution of the survey respondents and mobility segments ¹⁰⁴

Overall, 56% of all respondents have a car in their household that they drive. Mobility research carried out by HSL (Helsinki region transport) indicated approximately the same percentage of car ownership: in Helsinki about half of the people have a driving licence and the opportunity to use a car in their household, whereas in other areas in the capital district about two thirds have a car and a driving licence ¹⁰⁵. Surprisingly many of those who do not use a private car as their primary or secondary mode of transport still have private cars that they drive in their household. 17% of active public transport users and 24% of sporty public transport users have a car in their household and they also drive it. Even 39% (7 respondents) of pedestrians and cyclists have a car in their household. HSL concluded in their research that car ownership is crucial when deciding

¹⁰⁴ Geographic information based on maps and zip code areas provided by: Tilastokeskus 2017

¹⁰⁵ Elolähde et al. 2013, 27

between different modes of transport: when one owns a car, one also uses it. This survey gave a slightly different result: surprisingly many respondents have the opportunity to use a car, but still often choose another mode of transport. Having only one car in the household might create a situation where some family members have to choose another mode of transport, but this reason was given in only three answers to the question “What are the most important reasons for choosing the mode of transport that you most often use”. On the other hand, 21% of primary public transport users / secondary car users answered “no” to the question “In your household, is there a private car, that you drive”. These respondents are most likely people, who have a private car in their household, but they only travel with it as a passenger, not as a driver.

5.3 For the majority safety is on adequate level – rare use is linked to fears

In general, respondents valued safety high, mostly either 4 or 5 on a scale from 1 (not important at all) to 5 (very important) (question 20). As stated before (section 3.1), the need for safety stems from the biological need for survival and welfare, so it was expected that most people would value safety high. However, the Kruskal-Wallis test (Appendix 8) shows some slight, but still statistically significant, differences between mobility groups: committed car users, primary car users / secondary public transport users and primary public transport users / secondary car users value safety the most. These are the same mobility segments that include the most respondents who are afraid to walk outside in the evening or at night (Figure 10).

Safety-related attitude statements in the questionnaire were: “I am frightened by disturbances or dangerous situations caused by other passengers on public transport”, “I am afraid of getting into an accident while travelling by passenger car”, “Walking outside in the evening or at night is frightening” and “In the Helsinki capital region, cycling is not safe because of other traffic”. Overall, the majority of respondents do not express fears in safety-related attitude statements. Safety-related themes were not represented in answers to the unstructured question “What are the most important reasons for choosing the mode of transport that you most often use?”. The unstructured question “What does freedom of mobility mean to you?” resulted in some comments that were related to safety, for example:

*“Freedom of mobility for the youth in our family means a perception of safety on busses/trains. Because of our children’s darker skin color, they have told us heard breaking and scary stories about the behaviour of other people on public transport – my daughter avoids using public transport.”*¹⁰⁶

Clearly less than half of the respondents either “strongly agree” or “somewhat agree” with safety-related attitude statements. The percentage of respondents who strongly or somewhat agreed varied from 15% to 35%, while car accidents were feared the least and cycling, because of other traffic, was considered the most frightening. Respondents in general valued safety high, but in the attitude statements the majority did not express fears. Among most respondents, this might mean that security values are not threatened in the context of daily mobility, and the majority seem to think that safety is on an adequate level in daily mobility. However, not all respondents feel that safety is on an adequate level and a more detailed analysis of the attitudes of different mobility segments shows that perceptions of fear, especially in relation to walking and public transport, are reflected in some mobility segments more than to others.

In general, people tend to associate more fears with public transport if they do not use it often (Figure 9). Committed car users (52% either strongly or somewhat agreed), primary car users / secondary public transport users and sporty car users (in both segments, 35% either strongly or somewhat agreed) are the ones most afraid of disturbances or dangerous situations caused by other passengers on public transport. Among the segments of sporty public transport users (16% either strongly or somewhat agreed), active users of public transport (19% either strongly or somewhat agreed), and primary public transport users / secondary car users (21% either strongly or somewhat agreed), the portion of those respondents who are afraid of disturbances or dangerous situations is clearly smaller. In general, a similar tendency exists in attitudes towards walking outside in the evening or at night: the more one uses walking as a mode of transport, the less one is afraid (Figure 10). Sporty public transport users (5% somewhat agreed and none strongly agreed) are the least afraid, and committed car users (40% either strongly or somewhat agreed) are the most afraid.

¹⁰⁶ Female, age 45–59, Espoo, mobility segment: primary car users / secondary public transport users. The open-ended answer in Finnish in Appendix 11.

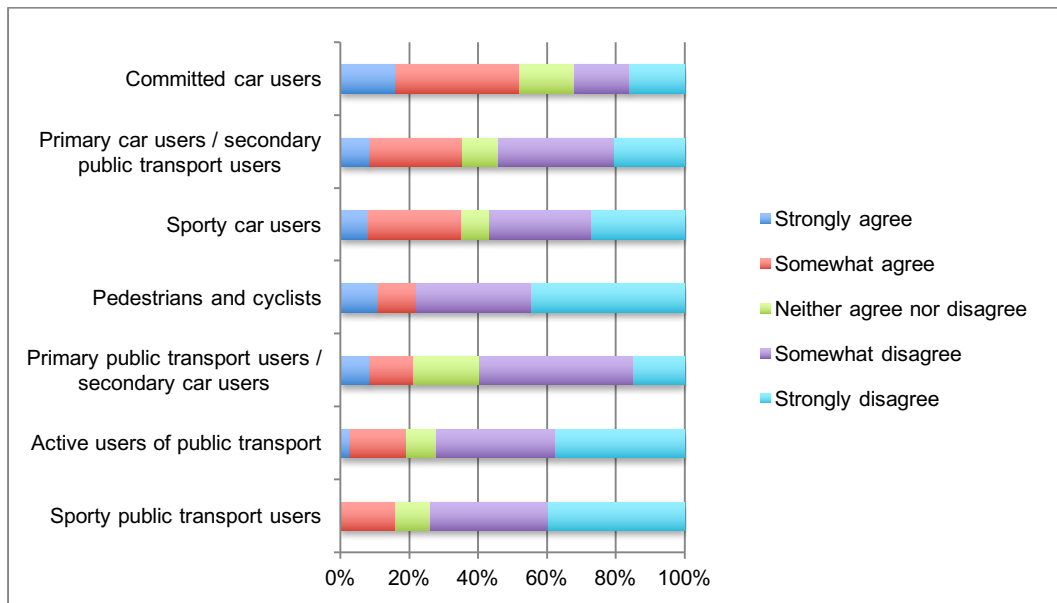


Figure 9. I am frightened by disturbances or dangerous situations caused by other passengers on public transport.

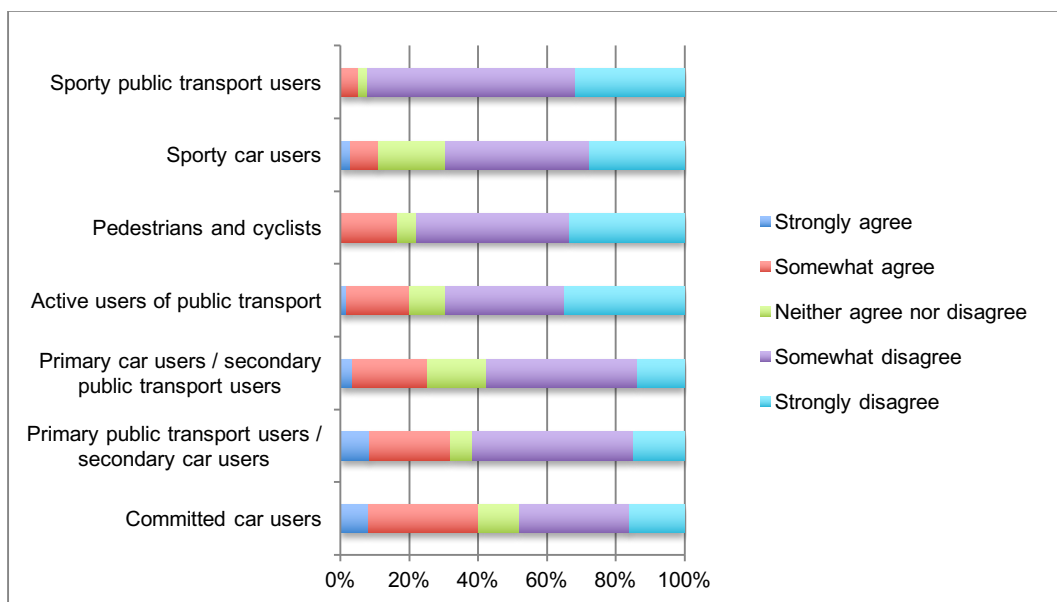


Figure 10. Walking outside in the evening or at night is frightening.

Unlike with the perception of fear relating to public transport and walking, all mobility segments, also those who actively cycle, include respondents who at least somewhat agree with the statement “In the Helsinki capital region, cycling is not safe because of other traffic”. All segments also include respondents who either somewhat disagree or strongly agree (Figure 11).

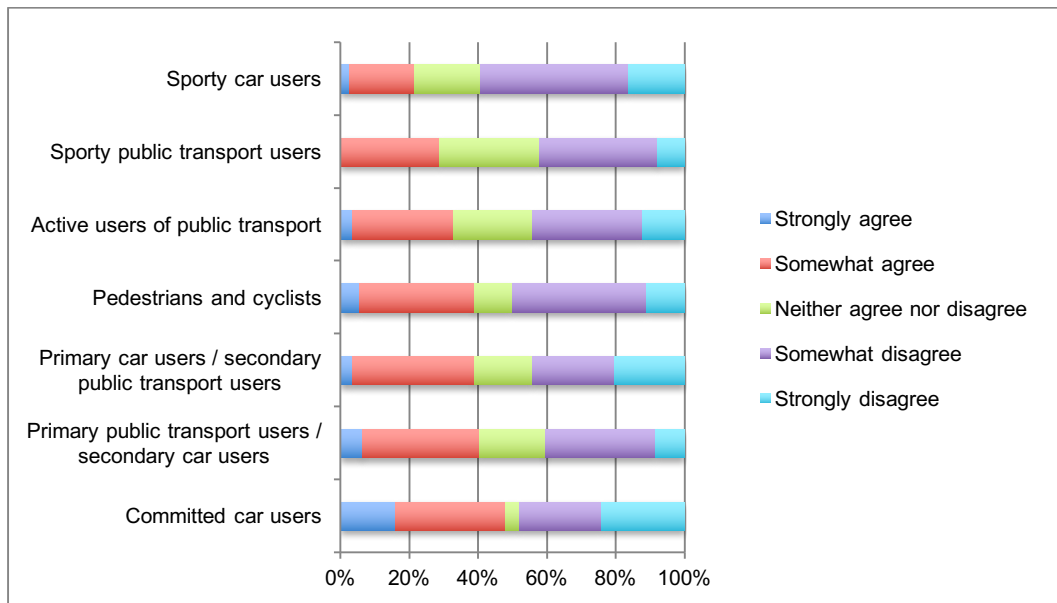


Figure 11. In the Helsinki capital region, cycling is not safe because of other traffic.

As noted before, the respondents, in general, are not afraid of getting into an accident while travelling by passenger car. Those who actively use a private car (committed car users, primary car users / secondary public transport users, and sporty car users) are the least afraid of car accidents (Figure 12). Among the other mobility segments, the percentage of respondents who “strongly disagree” or “somewhat disagree” is also significant. The portion of those respondents who strongly or somewhat agreed is over 20% only in the segment of primary public transport users / secondary car users.

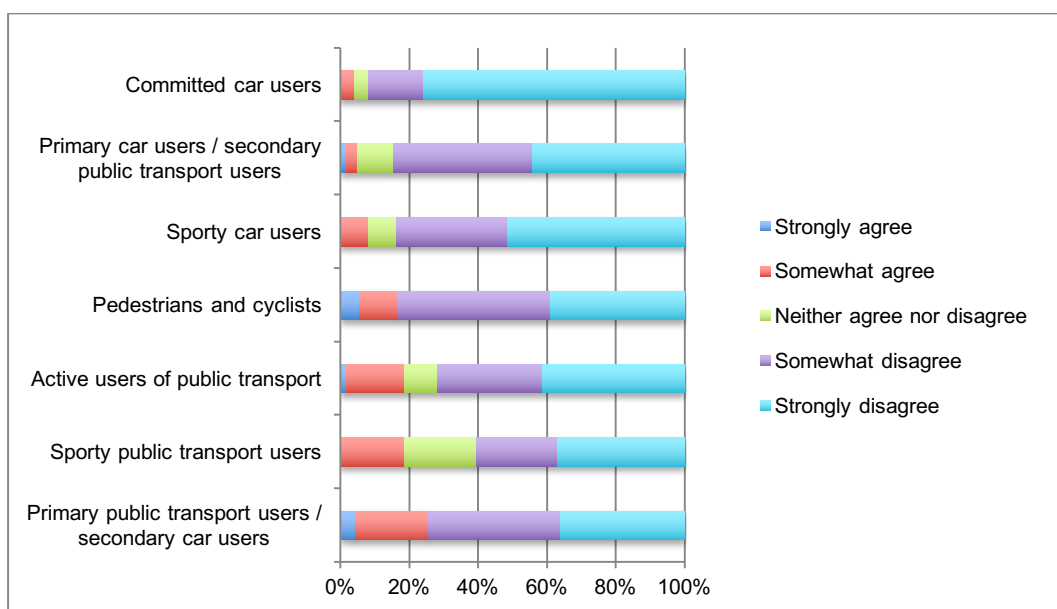


Figure 12. I am afraid of getting into an accident while travelling by passenger car.

5.4 Status is not an obstacle for public transport usage – cycling is connected to image

When respondents were asked to define how important a value high status is for them on a scale from 1 (not important at all) to 5 (very important), only 4 respondents chose 5. 14% of respondents evaluated high status as 4. The amount of respondents who chose 1 (27%), 2 (29%) or 3 (29%) was roughly the same. Despite the variation in how respondents value high status, the differences between mobility segments are not significant (Figure 13).

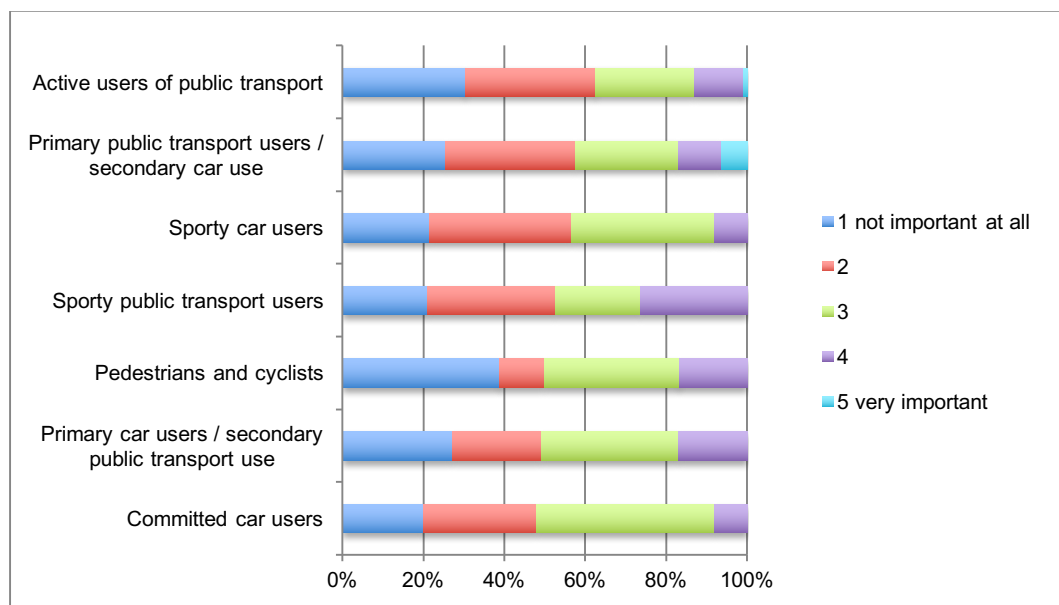


Figure 13. On a scale from 1 to 5, how important is high status as a value for you?

Status- and image-related attitude statements in the questionnaire were: “Public transport is for people who cannot afford anything else”, “Using public transport does not suit my image”, “Using a private car does not suit my image”, “Cycling is part of my image” and “It is important to own a car that is of a particular brand”. Attitude statements concerning public transport resulted in a high percentage of “strongly disagree” answers. 93% of all respondents either strongly or somewhat disagreed with the statement “Public transport is for people who cannot afford anything else” (Figure 14), and 95% either strongly or somewhat disagreed with the statement “Using public transport does not suit my image” (Figure 15). People in all mobility segments mainly strongly disagreed with these attitude statements, no matter what mode of transport they mostly use. Respondents do not have status-related obstacles to use public transport.

Owning a car that is of a particular brand is not important for most respondents either (Figure 16).

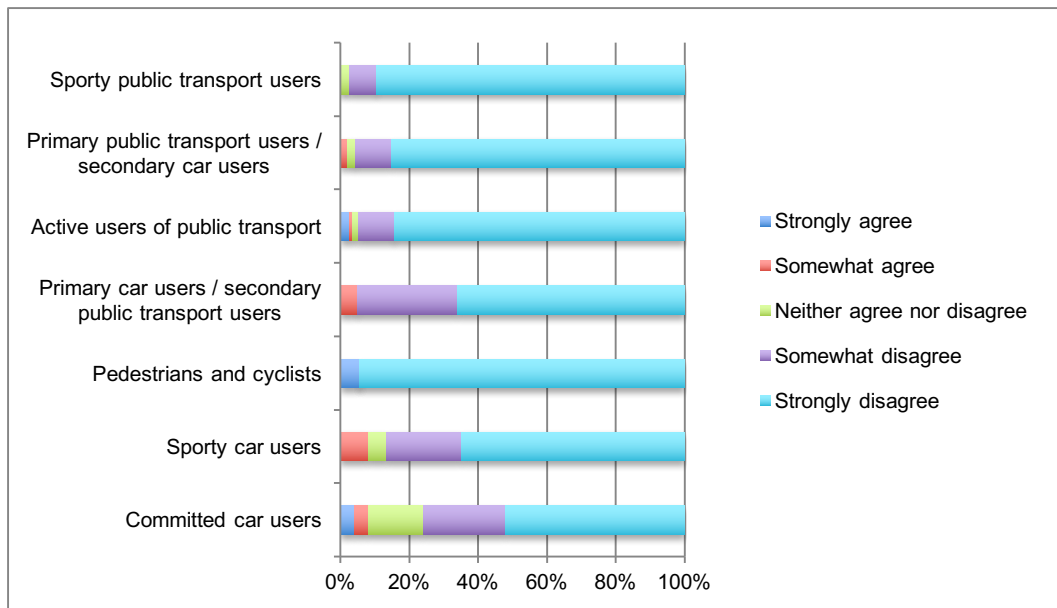


Figure 14. Public transport is for people who cannot afford anything else.

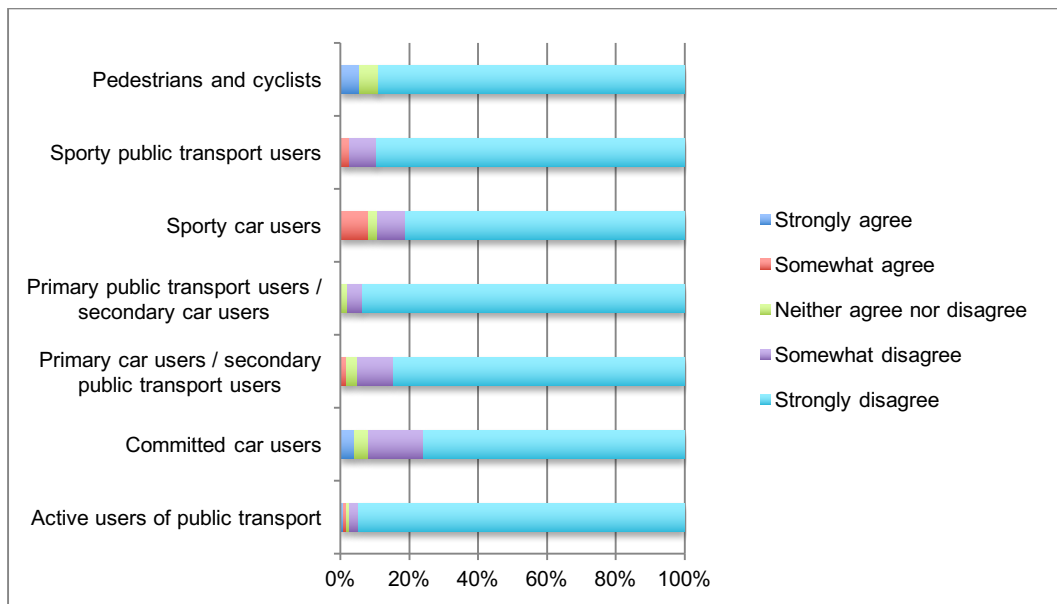


Figure 15. Using public transport does not suit my image.

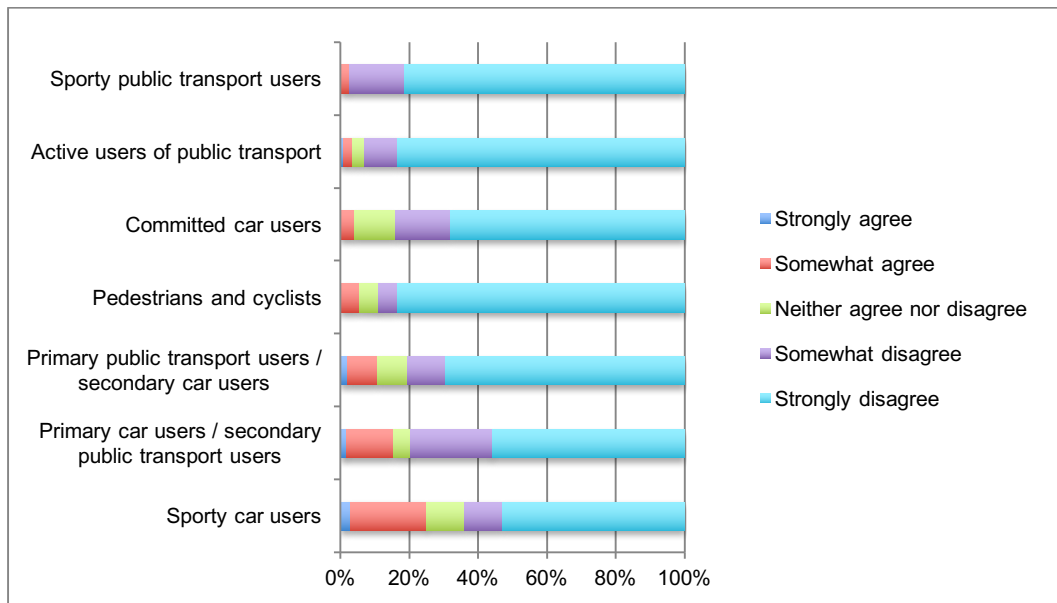


Figure 16. It is important to own a car that is of a particular brand.

20% of all respondents think that using a private car does not suit their image. These people are mainly active users of public transport (36% either strongly or somewhat agreed), pedestrians and cyclist (28% either strongly or somewhat agreed) or sporty public transport users (26% either strongly or somewhat agreed) (Figure 17). A significant portion (44%) of pedestrians and cyclists also answered “neither agree nor disagree”, therefore the percentage of those pedestrians and cyclists who somewhat or strongly disagree is relatively small.

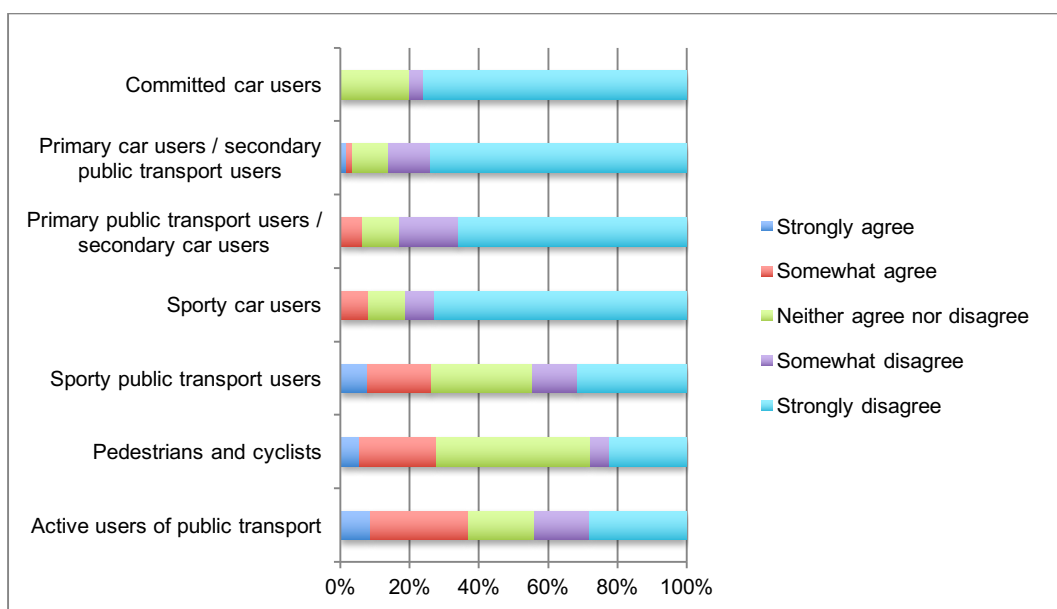


Figure 17. Using a private car does not suit my image.

The majority of pedestrians and cyclists (78%), but also a considerable portion of sporty public transport users (45%) and sporty car users (41%), either strongly or somewhat agreed with the statement “Cycling is part of my image” (Figure 18). Even some respondents who did not mention cycling as their primary or secondary mode of transport somewhat or strongly agreed that cycling is part of their image. However, they are a minority in their mobility segments. In the question “What are the most important reasons for choosing the mode of transport that you most often use?”, one of the respondents who actively cycles mentioned that the main reason for using bicycle is the lifestyle¹⁰⁷. This comment, as well as the results from attitude statement, points to the conclusion that cycling can be connected to image.

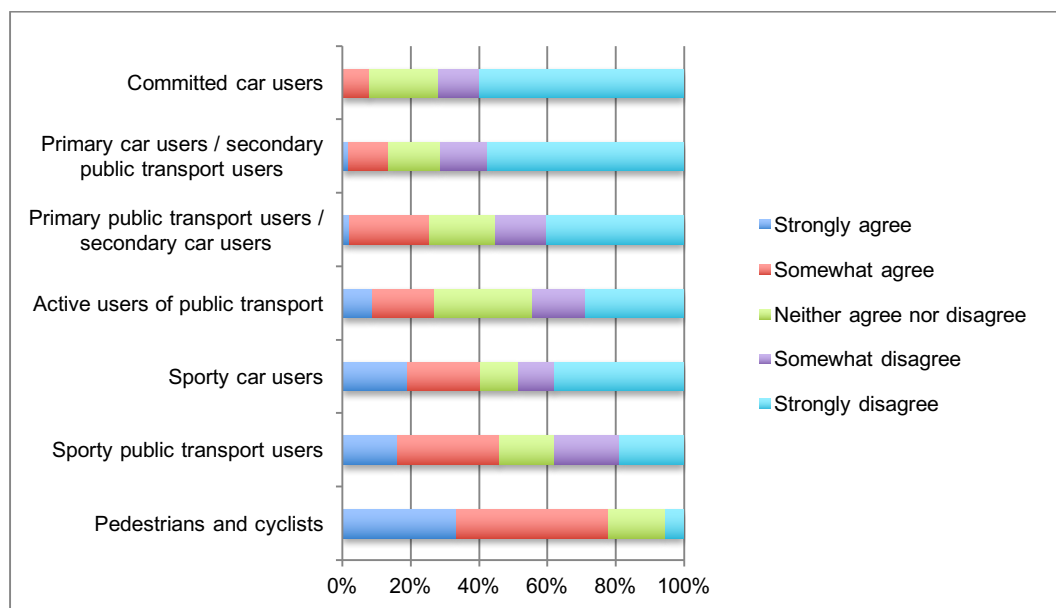


Figure 18. Cycling is part of my image.

5.5 Active private car users value environment the least

Respondents were asked to define how important environmental values are for them on a scale from 1 (not important at all) to 5 (very important) (question 26). Most respondents value the environment highly: 75% chose either 5 or 4 (Figure 19). Even if most people said that environmental values are important, the answers of people in different mobility segments vary. Committed car users, primary car users / secondary public transport users, and sporty car users value the environment the least. These active car user segments do not include many people who chose 1 or 2 when asked about the im-

¹⁰⁷ Male, age: 30-44, Vantaa, mobility segment: pedestrians and cyclists

portance of environmental values, but a significant number, particularly of committed car users (48%), chose 3. There is a tendency between mobility habits and the importance of environment values: the more one uses private car, the less one cherishes environmental values and vice versa.

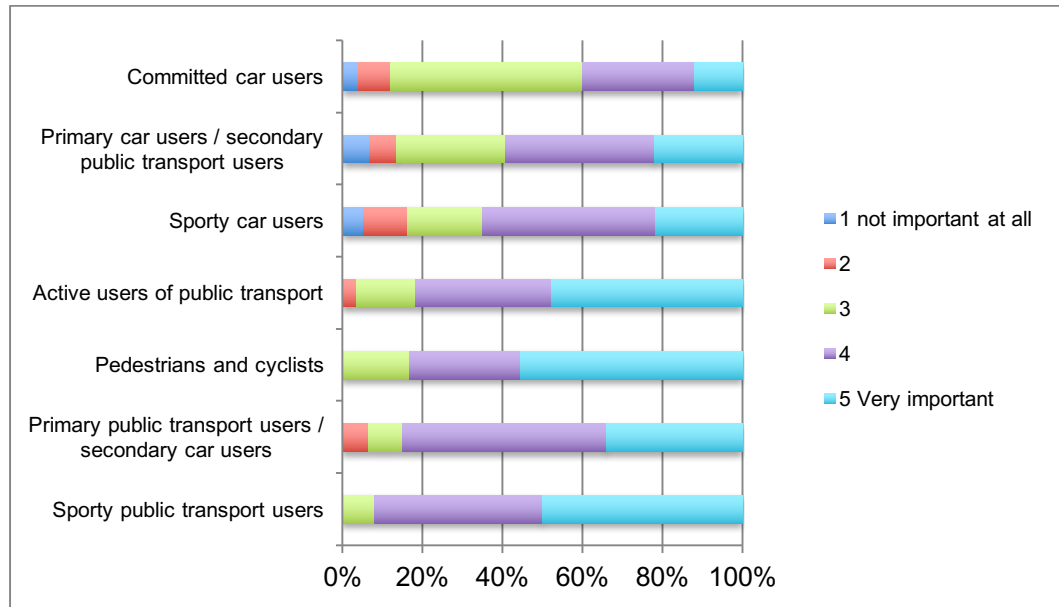


Figure 19. On a scale from 1 to 5, how important are environmental values for you?

For the unstructured question about the most important reasons for using the mode of transport that you most often use, some answers related to environmental values. Respondents who mentioned environmental values were active users of public transport (16%), sporty public transport users (14%), primary public transport users / secondary car users (6%), and sporty car users (6%). In the context of cycling, environment and health values can be connected to benevolence values and the need to consider future generations, as the following example shows:

“(...) Maintaining physical condition and the supposed environmental friendliness. Also, being an example for children is one of the reasons for cycling.” ¹⁰⁸

Attitude statements related to environmental values in the questionnaire were: “I believe that technology will solve problems relating to climate change”, “I try to take environmental issues into account when choosing a mode of transport because I feel a moral

¹⁰⁸ Male, age 45-59, Helsinki, mobility segment: sporty car users. The open-ended answer in Finnish in Appendix 11.

obligation to do so”, “I think of the future generations when deciding between modes of transport”, and “I have chosen where to live based on how easy it is for me to travel by public transport, cycling or walking”.

Answers to the question “I believe that technology will solve problems relating to climate change” varied considerably. None of the sporty public transport users or pedestrians and cyclists chose “strongly agree”, but in all other mobility segments all the answer options from strongly agree to strongly disagree were represented. Pedestrians and cyclists most often think that technology will not solve problems relating to climate change: 72% of pedestrians or cyclists either strongly or somewhat disagree with the statement about technology and climate change. According to the Kruskal-Wallis test, the differences between the other mobility segments, excluding pedestrians and cyclists, are not statistically significant (Appendix 9).

Answers relating to the attitude statements “I try take environmental issues into account when choosing a mode of transport because I feel a moral obligation to do so” and “I think of the future generations when deciding between modes of transport” reflect a similar tendency: respondents who mainly rely on a private car for daily mobility agreed the least with these attitude statements and vice versa (Figures 20 and 21). However, committed car users, sporty car users and primary car users / secondary public transport users include people who either somewhat or strongly agree with these attitude statements. Over 50% of committed car users, contrary to people in the other mobility segments, chose the option “neither agree nor disagree” on both attitude statements, which suggests that it may have been difficult to form an opinion. In general, the attitude statement “I try take environmental issues into account when choosing a mode of transport because I feel a moral obligation to do so” received more strongly or somewhat agree answers (60%) than the attitude statement “I think of the future generations when deciding between modes of transport” (44%).

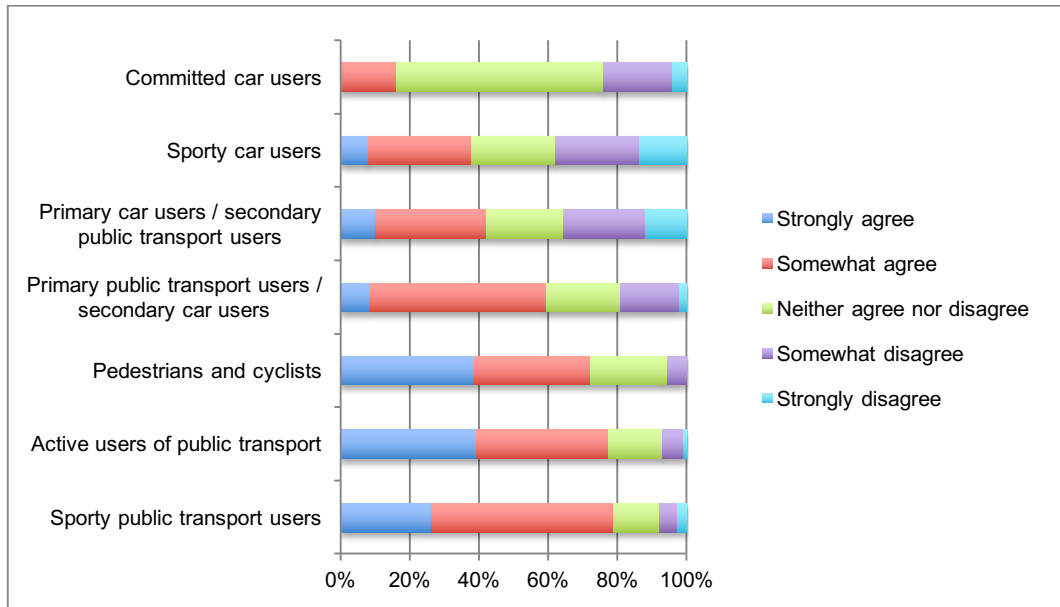


Figure 20. I try to take environmental issues into account when choosing a mode of transport because I feel a moral obligation to do so.

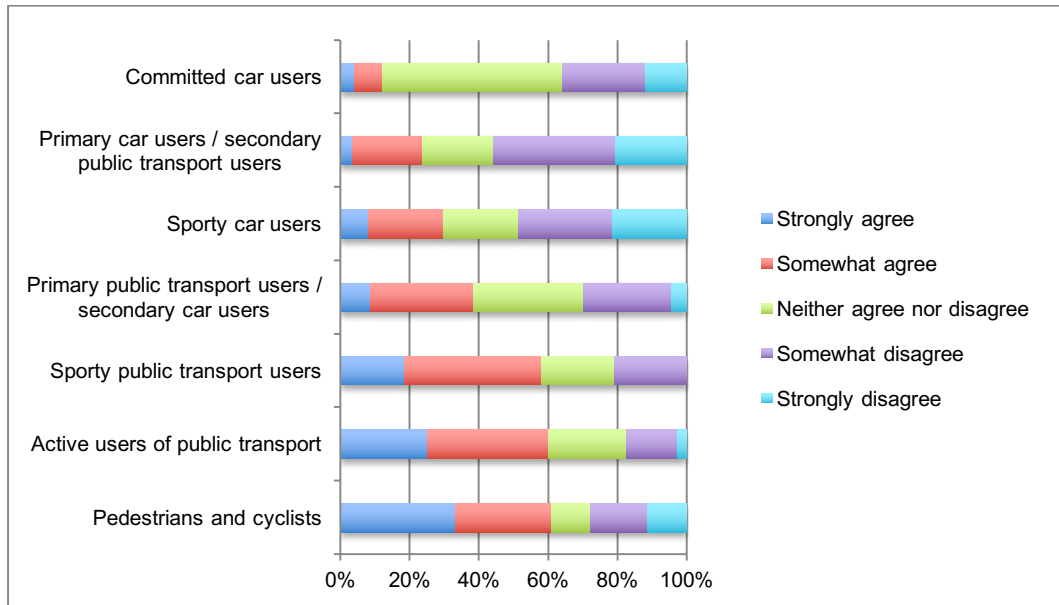


Figure 21. I think of the future generations when deciding between modes of transport.

Overall, among all respondents, the opportunity to use public transport, walking or cycling has affected the choice of where to live (Figure 22). 70% of all respondents either strongly or somewhat agreed with the statement "I have chosen where to live based on how easy it is for me to travel by public transport, cycling or walking". This result underlines the fact that mobility is strongly linked to questions of habitation. For most respondents, public transport connections and the possibility of walking and cycling are important, but there is still variation between mobility segments. 24% of committed car

users strongly or somewhat agreed that they have chosen where to live based on how easy it is for them to travel by public transport, cycling or walking, while 70% of active users of public transport strongly agree. All mobility segments include people who think that public transport connections and the possibility to walking and cycling matters, but in the mobility segments where people mainly rely on private cars, the portion of those people is less than 50%.

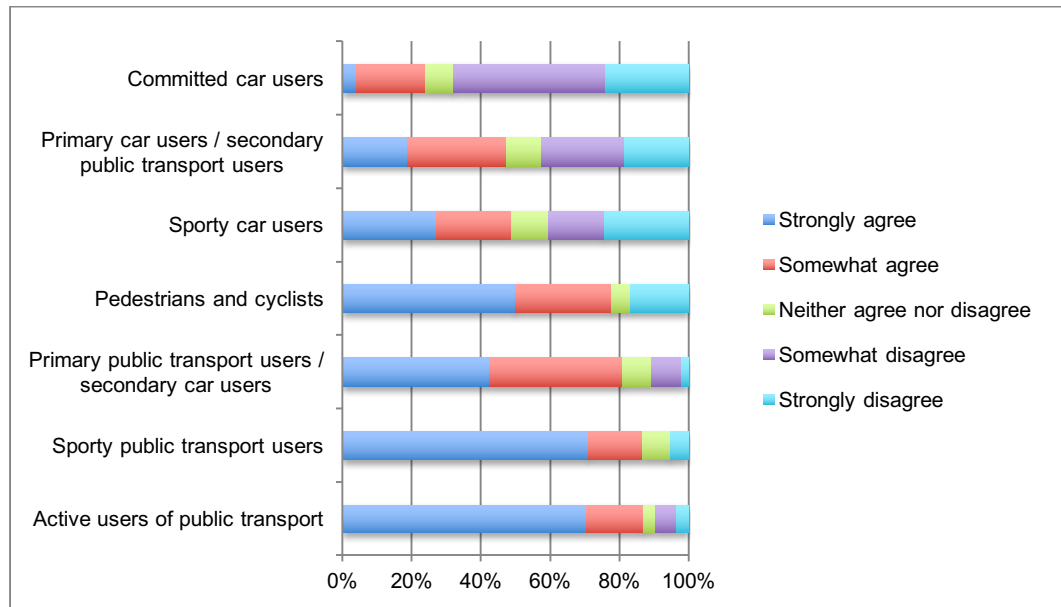


Figure 22. I have chosen where to live based on how easy it is for me to travel by public transport, cycling or walking.

The attitude statement “I am trying to cut back on using my own car because of environmental considerations” was intended for respondents who answered yes to the question “Is there, in your household, a private car that you drive”. All mobility segments include people who drive their own car, even if it is not their primary or secondary mode of transport. The majority (at least over 60%) of respondents whose primary or secondary mode of transport is not a private car and also primary public transport users / secondary car users were trying to use their own car less. In addition, over 40% of sporty car users and primary car users / secondary public transport users were trying to cut back on the use of their own car. Among committed car users, 20% were trying to use their own car less.

5.6 The mode of transport used most often is connected to perception of comfort and relaxation

In the questionnaire, comfort was measured with attitude statements relating to the perception of relaxation while travelling on public transport or driving a private car. In addition, there were attitude statements about the unpleasantness of traffic congestions when travelling in public transport or in a private car, and about the possibility to benefit from having time to do one's own things, such as reading, on public transport.

More than half (55%) of the respondents either strongly or somewhat agreed that travelling by public transport is relaxing. Committed car users (24% somewhat agree, none strongly agree) and sporty car users (30% either strongly or somewhat agree) agreed the least that travelling by public transport is relaxing, whereas the vast majority of sporty public transport users (74%) either strongly or somewhat agreed that using public transport is relaxing (Figure 23). Overall, those who mainly rely on private cars most often think that it is not relaxing to travel using public transport, whereas respondents who actively use public transport often see it as a relaxing mode of transport. When respondents were asked to state whether they agree or disagree that it is possible to focus on your own things, such as reading, while traveling on public transport, most respondents (77%) either strongly or somewhat agreed. Those who did not agree are mostly respondents who, more or less, rely on private car usage (Figure 24). The possibility of relaxing and using the time on public transport to do one's own things was also reflected in some answers to the question "What are the most important reasons for choosing the mode of transport that you most often use?":

*"(...) Public transport at its best provides comfortable moment for resting."*¹⁰⁹

*"I can get conveniently from home to work by bus. I can use the time on the bus, for example, for reading."*¹¹⁰

¹⁰⁹ Male, age 30-44, Helsinki, mobility segment: active users of public transport. The open-ended answer in Finnish in Appendix 11.

¹¹⁰ Male, age 18-29, Helsinki, mobility segment: active users of public transport. The open-ended answer in Finnish in Appendix 11.

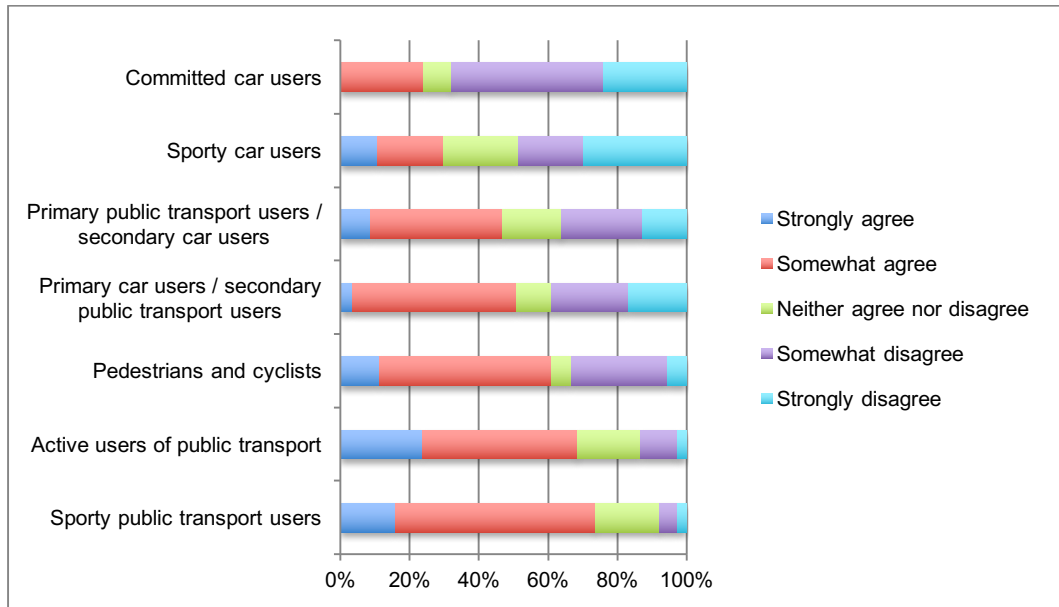


Figure 23. It is relaxing to travel on public transport.

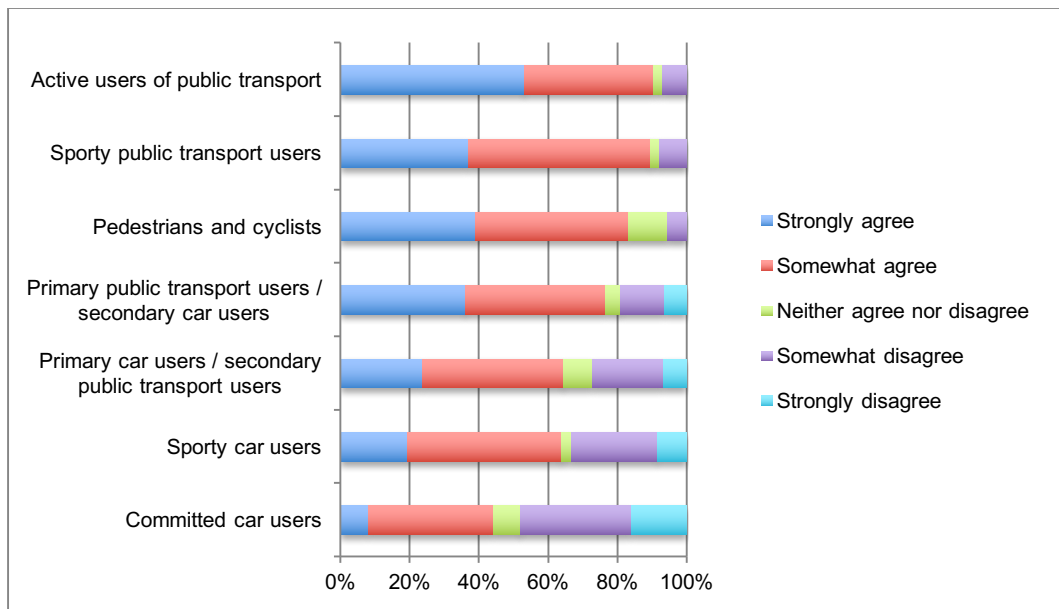


Figure 24. It is possible to focus on your own things, such as reading, while traveling on public transport.

A similar, but an even stronger tendency is visible in the responses to the attitude statement “It is possible to relax while driving a car” (Figure 25). More than 60% of committed car users and primary car users / secondary public transport users strongly or somewhat agree that driving a car is relaxing. Among respondents who rely on public transport, walking or cycling, only a small minority thinks that driving a car is relaxing. Overall, only 33% of all respondents either strongly or somewhat agree that driving a car is relaxing, so among all respondents, public transport is experienced as more relax-

ing mode of transport (55% either strongly or somewhat agree). In general, people tend to find the mode of transport that they mostly use the most relaxing.

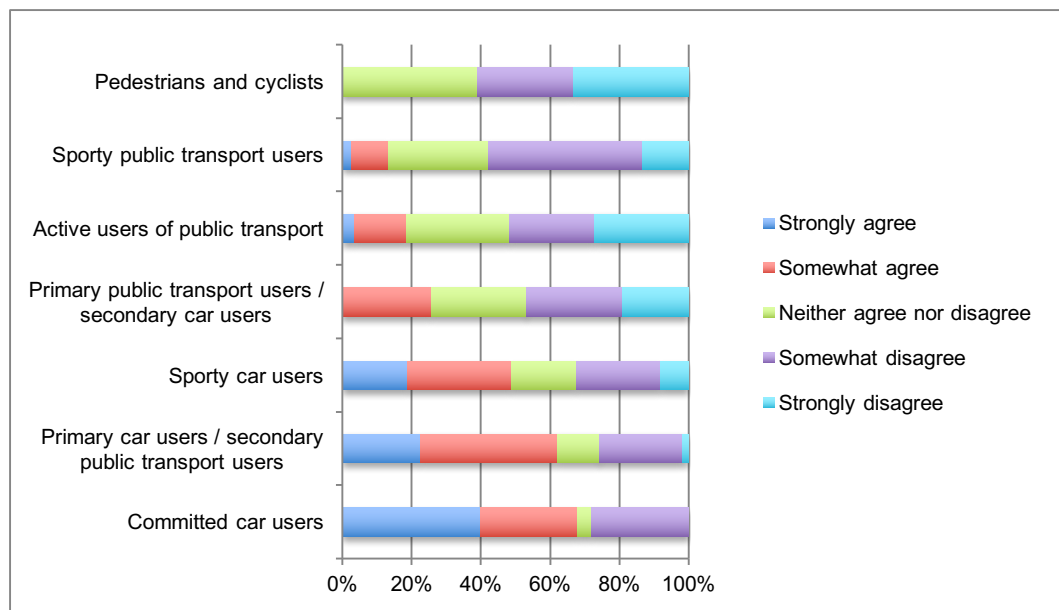


Figure 25. It is possible to relax while driving a car.

Answers to the open-ended question “What are the most important reasons for choosing the mode of transport that you most often use?” reflect a similar tendency as the attitude statements about the perception of relaxation on public transport and while driving a car. Comfort and easiness is mentioned in several answers regardless of which mode of transport the respondent uses. The mode of transport that one mostly uses is often seen as comfortable, quick and convenient. Answers relating to comfort, easiness and convenience came up most often in all the mobility segments: the number of these answers in each mobility segment varied from 40% (active users of public transport) to 65% (sporty public transport users). It is the main reason for many respondents who use public transport, cycling and walking, and for those who drive their own car.

The respondents mainly strongly or somewhat agreed that traffic congestions are unpleasant. Traffic congestions are experienced as unpleasant regardless of which mode of transport the respondent uses. 73% of all respondents strongly or somewhat agreed that congestions are unpleasant while travelling by public transport and 85% strongly or somewhat agreed that congestions are unpleasant when travelling by private car.

5.7 A combination of private car usage and other modes of transport enables freedom of mobility

Freedom of mobility is connected to private car usage. More than half of all respondents (57%) either strongly or somewhat agreed that not having a car restricts your freedom of mobility. Especially people whose primary or secondary mode of transport is private car associate freedom of mobility with private car usage: only a small minority (less than 20% in each segment) of committed car users, primary car users / secondary public transport users, sporty car users, and primary public transport users / secondary car users either strongly or somewhat disagreed with the attitude statement relating to freedom of mobility and private car ownership (Figure 26). Even among active users of public transport and sporty public transport users over 30% either strongly or somewhat agreed that not having a car restricts your freedom of mobility. Pedestrians and cyclists are the only mobility segment in which those who strongly or somewhat agreed are a small minority (11%, only 2 respondents).

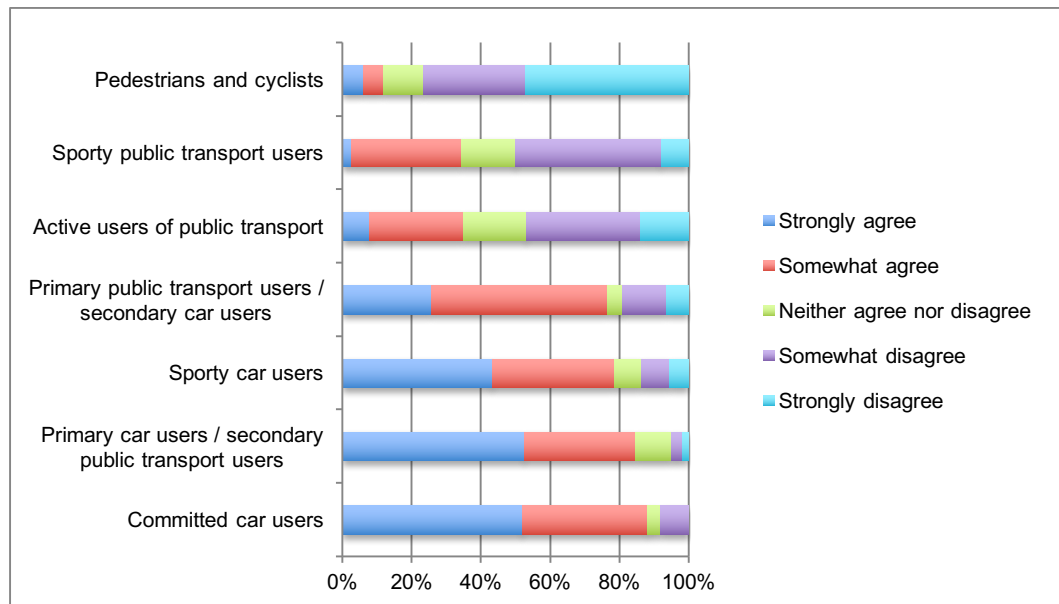


Figure 26. Not having a car restricts your freedom of mobility.

The dependence on private car usage among those respondents who actively use their own car is reflected in the answers relating to the necessity of owning a car outside the city centre. Over 60% of sporty and committed car users either strongly or somewhat agreed with the attitude statement “In the Helsinki capital region, it is necessary to own a car if you live outside of the city centre” (Figure 27). Among primary car users / sec-

ondary public transport users and primary public transport users /secondary car users, the portions of those who strongly or somewhat agree are 54% and 43%, respectively, while in the other mobility segments the number of people who strongly or somewhat agree is much smaller.

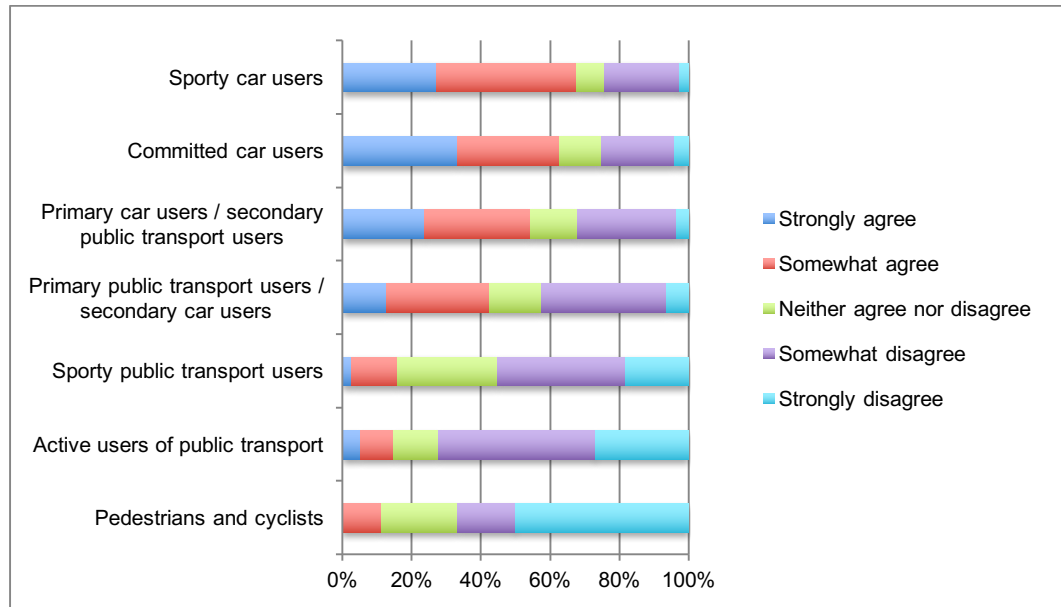


Figure 27. In the Helsinki capital region, it is necessary to own a car if you live outside of the city centre.

The majority of respondents think that private car ownership enables freedom of mobility, but, at the same time, a vast majority also agrees that car ownership includes some burdensome features. 85% of all respondents either strongly or somewhat agree that owning a car involves a lot of extra trouble, such as parking difficulties, insurance fees, maintenance, repairs, etc. The majority of those respondents whose daily mobility relies on private car usage also either strongly or somewhat agree (Figure 28).

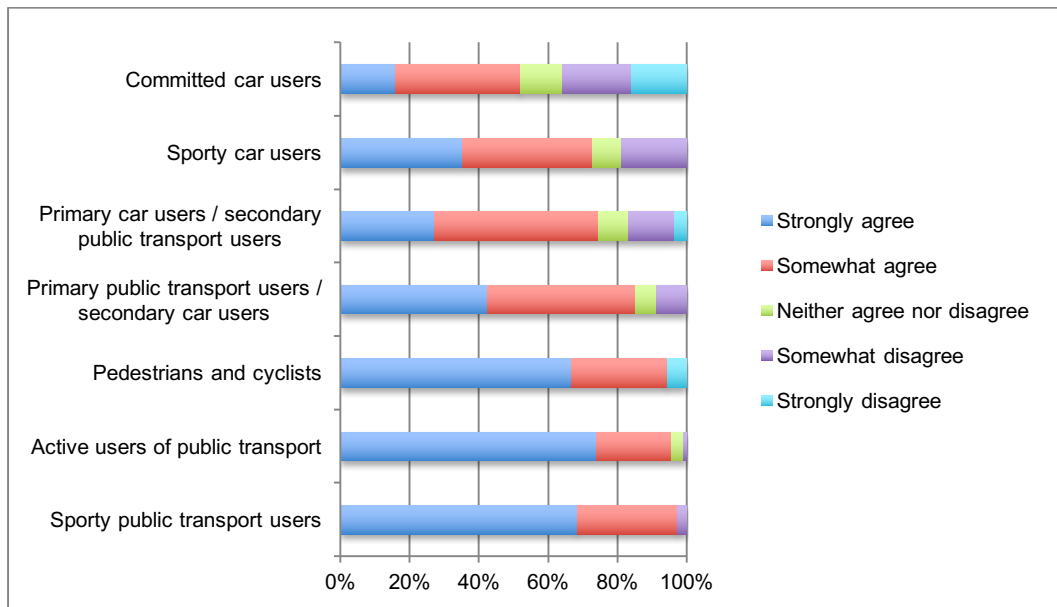


Figure 28. Owning a car involves a lot of extra trouble, such as parking difficulties, insurance fees, maintenance, repairs, etc.

Several respondents (for example, 22% of primary public transport users / secondary car users) have also underlined the burdensome features of car ownership in response to the question “What are the most important reasons for choosing the mode of transport that you most often use?”:

“Environmental friendliness, easiness (compared to the challenges of car ownership: congestions, parking, can’t do anything else while travelling), comfort.”

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*“Easiness and price. Owning a car is the opposite of public transport and I think car ownership includes a lot of inconveniences: parking, maintenance, cleaning during winter time, vehicle inspections, tire change, insurance fees, expensive petrol etc. (...)”*¹¹²

¹¹¹ Female, age 30–44, Helsinki, mobility segment: active users of public transport. The open-ended answer in Finnish in Appendix 11

¹¹² Male, age 18–29, Helsinki, mobility segment: active users of public transport. The open-ended answer in Finnish in Appendix 11.

“During traffic congestion, the bus is quicker than your own car. There are only expensive parking places near my workplace, so I can’t find a place for a car.”

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As well as private car ownership, cycling is associated with the perception of freedom in the context of daily mobility. 76% of all respondents either strongly or somewhat agreed that cycling allows you to experience freedom of mobility. The more one relies on cycling, the more often one agrees that cycling is connected to freedom of mobility, but over 40% of committed car users still either strongly or somewhat agree (Figure 29).

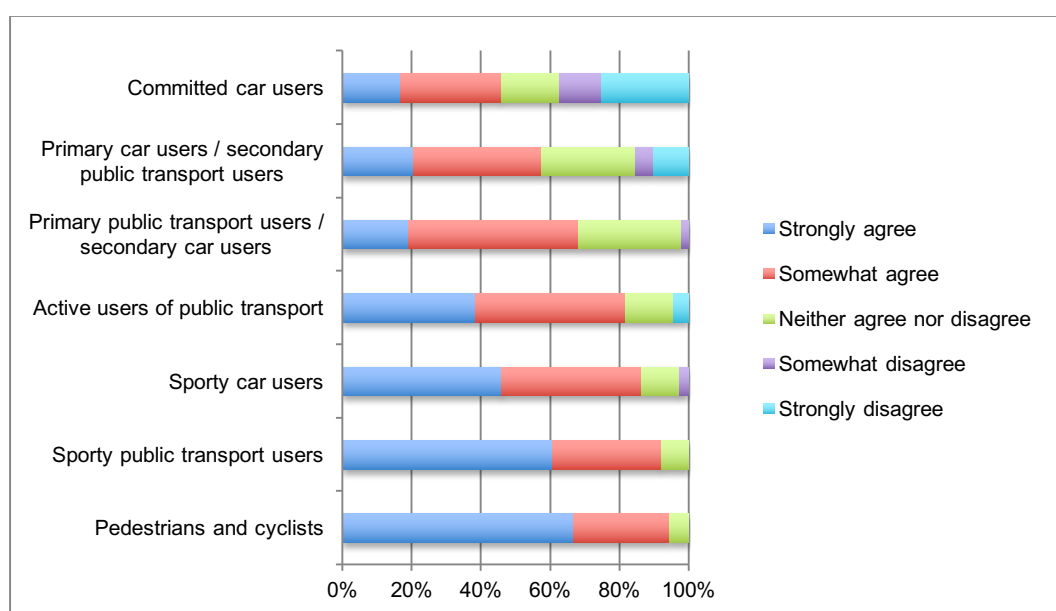


Figure 29. Cycling allows you to experience freedom of mobility.

Answers to the open-ended question “What does freedom of mobility mean to you” indicate that freedom of mobility is experienced strongly *while* cycling. However, cycling does not guarantee freedom of mobility in all situations. When cycling is possible, it gives you a feeling of freedom, but cycling does not enable travelling in all situations:

*“(…) For shorter distances (less than 10 km), cycling and walking enables freedom of mobility. For longer trips, a car is often needed (…)”*¹¹⁴

¹¹³ Female, age 30–44, Helsinki, mobility segment: primary public transport users / secondary car users. The open-ended answer in Finnish in Appendix 11.

¹¹⁴ Female, age 45–59, Espoo, mobility segment: active user of public transport. The open-ended answer in Finnish in Appendix 11.

(“...”) In my everyday life, cycling enables freedom of mobility. Less frequent and longer trips are also an important part of my mobility habits, and in these situations, freedom of mobility is often limited because ticket prices might be too high, timetables don’t meet my needs or I don’t have a chance to borrow a car.”

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*“While cycling, you can experience a physical feeling of freedom that is unique and typical just for cycling.”*¹¹⁶

Respondents were asked to define what freedom of mobility means to them. The answer that comes up most often relates to the possibility of not worrying about timetables and departing whenever needed. This defines freedom of mobility in each mobility segment and over 180 respondents mentioned that not having to worry about timetables creates a feeling of freedom in the context of daily mobility.

Nearly 50 respondents mentioned that the possibility of combining different modes of transport and choosing a transport mode that meets specific needs in a certain situation enables freedom of mobility:

*[Freedom of mobility means that] “I am not dependent on one single mode of transport.”*¹¹⁷

*(...) “Depending on the destination, you can save time using your own car. On the other hand, the train provides a quicker connection to the city centre of Helsinki, where it can be difficult to find a parking space. When you go to the grocery store, you need a car to avoid carrying heavy bags.”*¹¹⁸

¹¹⁵ Female, age 18–29, Helsinki, mobility segment: sporty public transport user. The open-ended answer in Finnish in Appendix 11.

¹¹⁶ Male, age 30–44, Helsinki mobility segment: sporty public transport user. The open-ended answer in Finnish in Appendix 11.

¹¹⁷ Male, age 18–29, Espoo, mobility segment: active users of public transport. The open-ended answer in Finnish in Appendix 11.

¹¹⁸ Female, age over 60, Espoo, mobility segment: committed car users. The open-ended answer in Finnish in Appendix 11.

*“Using a private car and a combination of car and other modes of transport. Sometimes using public transport and, for example, city bikes. Easier timetables and saves time.”*¹¹⁹

These answers point to the fact that, in many cases, one single mode of transport does not guarantee full freedom of mobility. Many respondents see that a combination of private car usage and other modes of transport enables full freedom of mobility. On the other hand, when respondents were asked about freedom of mobility, about 10% of active public transport users and 20% of sporty public transport users defined it solely in terms of public transport – how it should be developed or how well it works. Private cars were either not mentioned or dependence on private car ownership was seen as a limitation on freedom of mobility:

*[Freedom of mobility means] “Easy, well-functioning and flexible public transport connections for shorter and longer distances. Optional modes of transport with low emissions.”*¹²⁰

*“Location of the apartment ensures short distances. Can choose not to use a car.”*¹²¹

*[Freedom of mobility means] “that public transport is well-functioning and comprehensive, so that you can travel (nearly) everywhere quickly and conveniently...”*¹²²

5.8 Positive attitudes towards walking and cycling are not always reflected in daily mobility habits

The results from health and wellbeing related attitude statements show that most people have a positive attitude towards walking as a mode of transport. 74% of all respondents

¹¹⁹ Female, age 30–44, Espoo mobility segment: sporty car user. The open-ended answer in Finnish in Appendix 11.

¹²⁰ Female, age 45–59, Helsinki, mobility segment: active users of public transport. The open-ended answer in Finnish in Appendix 11.

¹²¹ Male, age 45–59, Helsinki, mobility segment: sporty public transport users. The open-ended answers in Finnish in Appendix 11.

¹²² Male, age 18–29, Helsinki, mobility segment: sporty public transport users. The open-ended answer in Finnish in Appendix 11.

either strongly or somewhat agree that walking, as a mode of transport, is an important part of their exercise routines (cf. Finnish expression “hyötyliikunta”). There is some slight variation between mobility segments, but more than half of people in all mobility segments still either strongly or somewhat agree that walking as a mode of transport is an important part of their exercise routines (Figure 30). This is a surprising result since many people who did not mention walking as their primary or secondary mode of transport still think that walking as a mode of transport is an important part of their exercise routines. To some extent, the same trend is visible in answers to the attitude statement “Whenever possible, I choose cycling or walking as a mode of transport” (Figure 31). All mobility segments include people who either strongly or somewhat agree, even if they did not mention walking or cycling as their primary or secondary mode of transport. However, the amount of such respondents among committed car users (24%), primary car users / secondary public transport users (27%), and primary public transport users / secondary car users (47%) is smaller than among respondents who mentioned walking or cycling either as a primary or secondary mode of transport. Answers to the attitude statement “Cycling as a mode of transport is important hobby for me” reflect the mobility habits of respondents: the more one cycles, the more important cycling is as a hobby (Figure 32). However, all mobility segments, also mobility segments in which people rely on private cars and public transport, include people who mentioned that cycling, as a mode of transport, is an important hobby for them.

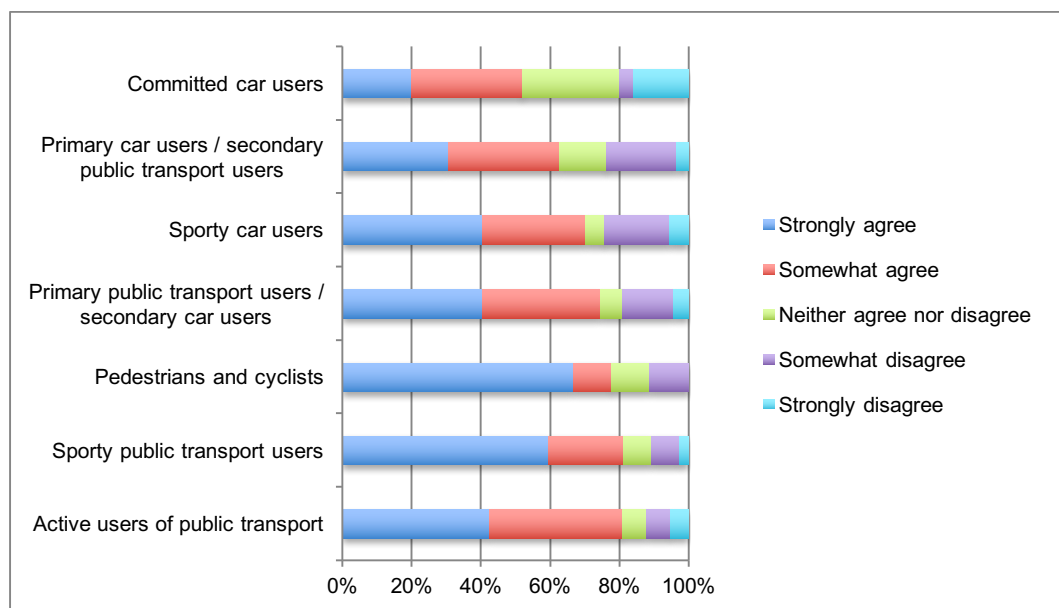


Figure 30. Walking as a mode of transport is an important form of exercise for me.

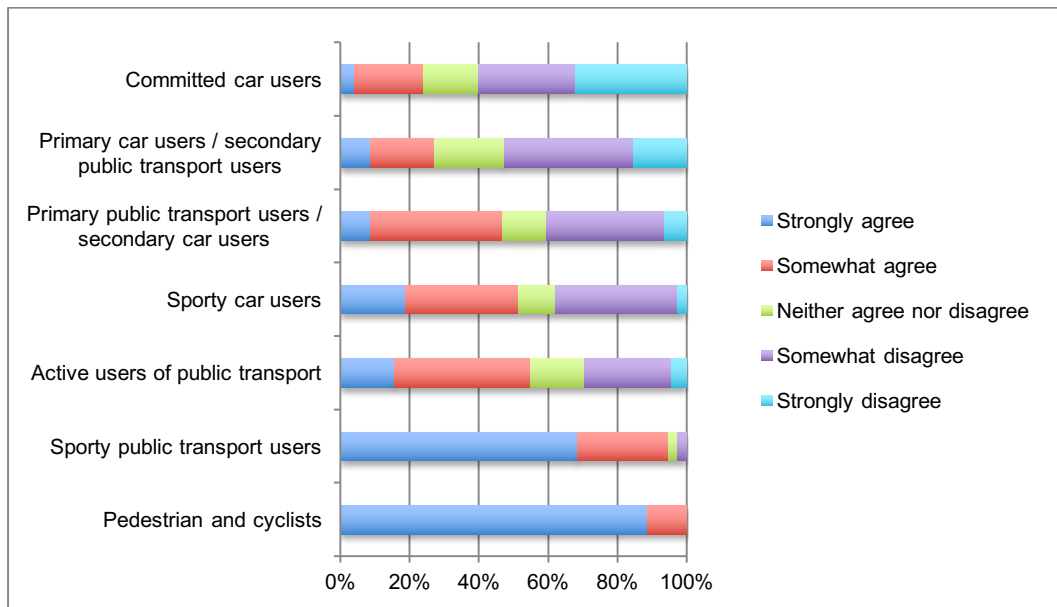


Figure 31. Whenever possible, I choose cycling or walking for a mode of transport.

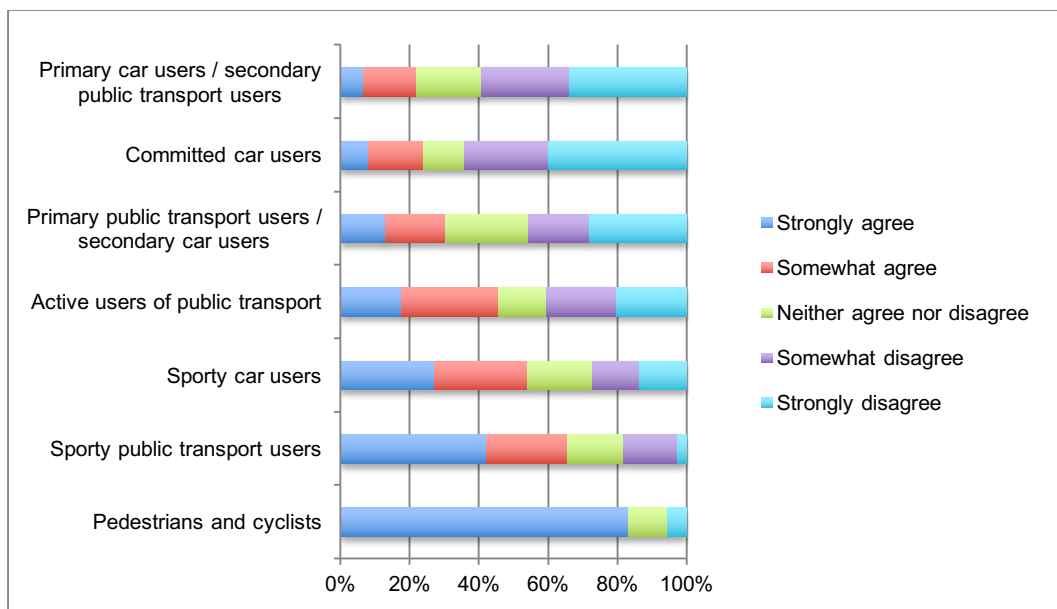


Figure 32. Cycling as a mode of transport is an important hobby for me

Overall, a positive attitude towards cycling is also reflected in answers to the attitude statement "Cycling reduces stress" (Figure 33). Only 17% of all respondents strongly or somewhat disagree, while 58% strongly or somewhat agree. The vast majority of pedestrians and cyclists either strongly (72%) or somewhat (17%) agree that cycling reduces stress, while 24% of committed car users strongly or somewhat agree. The trend is similar to other attitude statements relating to health and wellbeing: the more one cycles, the more often one thinks that cycling reduces stress.

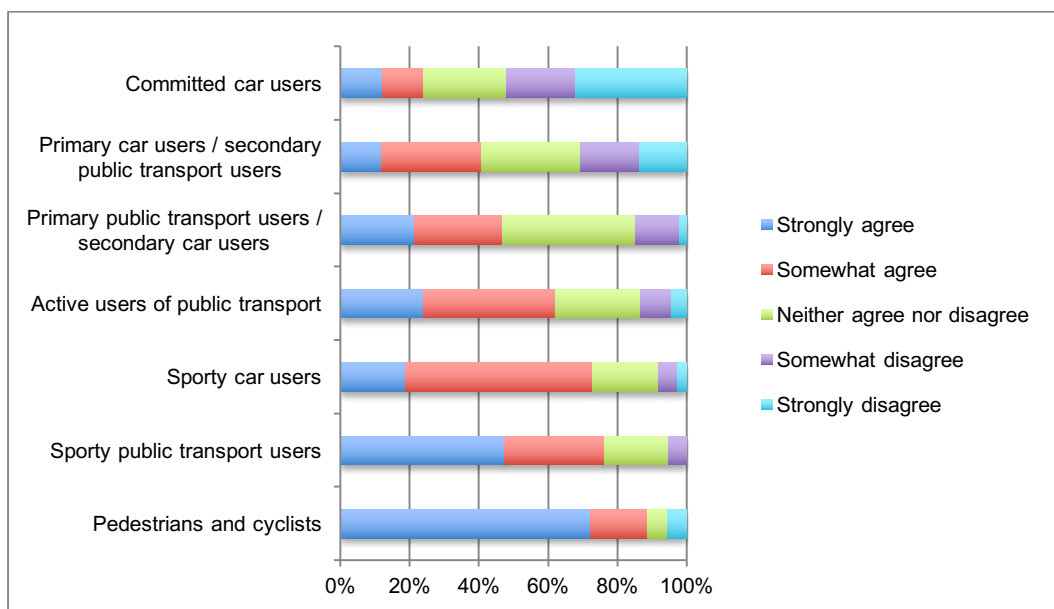


Figure 33. Cycling reduces stress.

Positive attitudes towards walking and cycling as a beneficial form of exercise and a source of wellbeing is reflected in the answers to the unstructured question “What are the most important reasons for choosing the mode of transport that you most often use?”:

*[Cycling is] “the quickest and most convenient choice for commute trips and for taking the children to the nursery. Also, a beneficial form of exercise since I don’t do any other exercise.”*¹²³

*“[Walking is] a beneficial form of exercise and it’s a pleasure to walk in nature.”*¹²⁴

*[Cycling is] “fast, environmentally friendly, and exercise in everyday life.”*¹²⁵

“My work is demanding and requires focus and a good level of activity, so that I can manage the challenges at work. Cycling starts the day well, raises the ac-

¹²³ Female, age: 30–44, Helsinki, mobility segment: pedestrians and cyclists. The open-ended answer in Finnish in Appendix 11.

¹²⁴ Female, age: over 60, Helsinki, mobility segment: sporty public transport users. The open-ended answer in Finnish in Appendix 11.

¹²⁵ Female, age: 30–44, Helsinki, mobility segment: sporty public transport users. The open-ended answer in Finnish in Appendix 11.

*tivity level and gives me enormous pleasure, and in the evening cycling is a transition from work to free time.”*¹²⁶

*“The baby can sleep while I walk. I like walking, it is a beneficial form of exercise, fresh air and vitality.”*¹²⁷

Many pedestrians and cyclist (47%) in particular mentioned exercise and wellbeing as one of the most important reasons when choosing a mode of transport. Among sporty public transport users and sporty car users, the percentages of respondents who give exercise as one of the main reasons are 27% and 12%.

In addition, there was an attitude statement about private car usage and its impact physical condition: “Driving your own car has a negative impact on your health and fitness”. The results clearly show that the more one’s daily mobility relies on private car usage, the more often one thinks that it does not have a negative impact on one’s health and fitness (Figure 34). By contrast, respondents whose primary or secondary mode of transport is not a private car mostly think that private car usage has a negative impact on one’s health and fitness. Among pedestrians and cyclists, there was not a single respondent who strongly or somewhat disagreed. Overall, 62% of all respondents either somewhat or strongly agreed that driving your own car has a negative impact on your health and fitness.

¹²⁶ Female, age: 4–59, Helsinki, mobility segment: sporty public transport users. The open-ended answer in Finnish in Appendix 11.

¹²⁷ Female, age: 40-44, Helsinki, mobility segment: sporty car users. The open-ended answer in Finnish in Appendix 11.

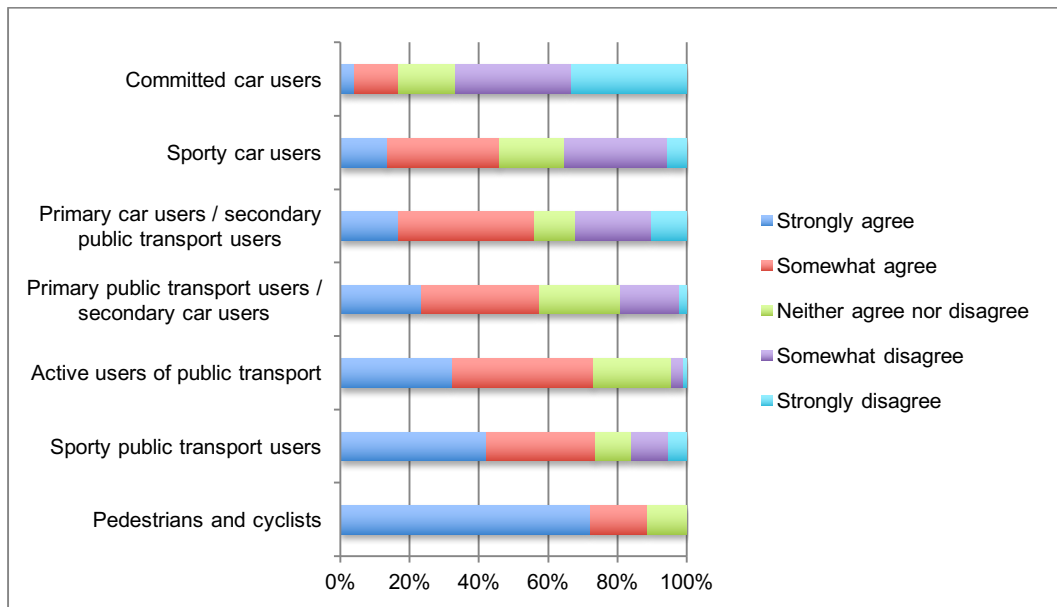


Figure 34. Driving your own car has a negative impact on your health and fitness.

Respondents were also asked to define how important a value health is for them on a scale from 1 (not important at all) to 5 (very important). Since health is the foundation of normal life, it is expected that most people value health highly. 62% of all respondents rated importance of health at 5. According to the Kruskal-Wallis test, health is valued most highly among committed car users and pedestrians and cyclists (Appendix 10).

5.9 Car is a means of transport, not a hobby or a must-have

To find out what cars mean to people, there were some attitude statements relating to private cars and their meaning for respondents. The attitude statements were “I often discuss cars with my friends because cars are interesting”, “Having your own car is a part of being an adult”, “Having your own car is the best way to visit friends, acquaintances and relatives”, and “You should buy a car as soon as it is possible”. For respondents who have a car that they drive (189 respondents), there was also the attitude statement “In addition to using a car as a means of transport, the car is also a hobby for me”. In addition, there were two attitude statements for people who drive their own car and have underage children in their household (76 respondents): “I need to own a car to drive the children around” and “We have a car in our household mainly because it makes things easier for a family with children”. The purpose of these attitude statements

was to see whether private car usage is linked specifically to the needs of families with children.

74% of all respondents either strongly or somewhat disagreed that they often discuss cars with their friends because cars are interesting. Respondents who think that cars are interesting and they often discuss about cars with their friends are most often those who actively use private cars (Figure 35). However, a significant number of people who rely on private car usage in their daily mobility do not see cars as an interesting topic to talk about. 74% of respondents who have a car that they drive either strongly or somewhat disagree with attitude statement “In addition to using a car as a means of transport, the car is also a hobby for me”. Sporty car users included the relatively largest share of people for whom a car represents a hobby (Figure 36).

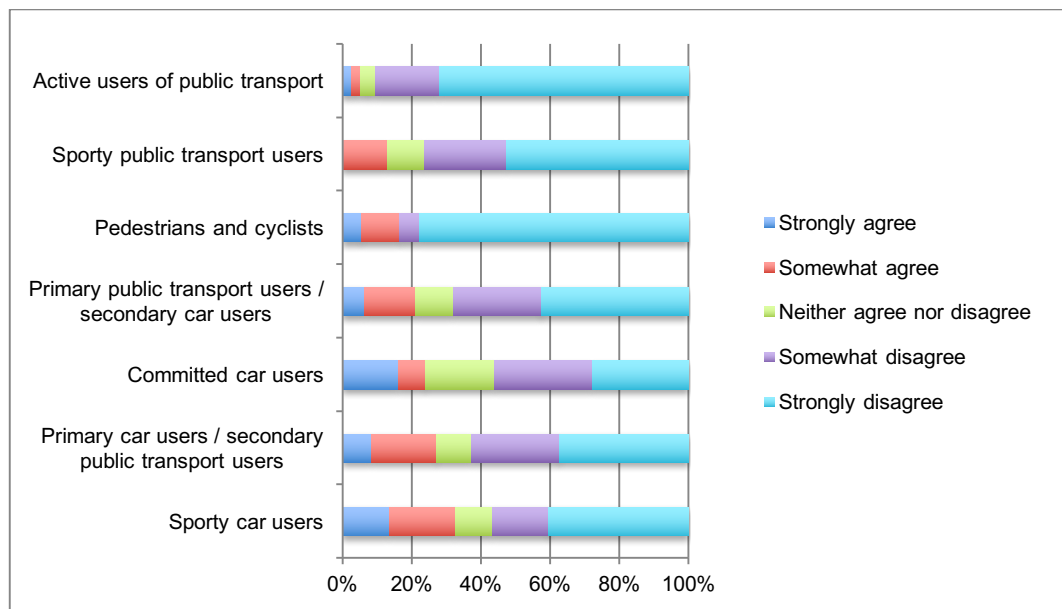


Figure 35. I often discuss cars with my friends because cars are interesting

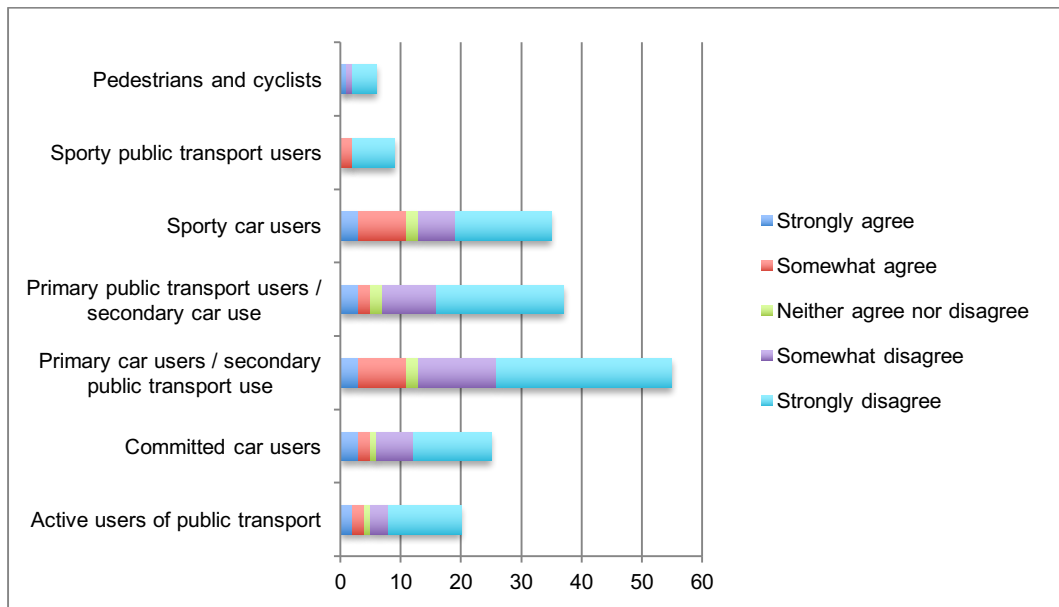


Figure 36. In addition to using a car as a means of transport, the car is also a hobby for me. N=189, includes only respondents who have a car, that they drive, in their household.

The attitude statement “Having your own car is a part of being an adult” was strongly or somewhat disagreed with by 66% of the respondents. 18% of all respondents either strongly or somewhat agreed that having your own car is a part of being an adult. Those who agreed are mainly committed car users (44%), primary car users / secondary public transport users (41%) and sporty car users (32%) (Figure 37).

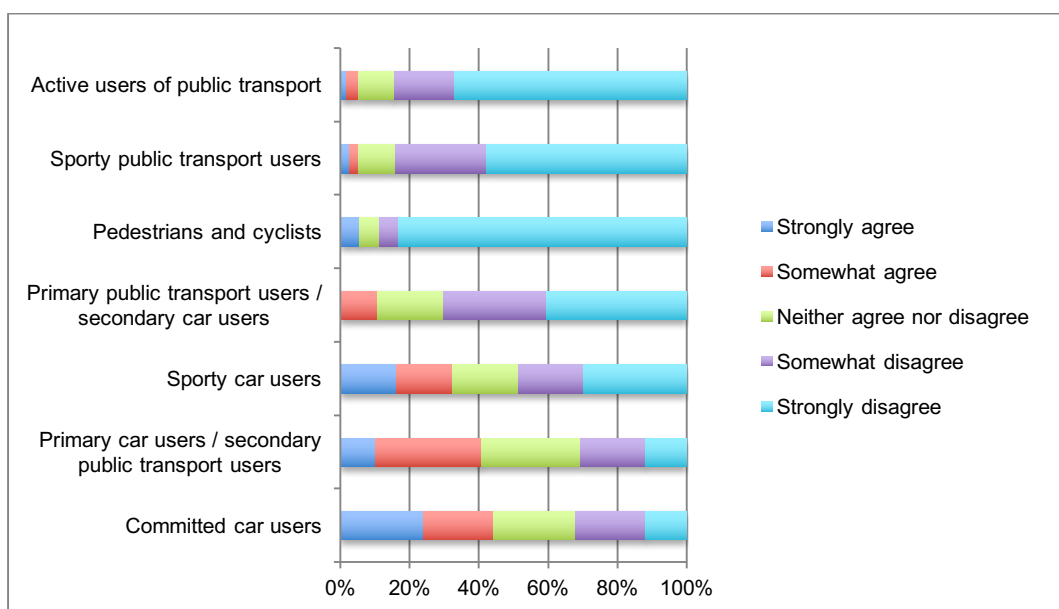


Figure 37. Having your own car is a part of being an adult.

Answers to the attitude statement “You should buy a car as soon as it is possible” contained hardly any strongly agree or somewhat agree answers (6%). 77% of all respondents either strongly or somewhat disagreed. The number of respondents who disagree is the smallest among active private car user segments (Figure 38).

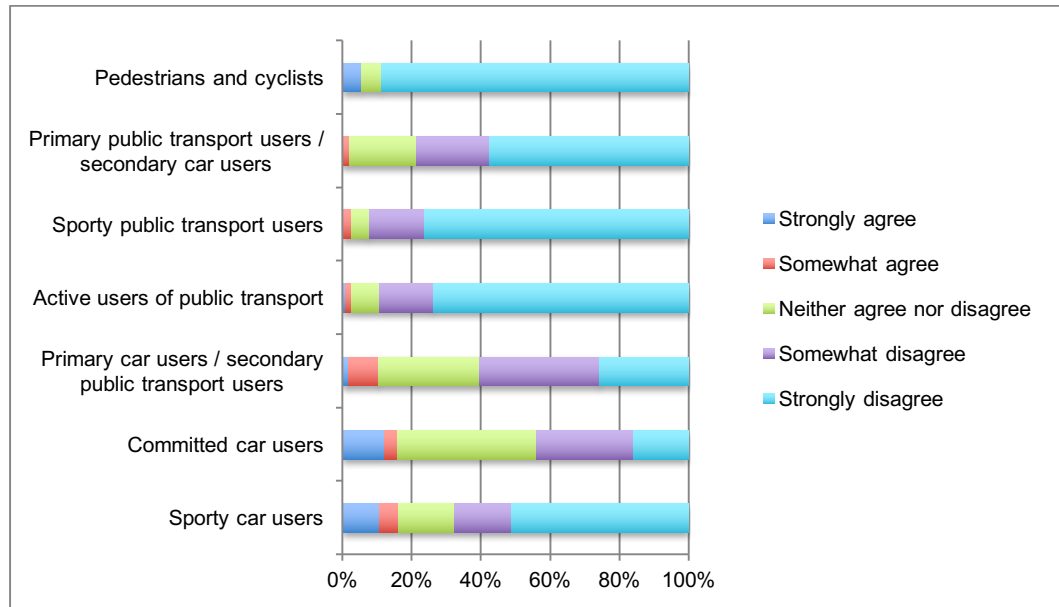


Figure 38. You should buy a car as soon as it is possible.

The attitude statement “Having your own car is the best way to visit friends, acquaintances and relatives” received considerably more strongly and somewhat agree answers (58%) than questions relating to cars as a hobby, an interesting topic to discuss, or a part of adult life. Especially among mobility segments in which people use private car as a primary or secondary mode of transport, the vast majority either strongly or somewhat agreed, that having your own car is the best way to visit friends, acquaintances and relatives (Figure 39). Among active users of public transport, sporty public transport users, and pedestrians and cyclists, there are respondents who strongly or somewhat agreed, but their number is much smaller than among the mobility segments in which people use private car as their primary or secondary mode of transport. The advantages of private car usage were revealed in attitude statements that are connected to real-life mobility situations. This indicates that, for most people, a car is a useful means of transport, not a hobby nor something that they feel they must have nor a status symbol (see, e.g., Figure 15).

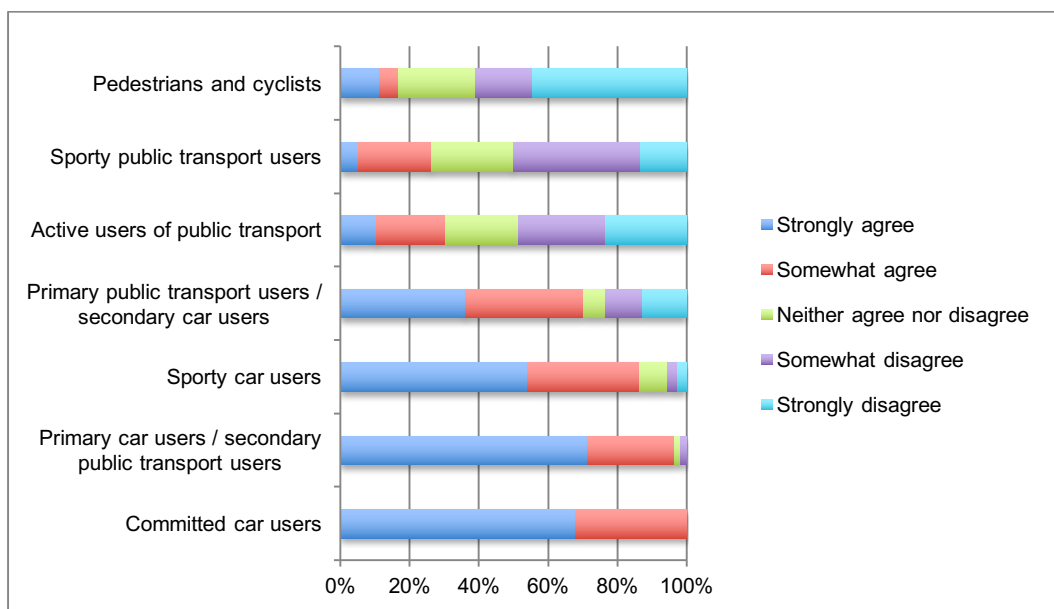


Figure 39. Having your own car is the best way to visit friends, acquaintances and relatives.

Practical reasons for private car usage were also given in the answers to the question “What are the most important reasons for choosing the mode of transport that you most often use?”. For example, the need to carry heavy objects and groceries and the necessity of using a car at work are reasons for private car usage. Some respondents mentioned that both their own and their children’s hobbies require the use of a private car. Furthermore, the busy schedule of everyday life is a reason for private car usage for some people. Examples of the practical reasons respondents mentioned for private car usage are given below:

*“The time used for travelling is the shortest, my work demands visiting several places during the day.”*¹²⁸

*“Quickness, ability to get directly to a destination, chance to have time for hobbies”*¹²⁹

“I often need to go to the outskirts of the city. I often have belongings either when I am going – photography equipment related to my work – or when I come

¹²⁸ Female, age 45–59, Helsinki, mobility segment: committed car users. The open-ended answer in Finnish in Appendix 11.

¹²⁹ Male, age 45–59, Espoo, mobility segment: committed car users. The open-ended answer in Finnish in Appendix 11.

back, for example, groceries for the following week from shopping centres along the ring road.” ¹³⁰

“I often do several things during a single visit, such as exercise outside of the city, get groceries from a shopping centre, and have the freedom of mobility to meet friends here and there. With public transport, I would have time to do only one thing per day.” ¹³¹

Among mobility segments in which people primarily rely on public transport, walking or cycling, one of the practical reasons for using public transport is inexpensiveness. It comes up in several answers to the question “What are the most important reasons for choosing the mode of transport that you most often use?”. 34% of active public transport users and 17% of primary public transport users / secondary car users mentioned inexpensiveness as one of the most important reasons for using public transport. Among sporty public transport users and pedestrians and cyclists, 16% and 24% mentioned inexpensiveness as one of the main reasons for choosing the mode of transport, that they most often use.

The attitude statements that were targeted for families with children indicate that private car usage is connected to the mobility needs of children: 79% either strongly or somewhat agreed that they need to own a car to drive the children around. 51% of car-owning families with children strongly or somewhat agree that they own car mainly because it makes things easier for families with children. Reasons for using a private car that relate to life with children are revealed in the answers to the question “What are the most important reasons for choosing the mode of transport that you most often use?”:

“I drive my children to hobbies after a day at work” ¹³²

A car is the easiest solution for controlling everyday life. I take care of work, children and hobbies with a busy schedule. ¹³³

¹³⁰ Male, age: over 60, Helsinki, mobility segment: sporty car users. The open-ended answer in Finnish in Appendix 11.

¹³¹ Male, age: over 60, Helsinki, mobility segment: sporty car users. The open-ended answer in Finnish in Appendix 11.

¹³² Female, age: 45–59, Helsinki, mobility segment: primary car users / secondary public transport users. The open-ended answer in Finnish in Appendix 11.

6. The research process – strengths and weaknesses

The data collection for this study lacked a systematic sampling method. The link to the questionnaire was posted on the social media channels of the Helsinki, Espoo and Vantaa municipalities and to the “Vantaan puskaradio” Facebook page. Respondents were not selected systematically. The lack of systematic sampling method resulted in, for example, the overrepresentation of women and people aged from 30 to 44 (section 5.1). Distribution through social media channels has most likely affected the answers. The opinions of people who follow social media channels of the municipalities or “Vantaan puskaradio” Facebook page do not necessarily represent the opinions of average Helsinki capital district inhabitants. Respondents who found the questionnaire on the “Vantaan puskaradio” Facebook page (78% of all valid Vantaa respondents) may also differ from the respondents who follow the social media channels of the Helsinki, Espoo and Vantaa municipalities. There are similar “puskaradio” Facebook pages also in Helsinki and Espoo, but the questionnaire was not posted on these pages as this would have resulted in a bias in the distribution of inhabitants from Helsinki, Espoo and Vantaa.

There was an unstructured open-ended question in the questionnaire: “What are the most important reasons for choosing the mode of transport that you most often use?”. This was placed in the questionnaire before the attitude statements to avoid the influence of structured questions. The structured attitude statements are based on themes drawn from earlier research: safety, status, comfort and easiness, environmental values, freedom, independence, health and wellbeing. Many of these themes also occur in the answers to the unstructured questions: especially comfort, easiness, environmental values, health and wellbeing appear in several answers. This indicates that the structured attitude statements were operationalized successfully.

¹³³ Male, age: 45–59, Helsinki, mobility segment: primary car users / secondary public transport users. The open-ended answer in Finnish in Appendix 11.

¹³⁴ Female, age: 30–44, Vantaa, mobility segment: sporty car users. The open-ended answer in Finnish in Appendix 11.

In this study, the term “public transport” refers to shared passenger transport services, such as buses, trams, metros, etc., that operate on fixed routes and are available to the public. In the questionnaire, the Finnish term “julkinen liikenne” was used to describe public transport. The definition of “julkinen liikenne” by the Finnish Transport Agency refers to passenger traffic that is operated by all means of transport available for the public, including taxis¹³⁵. This mistake in the questionnaire resulted in a few comments about the false use of the term “julkinen liikenne” and the mixing of this term with “joukkoliikenne”. “Joukkoliikenne” refers to the mass transportation of passengers regardless of whether it is open to the public or not¹³⁶. However, in everyday speech, “julkinen liikenne” refers to busses, trams, metros, etc. (cf. expression “mennä julkisilla”), so it was expected that this mistake in the questionnaire would not result in a significant amount of false answers. Moreover, the respondents who commented on the mistake, seemed to understand what “julkinen liikenne” meant in the questionnaire.

A factor analysis was also conducted on the data. The aim of the factor analysis is to group similar variables into factors and, on the other hand, to identify which variables are independent. Factors describe underlying latent variables. They are not directly observable, but it is assumed that latent variables affect variation in a sample.¹³⁷ The objective of the factor analysis was to observe the values behind attitudes. Values were considered a latent variable. The aim was to use factor analysis in creating mobility segments that would be based solely on values. To receive a reliable factor solution, several attitude statements would have had to be dropped from the analysis. A significant amount of information would have disappeared. In addition, similar attitudes for all the respondents were important for the analysis. For example, the fact that almost everyone, irrespective of which mobility segment they belong to, disagreed that public transport is for people who cannot afford anything else is important information. Likewise, the fact that most people value health and wellbeing is essential for understanding the value hierarchies of different mobility segments.

The attitude statements in the questionnaire provide information about attitudes relating to the context of daily mobility. To understand respondents’ values is more complicated. The aim of the value questions (questions 20–32 in the questionnaire) was to deter-

¹³⁵ Liikennevirasto 2013, 10

¹³⁶ Liikennevirasto 2013, 10

¹³⁷ Nummenmaa 2009, 397

mine which values matter to respondents and to connect the results from the value questions to the attitude statements and mobility habits. Apart from a few exceptions, such as environmental values, in most cases there were no statistically significant differences between the mobility segments. It would have been possible to ask for values to be ranked according to their importance and this could have resulted in variation in the answers, but this was deemed to be too time-consuming and difficult for the respondents. As there was no variation in the answers, it was impossible to connect the results of the value questions to specific mobility habits. Thus, the value questions did not ultimately offer much to the analysis. However, values can be studied through attitude statements. Attitudes show reflections of values. Schwartz's theory about universal values and especially the idea of value items serve as an instrument for finding these reflections. In addition, value hierarchies relating to environmental, health and wellbeing values are identified in the data. However, a deeper and more comprehensive understanding of the values of people with different mobility habits would require further research. The results of this study could provide a useful platform to continue the development of value research in the context of daily mobility.

The mobility segments are used in analysing how the attitudes and values of people with different mobility habits differ. The mobility segments are not totally homogeneous. Some attitudes divide people inside the mobility segments. On the other hand, some mobility segments are more homogenous than others. For example, the vast majority of pedestrians and cyclists share similar attitudes and values: the importance of environmental values is reflected in attitude statements and also in everyday mobility habits, they self-evidently share the same positive attitude towards walking and cycling, and they do not value private car ownership nor do they see cars as a necessity or as a tool to achieve freedom of mobility. The majority of pedestrians and cyclists did not believe that technology would solve the problems relating to climate change. By contrast, for example, the mobility segment primary car users / secondary public transport users includes people with different attitudes and values. Primary car users / secondary public transport users who display reflections of environmental values in the attitude statements are not a minority but not a majority either. Furthermore, the attitude statements relating to cars as a necessity outside the city centre and as a part of being adult divide primary car users / secondary public transport users. Despite the fact that not all mobility segments are homogenous, in most cases the attitude statements reveal tenden-

cies: for example, when respondents were asked about environmental values, those who mainly use environmentally friendly modes of transport reflect more environmental values on average. Depending on the attitude statements, the tendencies show stronger or weaker differences between the mobility segments.

The research reported in this master thesis was commissioned by MaaS Global. The perspective on the topic and the research questions were created before assignment to the company, and the research project was carried out independently, but some of the objectives of MaaS Global have influenced the research: questions about private car ownership and usage are crucial for MaaS Global and, therefore, these themes were also strongly represented in the survey. To some extent, MaaS Global also encourages the use of public transport, which highlights the importance of understanding the reasons and obstacles for using public transport. However, these objectives form the core of the development of the MaaS system in general and are not just the goals of MaaS Global.

7. Conclusions: values, attitudes and the MaaS concept

In general, people have a positive attitude towards cycling and walking as modes of transport. When attitude statements are examined through Schwartz's value theory, the results indicate that different values can affect the decisions to cycle and walk. Attitude statements show (both weaker and stronger) reflections of values behind the reasons for choosing walking and cycling: the motivational basis for cycling and walking can stem from stimulation, security, self-direction values or even potentially from achievement and power values. As Klaus Helkama observes, the same action, in this case cycling or walking, can express different values in varied situations¹³⁸. In the context of daily mobility, cycling is connected to freedom, which is one of the defining value items of self-direction values. Cycling is seen as a tool for maintaining a positive level of activation, which can be seen as a reflection of stimulation values. Cycling, as well as walking as a mode of transport, is seen as beneficial form of exercise and a source for wellbeing for both mental and physical health. Health is one of the defining value items of security values. On the other hand, all mobility segments include people who feel that other traffic causes insecurity while cycling. Especially among those who do not walk often, some feel that walking can be frightening in the evenings and at night. Therefore, in

¹³⁸ Helkama 2015, 14–15

some cases security values can be threatened while walking and cycling, and this may lead to a choice of another mode of transport. Similar results were found in the research carried out by the Helsinki City planning department about cycling in Helsinki: people would cycle more if safety were on an adequate level ¹³⁹. On the other hand, a positive attitude towards cycling was also discovered in that same study as over 80% of the people support the promotion of cycling in Helsinki ¹⁴⁰. A similar trend has also been found in other studies - health and wellbeing benefits create positive attitudes towards cycling ¹⁴¹.

For some, cycling is also an important hobby and a part of their image. As cycling seems to be something that most respondents see as a positive thing, could the need to see cycling as a part of one's image be a reflection of achievement and power values? Status-related things like the need for preserving public image and social recognition are defining value items of achievement and power values. Could these values influence some people's decision to use a bicycle in their daily mobility?

It is self-evident that people have positive attitudes towards cycling and walking in the mobility segments that include respondents whose primary or secondary mode of transport is walking or cycling. In addition, some people whose primary or secondary mode of transport is not walking or cycling share the same positive attitudes and see the health and wellbeing benefits of cycling and walking. Similar results have been reported in earlier research carried out by the Ministry of Transport and Communication: even those who mainly use private cars mentioned that they sometimes want to walk or cycle because it has positive effects on health and wellbeing ¹⁴². In this study, many of those who mainly rely on private car usage also mentioned that walking, as a mode of transport, is an important form of exercise for them even if it is not their primary or secondary mode of transport. This conflict reflects Schwartz's notion of value hierarchy in the context of daily mobility: they see the benefits of walking and cycling, but in most daily mobility choices some other values guide their decisions – other values are higher on their value hierarchy. For example, a busy schedule, the need to drive children

¹³⁹ Helsingin kaupunki 2016a, 19

¹⁴⁰ Helsingin kaupunki 2016a, 4

¹⁴¹ cf. e.g. Luoma & Voltti 2007, 48, Jensen, Sheller & Wind 2015, 373-374

¹⁴² Luoma & Voltti 2007, 48

around, or comfort may be reasons that guide people to use private cars or public transport instead of walking and cycling.

The majority of respondents who rely on private car usage in daily mobility do not have status-related obstacles for using public transport. A desire for high status is not characteristic of any single mobility segment – all mobility segments include people who value status either high or low. Earlier research shows that private car usage has been a strong status symbol before, but its status meaning in developed countries is not as significant as it used to be ¹⁴³. About half of the people in the active car user segments are not frightened by the disturbance caused by other passengers on public transport – for these people safety is not an obstacle for using public transport. One quarter of all respondents are, at least to some extent, frightened on public transport - there is still obviously a need improve safety on public transport, even if the majority of people are not afraid. On the other hand, some of the people whose primary mode of transport is a private car also feel that travelling by public transport is relaxing. The group of people who are strongly committed to private car usage through their attitudes and values is rather small. A Helsinki city planning department study also concluded that almost all people in Helsinki use public transport at least sometimes ¹⁴⁴.

Even if many private car users have positive attitudes particularly towards cycling, walking and, to some extent, towards public transport, most of them think that not having a car restricts freedom of mobility. However, a combination of private car usage and other modes of transport is offered as an ideal solution for freedom of mobility in several open-ended answers. Freedom of mobility comes from the freedom to choose the mode of transport that is best for each specific situation. Not having to worry about timetables and having the opportunity to decide when to go are important for private car users as well as for those who rely on public transport, walking, and cycling. To provide opportunities to decide when to go without dependence on timetables would require, for example, extremely efficient public transport that covers the whole Helsinki capital district, the use of a private car, development of on-demand transport services, or a combination of all of these. Such needs are reflections of Schwartz's self-direction values – the need to decide independently when to go and to feel the freedom of mobility without

¹⁴³ Cf. e.g. Abou-Zeid et al. 2014, 1227, 1238 and Granberg et al. 2005, 31,54

¹⁴⁴ Helsingin kaupunki 2016c, 49

restrictions. The structures of the mobility segments also underline the benefits of combining different modes of transport: only committed car users and some of the active public transport users and pedestrians and cyclists mentioned that they mainly use only one mode of transport. A vast majority of people combine different modes of transport. This is an encouraging result for the development of the MaaS system. If the MaaS system can provide a more flexible and user-orientated way to combine different modes of transport than the current system, it might find potential customers in people who already see that you can achieve freedom of mobility by combining different modes of transport.

Even if many people see a combination of private car use and other modes of transport as the best way to achieve freedom of mobility, there is also a group of people who do not want to use private cars. They have image-related objections to the use of private cars. These people are mainly active public transport users, pedestrians and cyclists or sporty public transport users. These are the same mobility segments that include people whose answers to attitude statements related to environment values most strongly reflect Schwartz's universalism values – they emphasise the meaning of environment values and they also consider future generations in the context of daily mobility more often than people in the other mobility segments. As these people mainly rely on public transport, walking or cycling, they also cherish environmental values in practise in the context of daily mobility. The possibility of using public transport, cycling and walking has also affected their decisions on where to live more than among people who belong to the other mobility segments. Pedestrians and cyclists, who have the most environmentally friendly mobility habits, do not believe that technology could solve problems relating to climate change. Among active public transport users, pedestrians and cyclists and sporty public transport users, the vast majority also thinks that car ownership includes burdensome features (this comes up in both structured and unstructured questions) and they mainly think that using one's own car has negative effects on one's health and fitness. Overall, these three mobility segments include people who have negative attitudes towards private car usage.

UK-based research by Julian Anable found a group of public transport users who do not want to use private cars. Anable calls them “car-less crusaders” because they have sacri-

ficed car ownership for environmental reasons.¹⁴⁵ In this study, there is no sign of sacrifice among the group who do not want to use private cars. It is quite the opposite; most respondents confirmed both in the attitude statements and in the unstructured questions that things like comfort, easiness and convenience, in addition environmental values for some, are main the reasons for using public transport, cycling and walking. A similar effect is also visible among other mobility segments: often the perception of comfort, convenience and easiness is associated with the mode of transport that is used most often. Overall, comfort seems to be quite a strong motivation guiding decisions in the context of daily mobility. Comfort is a value that is not easy to fit into Schwartz's universal value theory. In some cases, comfort could reflect hedonism values, but it is unlikely that all respondents who highlighted the importance of comfort would cherish hedonism values in their daily mobility choices. Nevertheless, it is a fundamental value that affects mobility decisions. Urry and Giddens also emphasise the significance of comfort as an alternative to threats about climate change effects in the development of new mobility systems: new mobility systems need to be as comfortable as the old system, which is mainly based on private car usage¹⁴⁶.

Those people who do not rely on private car usage are not the only ones who mentioned the importance of environmental values. There are also reflections of environmental values in the attitude statements among people who (more or less) rely on private car usage. Half of the people who use their own car (not necessarily as a primary or secondary mode of transport) mentioned that they try to reduce their use of a private car because of environmental considerations. Julian Anable found similar results in her UK-based research: among private car users there are people who feel that they should reduce private car usage because of environmental reasons or have already cut back on the use of their own cars¹⁴⁷. Similarly, a study by the Finnish Transport Agency found that, in the Helsinki capital area, 70% of the people want to develop public transport, 43% want to improve the conditions for cycling and 31% want to improve the conditions for walking. Only 25% of respondents wanted to develop conditions for private car usage.¹⁴⁸ The research reported here reveals similar positive attitudes towards environmentally friendly modes of transport. On the other hand, as Klaus Helkama points

¹⁴⁵ Anable 2005, 70

¹⁴⁶ Giddens 2009, 57-59, 71; Urry 2011, 132

¹⁴⁷ Anable 2005, 70

¹⁴⁸ Kiiskilä & Tuominen 2015, 60

out, when we ask people about values, they may reflect the norms of the surrounding society¹⁴⁹. People may feel that it is morally right to cherish environmental values and this is reflected in the answers in the survey. What actually happens in real life matters – this is the third level of values that Helkama propounds¹⁵⁰.

How often do people actually choose another mode of transport instead of a private car because of environmental considerations? It depends on the value hierarchy – are environmental values more important than other values, such as, for example, comfort, the need to give children a ride (benevolence values), the possibility of going to a hobby that demands the use of a private car, the need to control daily schedules. The results from the survey revealed two value hierarchies: in general, people value health, wellbeing and environmental values, but not all people are able to cherish these values in the context of daily mobility – some other values are more important in most mobility decisions. These values could still offer an incentive to use the MaaS system. Environmental, health and wellbeing values cannot be promoted as the main reason to use the MaaS system since the results show that these values are not necessarily at the highest level in the value hierarchy. The MaaS system could provide opportunities to cherish environment, health and wellbeing values without sacrificing comfort, which is one of the main reasons to choose a certain mode of transport.

The results show that, along with comfort, the use of private cars is often linked to practical needs: respondents describe several real-life situations that demand private car usage, whereas, for example, status-related reasons do not seem to have much importance. Private cars are not particularly “cool” or even a must-have for everyone. The relaxation afforded by driving is an exception: it is a positive feature of driving that the majority of people whose primary mode of transport is private car recognize and is not connected to the practical mobility situation. This might influence decisions to use a private car. Relaxation as a guiding motivation can be seen as a reflection of hedonism values. Jensen, Sheller and Wind found similar results about private car usage: driving can offer a relaxing moment in the middle of a busy day. By contrast, some people use other modes of transport because they feel that driving a car is particularly stressful.¹⁵¹ A similar tendency was found in this research: those who do not drive a car often do not find driving

¹⁴⁹ Helkama 2015, 14-15

¹⁵⁰ Helkama 2015, 14-15

¹⁵¹ Jensen, Sheller & Wind 2015, 370-371

as relaxing as those who use a private car actively. Practical reasons, for example, inexpensiveness, also influence public transport usage, cycling and walking, but the results indicate that values that relate to image, environment and health also play a role in the decision to use these modes of transport.

What could the MaaS system provide for people who value the inexpensiveness of public transport, walking and cycling? They are accustomed to using public transport, walking and cycling and the limitations of these modes of transport. Are monthly mobility packages too expensive for them? What could the MaaS system offer them? Varying life situations can force people to change their mobility habits. For example, having a child or aging may result in changes to mobility needs. The MaaS system could offer an alternative to buying a private car in changing life situations. The results show that, for example, family life includes many situations that require the use of a private car.

More than half (56%) of the respondents have a private car that they drive in their household. Mobility research by HSL (Helsinki region transport) showed approximately the same percentage of car ownership: 59% of households in the Helsinki capital region have a private car (Kauniainen was included in the HSL research). This is well below the average in other parts of Finland.¹⁵² Surprisingly many of those people whose primary or secondary mode of transport is not a private car still have a private car in their household. This result raises questions about the utilisation rate of private cars. Does someone else in the household use the car actively or is the car unused most of the time? The MaaS concept is often seen as a solution to improving the utilisation rate of private cars¹⁵³.

On average, people in the mobility segments active public transport users, pedestrians and cyclists, and sporty car users cherish environmental values in real-life actions (cf. Helkama's third level of values¹⁵⁴) more than people in the other mobility segments. However, this study only focuses on the context of daily mobility. Lifestyle as a whole is crucial when we evaluate harmful consequences to the environment and when we try to re-organise life in order to mitigate climate change effects. Holden and Nordland¹⁵⁵

¹⁵² Elolähde et al. 2013, 35-36

¹⁵³ Cf. e.g. ITS Finland, 2017

¹⁵⁴ Cf. Helkama 2015, 14-15

¹⁵⁵ Heinonen, Junnila & Ottelin 2015, 9574

as well as Heinonen, Junnila and Ottelin¹⁵⁶ emphasised this point of view in their studies on the carbon footprints of people in dense city centres and in peri-urban areas (cf. pages 5–6). People may also cherish environmental values in the daily mobility context, but do not consider the environment in tourism-related mobility¹⁵⁷. Actions to mitigate climate change effects should be taken in both daily mobility and the context of tourism and business travel as well as in other aspects of life.

Urry stresses the importance of “consumer communities” for the introduction of a new mobility system. They highlight, advocate and develop new sustainable innovations and make them fashionable.¹⁵⁸ Schwartz talks about subgroups that represent different values in a society. The values of a dominant subgroup represent the ideals in the society. The dominant values of a culture can change, if the power relations of the society’s subgroups are changing. This change happens step by step, not suddenly. In societies, adaptation to epidemics, technological development, increasing wealth, wars and other external factors lead to changes in the dominant values within the society.¹⁵⁹ In the context of daily mobility, climate change is an external factor that could lead to changes in the dominant values of the society. Are the dominant values in the Finnish society changing? Who belongs to the future “consumer communities” and guides the mobility habits in the society? Discussion about climate change mitigation is present in the zeitgeist - how does the discussion affect people’s attitudes? The results of this survey suggest that car ownership is not as desirable as it was before. Cars do not offer a means for gaining social recognition, wealth or success - people do not pursue achievement and power values with car ownership. Cars are still a useful means of transport for many, but is the glory around them fading and will people see it as a necessity in the future? Questions about the reduction of private car usage are present in the zeitgeist. What kinds of attitudes do people adopt towards the discussion about the reduction of private car usage? The survey revealed a group of people who do not want to use a private car because it does not suit their image. Will these people form future “consumer communities” and will their values achieve a dominant role in society? Positive attitudes towards public transport, cycling and walking were evident in the results of the survey. To some extent, these attitudes are common to people in all of the mobility segments, whereas

¹⁵⁶ Holden & Nordland 2005, 2145, 2159

¹⁵⁷ Cf. Barr & Prillwitz 2011, 1590, 1592 and Holden & Nordland 2005, 2145, 2159

¹⁵⁸ Urry 2011, 132

¹⁵⁹ Schwartz 2011, 4-5

negative attitudes towards private car use are characteristic of active public transport users, sporty public transport users, and pedestrians and cyclists. Could the future trend-setters arise from among these people and will they encourage the outbreak of the new mobility system?

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Appendix 1

Pääkaupunkiseutulaisten liikkumistottumusten takana olevat asenteet ja arvot

Hyvä vastaaja,

Tutkin tällä kyselyllä pääkaupunkiseutulaisten liikkumistottumusten takana olevia asenteita ja arvoja. Tutkimus on Turun yliopiston maisemantutkimuksen opintoihini liittyvä pro gradu työ. Tilaajana toimii uudenlaista liikkumispalvelua kehittävä kasvuyritys MaaS Global.

Kysely on tarkoitettu kaikille täysi-ikäisille helsinkiläisille, espoolaisille ja vantaalaisille. Liikkumistottumuksilla tässä tutkimuksessa tarkoitetaan arkeen ja vapaa-aikaan liittyvää liikkumista eri kulkumuodoin. Tutkimuksen ulkopuolelle jää yksinomaan liikunnan vuoksi tehtävä liikkuminen, ammattiautoilu (esim. taksi- ja rekkakuskien työ), työnantajan määräyksestä tehdyt matkat sekä turistimatkat.

Kyselyyn vastataan anonyymisti, eikä yksittäistä vastaajaa voida tunnistaa aineistosta. Kyselyyn vastaaminen vie 5-10 minuuttia.

Kiitos vastauksestasi!

Anni Alho
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1. Ikä

18-29 vuotta
30-44 vuotta
45-59 vuotta
yli 60 vuotta

2. Asuinalueen postinumero

3. Sukupuoli

Nainen
Mies
Muu

4. Vuositulosi ennen verotusta

Alle 10 000 €
10 000 – 19 999 €
20 000 – 29 999 €
30 000 – 39 999 €
40 000 – 49 999 €
50 000 – 59 999 €
60 000 – 79 999 €
80 000 € ja yli

5. Elämäntilanne

Asun kotona vanhempien luona

Asun yksin
Asun kaksin puolison kanssa
Asun puolison ja lapsen/lasten kanssa
Asun lapsen/lasten kanssa (ainoana aikuisena taloudessa)
Jokin muu, mikä _____

6. Merkitse numeroilla alla olevista vaihtoehtoista kaksi kulkutapaa, jotka useimmiten valitset. Merkitse useimmiten valitsemasi kulkutapa numerolla 1 ja toiseksi usein valitsemasi kulkutapa numerolla 2. Jos käytät selkeästi eniten vain yhtä kulkutapaa, merkitse vain yksi kulkutapa (numerolla 1).

Oma auto, joko kuljettajana tai matkustajana

Julkinen liikenne

Pyöräily matkan pääasiallisena kulkutapana

Kävely matkan pääasiallisena kulkutapana

Taksi

Jokin muu, mikä _____

7. Mitkä ovat tärkeimmät syyt eniten käyttämäsi liikkumistavan valintaan?

8. Onko taloudessasi oma auto, jota ajat? *

Kyllä

Ei

9. Mitä mieltä olet seuraavista väittämistä?

Yritän vähentää oman auton käyttöä ympäristösyistä.

Täysin samaa mieltä

Jokseenkin samaa mieltä

Ei samaa eikä eri mieltä

Jokseenkin eri mieltä

Täysin eri mieltä

Autoilu ja siihen liittyvät asiat ovat minulle liikkumistavan lisäksi myös harrastus.

Täysin samaa mieltä

Jokseenkin samaa mieltä

Ei samaa eikä eri mieltä

Jokseenkin eri mieltä

Täysin eri mieltä

10. Onko sinulla samassa taloudessa asuvia alaikäisiä lapsi/lapsia? *

Kyllä

Ei

11. Mitä mieltä olet seuraavista väittämistä?

Tarvitsen omaa autoa lasten kuljettamiseen.

- Täysin samaa mieltä
- Jokseenkin samaa mieltä
- Ei samaa eikä eri mieltä
- Jokseenkin eri mieltä
- Täysin eri mieltä

Taloudessamme on auto enimmäkseen sen vuoksi, että saamme lapsiperheen arjen sujumaan.

- Täysin samaa mieltä
- Jokseenkin samaa mieltä
- Ei samaa eikä eri mieltä
- Jokseenkin eri mieltä
- Täysin eri mieltä

12. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Muiden matkustajien aiheuttama häiriö tai vaara julkisissa kulkuvälineissä on pelottavaa.

- Täysin samaa mieltä
- Jokseenkin samaa mieltä
- Ei samaa eikä eri mieltä
- Jokseenkin eri mieltä
- Täysin eri mieltä

Pelkään joutuvani auto-onnettomuuteen, kun kuljen henkilöautolla.

- Täysin samaa mieltä
- Jokseenkin samaa mieltä
- Ei samaa eikä eri mieltä
- Jokseenkin eri mieltä
- Täysin eri mieltä

Käveleminen iltaisin ja öisin ulkona on pelottavaa.

- Täysin samaa mieltä
- Jokseenkin samaa mieltä
- Ei samaa eikä eri mieltä
- Jokseenkin eri mieltä
- Täysin eri mieltä

Pyöräily pääkaupunkiseudulla on muun liikenteen vuoksi turvatonta.

- Täysin samaa mieltä
- Jokseenkin samaa mieltä
- Ei samaa eikä eri mieltä
- Jokseenkin eri mieltä
- Täysin eri mieltä

13. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Julkinen liikenne on niitä varten, joilla ei ole varaa muuhun.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Julkisella liikenteellä kulkeminen ei sovi imagolleni.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Yksityisautolla kulkeminen ei sovi imagolleni.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Pyöräily on osa imagoani.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Tietyn merkkisen auton omistaminen on tärkeää.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

14. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Uskon, että tekniikka ratkaisee ilmastonmuutokseen liittyvät ongelmat.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Pyrin huomioimaan ympäristöasiat liikkumisvälineeni valinnassa, koska koen, että minulla on siihen moraalinen velvollisuus.

Täysin samaa mieltä
Jokseenkin samaa mieltä

Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Ajattelen tulevia sukupolvia tehdessäni valintoja eri kulkumuotojen välillä.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Olen valinnut asuinpaikkani sen mukaan, että pääsen helposti kulkemaan julkisella liikenteellä, pyörällä tai kävellen.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

15. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Julkisella liikenteellä matkustaminen on rentouttavaa.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Ruuhkat julkisessa liikenteessä ovat epämukavia.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Ruuhkat henkilöautolla matkustaessa ovat epämukavia.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Henkilöautolla ajaessa voi rentoutua.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

16. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Julkisessa liikenteessä voi vapaasti keskittyä omiin asioihin, esimerkiksi lukemiseen.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

keskustan ulkopuolella asuminen edellyttää auton omistamista.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Auton omistamiseen liittyy vaivalloisia piirteitä, kuten parkkipaikkaongelmat, vakuutusmaksut, huollot, korjaukset jne.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Pyöräillessä voi kokea liikkumisen vapautta.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Autottomuus rajoittaa liikkumisen vapautta.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

17. Mitä liikkumisen vapaus tarkoittaa sinulle?

18. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Valitsen aina kun mahdollista kulkutavaksi pyöräilyn tai kävelyn.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Pyöräily vähentää stressiä.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Kävely höytyliikuntana on tärkeä osa liikuntatottumuksiani.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Pyöräily hyötyliikuntana on minulle tärkeä harrastus.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Oman auton käytöllä on negatiivisia vaikutuksia fyysiseen kuntoon ja terveyteen.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

19. Vastaa seuraaviin väittämiin oman mielikuvasi mukaan.

Keskustelen usein tuttavieni kanssa autoista, koska autot ovat kiinnostavia.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Oma auto mahdollistaa ystävien, tuttavien ja sukulaisten tapaamisen parhaiten.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Aikuiseen elämään kuuluu auton omistaminen.

Täysin samaa mieltä
Jokseenkin samaa mieltä
Ei samaa eikä eri mieltä
Jokseenkin eri mieltä
Täysin eri mieltä

Auto kannattaa ostaa heti, kun se on mahdollista.

Täysin samaa mieltä

Jokseenkin samaa mieltä

Ei samaa eikä eri mieltä

Jokseenkin eri mieltä

Täysin eri mieltä

Asteikolla 1-5 kuinka tärkeitä seuraavat arvot ovat sinulle? 1 = ei ollenkaan tärkeä, 5 = erittäin tärkeä

20. Korkea status

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

21. Menestys

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

22. Mukavuus

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

23. Jännitys

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

24. Vapaus

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

25. Itsenäisyys

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

26. Ympäristöarvot

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

27. Muista huolehtiminen

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

28. Normien noudattaminen

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

29. Kohtuullisuus

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

30. Turvallisuus

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

31. Terveys

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

32. Helppous

Ei ollenkaan tärkeä 1 2 3 4 5 Erittäin tärkeä

33. Tähän kenttään voit halutessasi kommentoida kyselyn aihepiiriä vapaasti.

Appendix 2

The attitudes and values behind the mobility habits of the inhabitants of the Helsinki capital region

Dear respondent,

With this survey, I study the attitudes and values behind the mobility habits of the inhabitants of the Helsinki capital region. The research is my master's thesis for landscape studies in university of Turku. The research is commissioned by MaaS Global, which is a start-up company developing novel mobility service.

The survey is for all over 18 years old inhabitants of Helsinki, Espoo and Vantaa. The mobility habits in the research refer to every day mobility with different modes of transport. The research does not include mobility solely for exercise purposes, professional driving (for example taxi and truck driving), business trips and tourism.

The survey is anonymous and single respondents cannot be identified from the data. It takes 5-10 minutes to answer the questionnaire.

Thank you for your reply.

Anni Alho
anni.m.alho@utu.fi

1. Age

18-29 years

30-44 years

45-59 years

Over 60 years

2. Zip code of primary residence

3. Gender

Woman

Man

Other

4. Annual income before tax

Under €10 000

€10 000 – 19 999

€20 000 – 29 999

€30 000 – 39 999

€40 000 – 49 999

€50 000 – 59 999

€60 000 – 79 999

€80 000 and over

5. Living arrangements

I live with my parents

I live alone
I live with my spouse
I live with my spouse and my child/childre
I live with my child/children (as the only adult in the household)
Other, please specify _____

6. Choose from the following alternatives and use the numbers to indicate the two modes of transport that you most often use. Mark your most common choice of transport as number 1 and your second most common choice of transport as number 2. If you mostly rely on a single mode of transport, mark down only one mode of transport (as number 1).

Private car, either as a driver or a passenger
Public transport
Cycling as the primary mode of transport of a journey
Walking as the primary mode of transport of a journey
Taxi
Other, please specify _____

7. What are the most important reasons for choosing the mode of transport that you most often use?

8. Is there a private car in your household that you drive? *

Yes
No

9. To what extent do you agree with the following statements?

I am trying to cut back on using my own car because of environmental considerations.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

In addition to using car as a means of transport, car is also a hobby for me.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

10. Do you have underage children living in your household?? *

Yes
No

11. To what extent do you agree with the following statements?

I need to own a car to drive the children around.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

We have a car in our household mainly because it makes things easier for a family with children.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

12. Respond to the following statements based on your opinion.

I am frightened by disturbances or dangerous situations caused by other passengers on public transport.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

I am afraid of getting into an accident while travelling by passenger car.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Walking outside in the evening or at night is frightening.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

In the Helsinki capital region, cycling is not safe because of other traffic.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

13. Respond to the following statements based on your opinion.

Public transport is for people who cannot afford anything else.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Using public transport does not suit my image.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Using a private car does not suit my image.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Cycling is part of my image.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

It is important to own a car that is of a particular brand.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

14. Respond to the following statements based on your opinion.

I believe that technology will solve problems relating to climate change.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

I try take environmental issues into account when choosing a mode of transport because I feel a moral obligation to do so.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

I think of the future generations when deciding between modes of transport.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

I have chosen where to live based on how easy it is for me to travel by public transport, cycling or walking.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

15. Respond to the following statements based on your opinion.

It is relaxing to travel on public transport.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Traffic congestions are unpleasant while traveling by public transport.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Traffic congestions are unpleasant while traveling by private car.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

It is possible to relax while driving a car.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

16. Respond to the following statements based on your opinion.

It is possible to focus on your own things, such as reading, while traveling on public transport.

Strongly agree

Somewhat agree

Neither agree nor disagree
Somewhat disagree
Strongly disagree

In the Helsinki capital region, it is necessary to own a car if you live outside of the city centre.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Owning a car involves a lot of extra trouble, such as parking difficulties, insurance fees, maintenance, repairs, etc.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Cycling allows you to experience freedom of mobility.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Not having a car restricts your freedom of mobility.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

17. What does freedom of mobility mean to you?

18. Respond to the following statements based on your opinion.

Whenever possible, I choose cycling or walking as a mode of transport.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Cycling reduces stress.

Strongly agree

Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Walking as a daily mode of transport is also an important part of my exercise habits.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Cycling as a daily mode of transport is an important hobby for me.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Driving your own car has a negative impact on your health and fitness.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

19. Respond to the following statements based on your opinion.

I often discuss cars with my friends because cars are interesting.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Having your own car is the best way to visit friends, acquaintances and relatives.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

Having your own car is a part of being an adult.

Strongly agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

You should buy a car as soon as it is possible.

Strongly agree

Somewhat agree
Neither agree nor disagree
Somewhat disagree
Strongly disagree

On a scale of 1 to 5, how important are the following values to you? 1 = not important at all, 5 = very important

20. High status

Not important at all 1 2 3 4 5 Very important

21. Success

Not important at all 1 2 3 4 5 Very important

22. Comfort

Not important at all 1 2 3 4 5 Very important

23. Excitement

Not important at all 1 2 3 4 5 Very important

24. Freedom

Not important at all 1 2 3 4 5 Very important

25. Independence

Not important at all 1 2 3 4 5 Very important

26. Environmental values

Not important at all 1 2 3 4 5 Very important

27. Taking care of others

Not important at all 1 2 3 4 5 Very important

28. Following norms

Not important at all 1 2 3 4 5 Very important

29. Moderation

Not important at all 1 2 3 4 5 Very important

30. Safety

Not important at all 1 2 3 4 5 Very important

31. Health

Not important at all 1 2 3 4 5 Very important

32. Easiness

Not important at all 1 2 3 4 5 Very important

33. If you have any comments on the topic of the questionnaire, please write them here.

Appendix 3

| City | | | Mobility segments | | | | | | Total | |
|----------|----------------------------|--|----------------------------------|--|--|-------------------------------|------------------|---------------------|--------|--------------------------|
| | | | Active users of public transport | Primary car users / secondary public transport use | Primary public transport users / secondary car use | Sporty public transport users | Sporty car users | Committed car users | | Pedestrians and cyclists |
| Helsinki | Count | | 77 | 23 | 19 | 32 | 12 | 10 | 13 | 186 |
| | % within Mobility segments | | 67,0% | 39,0% | 40,4% | 84,2% | 32,4% | 40,0% | 72,2% | 54,9% |
| Vantaa | Count | | 17 | 16 | 10 | 2 | 12 | 7 | 1 | 65 |
| | % within Mobility segments | | 14,8% | 27,1% | 21,3% | 5,3% | 32,4% | 28,0% | 5,6% | 19,2% |
| Espoo | Count | | 21 | 20 | 18 | 4 | 13 | 8 | 4 | 88 |
| | % within Mobility segments | | 18,3% | 33,9% | 38,3% | 10,5% | 35,1% | 32,0% | 22,2% | 26,0% |
| Total | Count | | 115 | 59 | 47 | 38 | 37 | 25 | 18 | 339 |
| | % within Mobility segments | | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% |
| Helsinki | Relative % | | 41,4% | 12,4% | 10,2% | 17,2% | 6,5% | 5,4% | 7,0% | 100,0% |
| Vantaa | Relative % | | 26,2% | 24,6% | 15,4% | 3,1% | 18,5% | 10,8% | 1,5% | 100,0% |
| Espoo | Relative % | | 23,9% | 22,7% | 20,5% | 4,5% | 14,8% | 9,1% | 4,5% | 100,0% |

Appendix 4

Mobility groups * Gender Crosstabulation

| | | Gender | | | | Relative % | | | |
|-----------------|--|--------------------------|-------|-------|-------|------------|--------|--------|--------|
| | | Female | Male | Other | Total | Female | Male | Other | |
| Mobility groups | Active users of public transport | Count | 77 | 36 | 2 | 115 | 35,5% | 30,8% | 66,7% |
| | | % within Mobility groups | 67,0% | 31,3% | 1,7% | 100,0% | | | |
| | Primary car users / secondary public transport use | Count | 41 | 17 | 0 | 58 | 18,9% | 14,5% | 0% |
| | | % within Mobility groups | 70,7% | 29,3% | 0,0% | 100,0% | | | |
| | Primary public transport users / secondary car use | Count | 33 | 12 | 1 | 46 | 15,2% | 10,3% | 33,3% |
| | | % within Mobility groups | 71,7% | 26,1% | 2,2% | 100,0% | | | |
| | Sporty public transport users | Count | 18 | 20 | 0 | 38 | 8,3% | 17,1% | 0% |
| | | % within Mobility groups | 47,4% | 52,6% | 0,0% | 100,0% | | | |
| | Sporty car users | Count | 23 | 14 | 0 | 37 | 10,6% | 12,0% | 0% |
| | | % within Mobility groups | 62,2% | 37,8% | 0,0% | 100,0% | | | |
| | Committed car users | Count | 15 | 10 | 0 | 25 | 6,9% | 8,5% | 0% |
| | | % within Mobility groups | 60,0% | 40,0% | 0,0% | 100,0% | | | |
| | Pedestrians and cyclists | Count | 10 | 8 | 0 | 18 | 4,6% | 6,8% | 0% |
| | | % within Mobility groups | 55,6% | 44,4% | 0,0% | 100,0% | | | |
| | Total | Count | 217 | 117 | 3 | 337 | | | |
| | | % within Mobility groups | 64,4% | 34,7% | 0,9% | 100,0% | 100,0% | 100,0% | 100,0% |

Appendix 5

Mobility segments * Life situation Crosstabulation

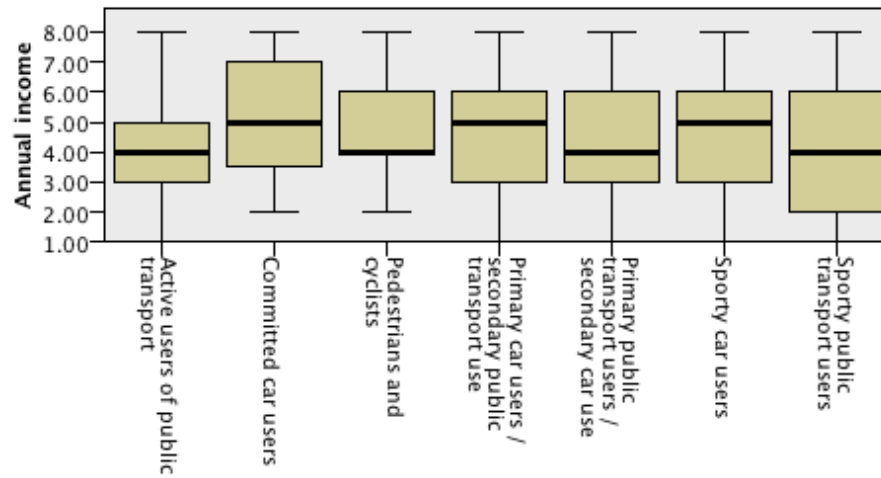
| | | Life situation | | | | | | | Total |
|-------------------|--|------------------------|--------------|-----------------------|--|--|----------------------|------|--------|
| | | I live with my parents | I live alone | I live with my spouse | I live with my spouse and with my child/children | I live with my child/children (as only adult in a household) | Other, please define | | |
| Mobility segments | Active users of public transport | Count | 1 | 39 | 38 | 28 | 3 | 6 | 115 |
| | | % | 0.9% | 33.9% | 33.0% | 24.3% | 2.6% | 5.2% | 100.0% |
| | Primary car users / secondary public transport use | Count | 1 | 10 | 22 | 24 | 2 | 0 | 59 |
| | | % | 1.7% | 16.9% | 37.3% | 40.7% | 3.4% | 0.0% | 100.0% |
| | Primary public transport users / secondary car use | Count | 3 | 7 | 18 | 17 | 1 | 1 | 47 |
| | | % | 6.4% | 14.9% | 38.3% | 36.2% | 2.1% | 2.1% | 100.0% |
| | Sporty public transport users | Count | 1 | 9 | 18 | 7 | 0 | 3 | 38 |
| | | % | 2.6% | 23.7% | 47.4% | 18.4% | 0.0% | 7.9% | 100.0% |
| | Sporty car users | Count | 2 | 3 | 12 | 15 | 4 | 1 | 37 |
| | | % | 5.4% | 8.1% | 32.4% | 40.5% | 10.8% | 2.7% | 100.0% |
| | Committed car users | Count | 0 | 5 | 6 | 9 | 4 | 1 | 25 |
| | | % | 0.0% | 20.0% | 24.0% | 36.0% | 16.0% | 4.0% | 100.0% |
| | Pedestrians and cyclists | Count | 0 | 6 | 9 | 3 | 0 | 0 | 18 |
| | | % | 0.0% | 33.3% | 50.0% | 16.7% | 0.0% | 0.0% | 100.0% |
| Total | | Count | 8 | 79 | 123 | 103 | 14 | 12 | 339 |
| | | % | 2.4% | 23.3% | 36.3% | 30.4% | 4.1% | 3.5% | 100.0% |

Appendix 6

Mobility segments * Annual income Crosstabulation

| | | | Annual income | | | | | | | | |
|-------------------|--|-------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------|--------|
| | | | Less than 10 000 € | 10 000 – 19 999 € | 20 000 – 29 999 € | 30 000 – 39 999 € | 40 000 – 49 999 € | 50 000 – 59 999 € | 60 000 – 79 999 € | Over 80 000 € | Total |
| Mobility segments | Active users of public transport | Count | 11 | 17 | 28 | 21 | 18 | 10 | 6 | 3 | 114 |
| | | % | 9.6% | 14.9% | 24.6% | 18.4% | 15.8% | 8.8% | 5.3% | 2.6% | 100.0% |
| | Primary car users / secondary public transport use | Count | 4 | 4 | 12 | 6 | 13 | 12 | 6 | 2 | 59 |
| | | % | 6.8% | 6.8% | 20.3% | 10.2% | 22.0% | 20.3% | 10.2% | 3.4% | 100.0% |
| | Primary public transport users / secondary car use | Count | 6 | 4 | 6 | 9 | 6 | 7 | 2 | 2 | 42 |
| | | % | 14.3% | 9.5% | 14.3% | 21.4% | 14.3% | 16.7% | 4.8% | 4.8% | 100.0% |
| | Sporty public transport users | Count | 5 | 5 | 2 | 11 | 4 | 4 | 4 | 2 | 37 |
| | | % | 13.5% | 13.5% | 5.4% | 29.7% | 10.8% | 10.8% | 10.8% | 5.4% | 100.0% |
| | Sporty car users | Count | 3 | 2 | 5 | 6 | 7 | 6 | 5 | 3 | 37 |
| | | % | 8.1% | 5.4% | 13.5% | 16.2% | 18.9% | 16.2% | 13.5% | 8.1% | 100.0% |
| | Committed car users | Count | 0 | 3 | 3 | 4 | 5 | 1 | 5 | 3 | 24 |
| | | % | 0.0% | 12.5% | 12.5% | 16.7% | 20.8% | 4.2% | 20.8% | 12.5% | 100.0% |
| | Pedestrians and cyclists | Count | 1 | 1 | 1 | 6 | 2 | 4 | 1 | 1 | 17 |
| | | % | 5.9% | 5.9% | 5.9% | 35.3% | 11.8% | 23.5% | 5.9% | 5.9% | 100.0% |
| | Total | Count | 30 | 36 | 57 | 63 | 55 | 44 | 29 | 16 | 330 |
| | | % | 9.1% | 10.9% | 17.3% | 19.1% | 16.7% | 13.3% | 8.8% | 4.8% | 100.0% |

Independent-Samples Kruskal-Wallis Test



Lines describe lower and upper quartiles, line inside the box describes median, 1 = Less than 10 000 €, 2 = 10 000 € - 19 999 €, 3 = 20 000 € - 29 999 €, 4 = 30 000 € - 39 999 €, 5 = 40 000 € - 49 999 €, 6 = 50 000 € - 59 999 €, 7 = 60 000 € - 79 999, 8 = over 80 000 €

Annual incomes

| Mobility groups | N | Median | Std. Deviation | Mean |
|--|-----|--------|----------------|--------|
| Active users of public transport | 114 | 4.0000 | 1.75642 | 3.7632 |
| Primary car users / secondary public transport use | 59 | 5.0000 | 1.83224 | 4.5254 |
| Primary public transport users / secondary car use | 42 | 4.0000 | 1.97487 | 4.0476 |
| Sporty public transport users | 37 | 4.0000 | 2.07046 | 4.1351 |
| Sporty car users | 37 | 5.0000 | 1.99172 | 4.7568 |
| Committed car users | 24 | 5.0000 | 1.98865 | 5.0417 |
| Pedestrians and cyclists | 17 | 4.0000 | 1.76569 | 4.6471 |
| Total | 330 | 4.0000 | 1.91138 | 4.2273 |

Median, standard deviation and mean of annual income of each mobility group, 1 = Less than 10 000 €, 2 = 10 000 € - 19 999 €, 3 = 20 000 € - 29 999 €, 4 = 30 000 € - 39 999 €, 5 = 40 000 € - 49 999 €, 6 = 50 000 € - 59 999 €, 7 = 60 000 € - 79 999, 8 = over 80 000 €

Appendix 7

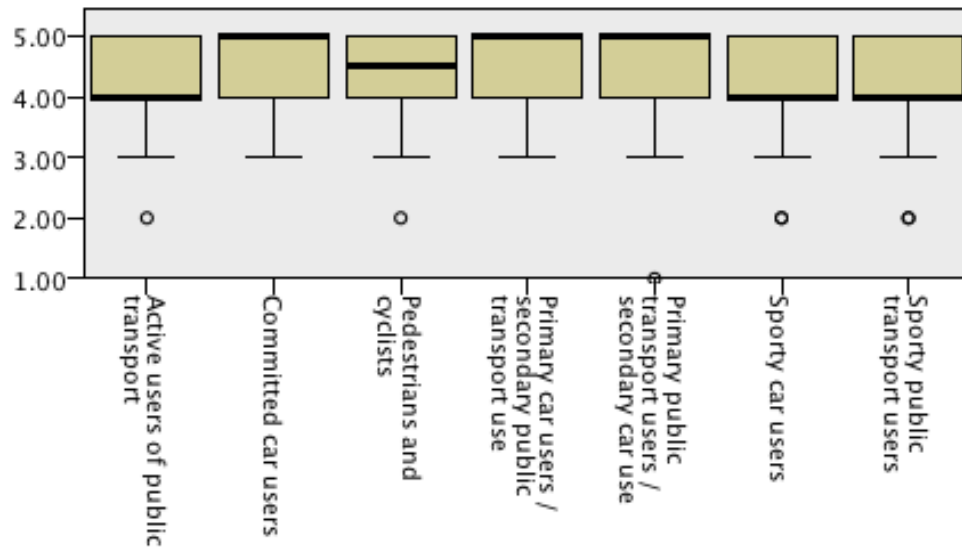
Mobility segments * Age Crosstabulation

| | | Age | | | | Total | |
|-------------------|--|-------|-------|-------|---------|-------|--------|
| | | 18-29 | 30-44 | 45-59 | Over 60 | | |
| Mobility segments | Active users of public transport | Count | 38 | 49 | 23 | 5 | 115 |
| | | % | 33.0% | 42.6% | 20.0% | 4.3% | 100.0% |
| | Primary car users / secondary public transport use | Count | 13 | 17 | 19 | 9 | 58 |
| | | % | 22.4% | 29.3% | 32.8% | 15.5% | 100.0% |
| | Primary public transport users / secondary car use | Count | 13 | 16 | 16 | 1 | 46 |
| | | % | 28.3% | 34.8% | 34.8% | 2.2% | 100.0% |
| | Sporty public transport users | Count | 12 | 12 | 10 | 4 | 38 |
| | | % | 31.6% | 31.6% | 26.3% | 10.5% | 100.0% |
| | Sporty car users | Count | 2 | 19 | 11 | 4 | 36 |
| | | % | 5.6% | 52.8% | 30.6% | 11.1% | 100.0% |
| | Committed car users | Count | 0 | 8 | 13 | 4 | 25 |
| | | % | 0.0% | 32.0% | 52.0% | 16.0% | 100.0% |
| | Pedestrians and cyclists | Count | 2 | 10 | 6 | 0 | 18 |
| | | % | 11.1% | 55.6% | 33.3% | 0.0% | 100.0% |
| | Total | Count | 80 | 131 | 98 | 27 | 336 |
| | | % | 23.8% | 39.0% | 29.2% | 8.0% | 100.0% |

| | | 18-29 | 30-44 | 45-59 | Over 60 |
|--|------------|--------|--------|--------|---------|
| Active users of public transport | Relative % | 47,5% | 37,4% | 23,5% | 18,5% |
| Primary car users / secondary public transport use | Relative % | 16,3% | 13,0% | 19,4% | 33,3% |
| Primary public transport users / secondary car use | Relative % | 16,3% | 12,2% | 16,3% | 3,7% |
| Sporty public transport users | Relative % | 15,0% | 9,2% | 10,2% | 14,8% |
| Sporty car users | Relative % | 2,5% | 14,5% | 11,2% | 14,8% |
| Committed car users | Relative % | 0,0% | 6,1% | 13,3% | 14,8% |
| Pedestrians and cyclists | Relative % | 2,5% | 7,6% | 6,1% | 0,0% |
| | total | 100,0% | 100,0% | 100,0% | 100,0% |

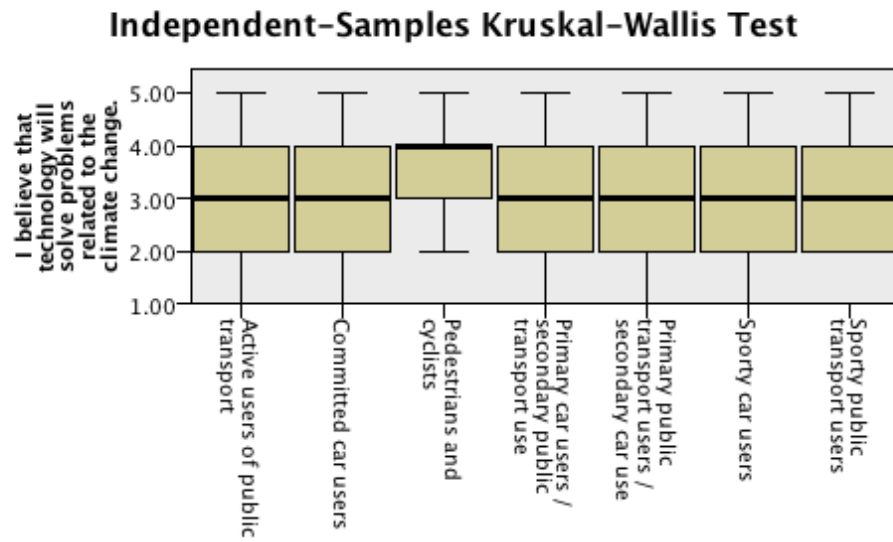
Appendix 8

Independent-Samples Kruskal-Wallis Test



Mobility segments and value of safety. Lines describe lower and upper quartiles, line inside the box describes median. 1=not important at all, 5=very important. Median 4,5 (pedestrians and cyclists) refer to situation where amount of answers 4 and 5 is same.

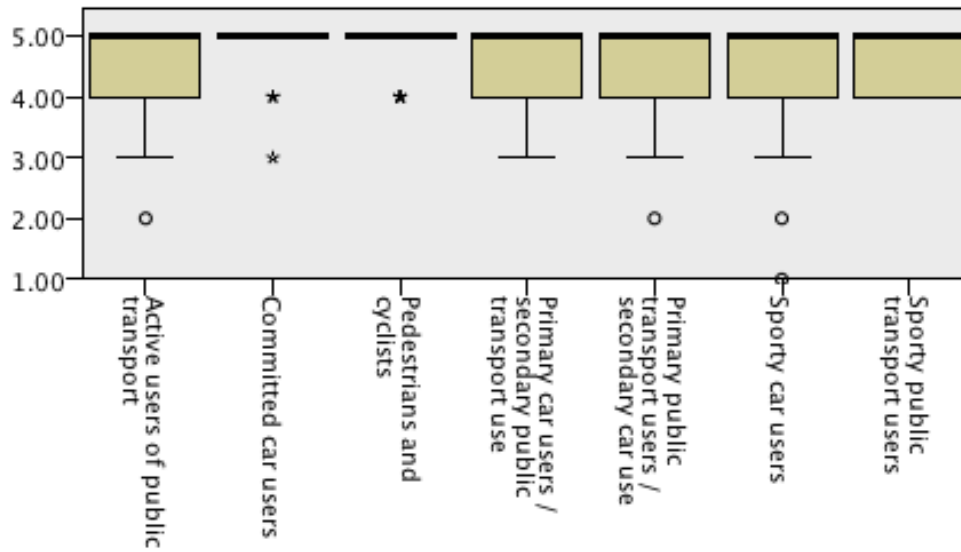
Appendix 9



The mobility segments and the answers to the question I believe that technology will solve problems relating to climate change. Lines describe lower and upper quartiles, line inside the box describes median. 1=not important at all, 5=very important.

Appendix 10

Independent-Samples Kruskal-Wallis Test



The mobility segments and value of health. Lines describe lower and upper quartiles, line inside the box describes median. 1=not important at all, 5=very important.

Appendix 11

Quoted open-ended answers in Finnish

Freedom of mobility for the youth in our family means a perception of safety on busses/trains. Because of our children's darker skin color, they have told us heard breaking and scary stories about the behaviour of other people on public transport – my daughter avoids using public transport.

Liikkumisen vapaus perheen nuorille olisi turvallisuuden tunne busseis-saljunissa. Johtuen lastemme tummemmasta ihonväristä he ovat kertoneet sydäntä särkeviä ja pelottaviakin tarinoita kanssamatkustajien käyttäytymisestä - tyttäreni välttelee julkisia.

(...) Maintaining physical condition and supposed environmental friendliness. Also, being an example for children is one of the reasons for cycling. (...) *Fyysisen kunnon ylläpitäminen ja oletettu ekologisuus. Myös olla esimerkkinä jälkikasvulle on yksi syy pyöräilyyn.*

(...) Public transport at its best provides comfortable moment for resting. *Joukkoliikenne tarjoaa parhaimmillaan mukavan lepo hetken.*

I can get conveniently from home to work by bus. I can use the time on the bus, for example, for reading. *Pääsen bussilla kätevästi kotoa suoraan työpaikalle nopeasti. Voin käyttää matkan esimerkiksi lukemiseen.*

Environmental friendliness, easiness (compared to challenges of car ownership: congestions, parking, can't do anything else while travelling), comfort. *Ekologisuus, vaivattomuus (verrattuna oman auton haasteisiin: ruuhka, pysäköinti, ei voi tehdä muuta matkustaessaan), mukavuus*

Easiness and price. Own a car is opposite to public transport and I think car ownership includes a lot of inconveniences: parking, maintenance, cleaning during winter time, vehicle inspections, tire change, insurance fees, expensive petrol etc. (...) *Helppous ja hinta. Julkisten vastakohta on oma auto ja koen omasta autosta koituvan erittäin paljon vaivaa: parkkeeraus, huolto, pölytys talvella, katsastukset, renkaidenvaihto, vakuutusmaksut, kallis bensa yms.*

Durong traffic congestion, the bus is quicker than your own car. There are only expensive parking places near my workplace, so I can't find place for a car. *Bus-silla pääsee nopeammin ruuhkassa, kuin omalla autolla. Työpaikkani lähellä on vain kalliita parkkipaikkoja, joten autoa ei edes saisi mihinkään.*

(...) For shorter distances (less than 10 km) cycling and walking enables freedom of mobility. For longer trips, car is often needed (...) *Lähimatkoilla (alle 10km) liikkumisen vapauden takaa kävely ja pyöräily. Pidemmille matkoille auto on useimmiten tarpeen*

(...) In my everyday life, cycling enables freedom of mobility. Less frequent and longer trips are also important part of my mobility habits, and in these situations freedom of mobility is often limited because ticket prices might be too high, timetables don't meet my needs or I don't have chance to borrow a car. *Arjessa koen, että liikkumisen vapaus toteutuu minulla parhaiten polkupyörällä. Myös satunnaisemmat ja pidemmät matkat ovat tärkeä osa liikkumistani ja näiden kohdalla liikkumisen vapaus rajoittuu helpommin, mikäli lippujen hinnat ovat korkeita, aikataulut huonoja tai ei ole mahdollisuutta lainata autoa.*

While cycling you can experience a physical feeling of freedom that is unique and typical just for cycling. *Pyöräillessä tietenkin vielä mukana fyysinen vapaudentunne, joka on pyöräilylle täysin ominaista ja ainutlaatuista.*

[Freedom of mobility means that] I am not dependent on one single mode of transport. *Etten ole sidottu vain yhteen kulkutapaan.*

(...) Depending on the destination, you can save time using your own car. On the other hand, the train provides a quicker connection to the city centre of Helsinki, where it can be difficult to find a parking place. When you go to the grocery store, you need a car to avoid carrying heavy bags. *Omalla autolla voi säästää paljonkin aikaa riippuen siitä minne on menossa. Toisaalta junalla pääsee myös nopeammin Helsingin keskustaan, jossa parkkipaikkojen löytäminen voi*

olla hankalaa. Kauppareissulla tarvii auton, jotta ei tarvi kanniskella painavia kasseja.

Using a private car and a combination of car and other modes of transport. Sometimes using public transport and, for example, city bikes. Easier timetables and saves time. *Autoilua ja autoilun & muiden kulkemistapojen yhdistelyä. Toisinaan julkisia ja esim kaupunkipyöriä. Helpompia aikatauluja ja säästynyttä aikaa.*

[Freedom of mobility means] easy, well-functioning and flexible public transport connections for shorter and longer distances. Optional modes of transport with low emissions. *Helppoja, hyviä joustavia edullisia yhteyksiä liikua julkisilla lähellä ja kauempana. Vähäpäättöisiä vaihtoehtoja.*

Location of the apartment ensures short distances. Can choose not to use a car. *Asunnon sijainti sellainen että matkat ovat keskimäärin lyhyitä. Autoriippumattomuutta.*

[Freedom of mobility means] that public transport is well-functioning and comprehensive, so that you can travel (nearly) everywhere quickly and conveniently... *Sitä, että joukkoliikenne on järjestetty niin kattavasti ja hyvin, että (lähes) mistä paikasta tahansa pääsee minne tahansa nopeasti ja vaivattomasti...*

[Cycling is] the quickest and most convenient choice for commute trips and for taking children to the nursery. Also, beneficial form of exercise since I don't do any other exercise. *"Nopein ja sujuvin valinta työ- ja päiväkotimatkoihin. Myös hyötyliikunta, sillä en harrasta muuta liikuntaa."*

[Walking is] beneficial form of exercise and it's a pleasure to walk in nature. *"Hyötyliikunta ja nautinto liikkua luonnossa. (...)"*

[Cycling is] fast, environmental friendly, and exercise in everyday life. *Nopeus, ympäristöystävällisyys ja kuntoilu arjen lomassa.*

My work is demanding and requires focus and a good level of activity, so that I can manage the challenges at work. Cycling starts the day well, raises the activity level and gives me enormous pleasure, and in the evening cycling is a transition from work to free time. *Työni on vaativaa ja vaatii hyvän keskittymiskyvyn ja vireystason, jotta pystyn vastaamaan työn haasteisiin. Pyöräily töihin käynnistää hyvin päivän, nostaa vireystason kohdalleen ja tuottaa suurta mielihyvää, ja illalla pyöräily on selkeä siirtymisaskel työstä vapaa-aikaan.*

The baby can sleep while I walk. I like walking, it is a beneficial form of exercise, fresh air and vitality. *Vauva saa nukkua kävelymatkat. Pidän kävelystä, hyötyliikuntaa, happea ja virkeyttä.*

The time used for travelling is the shortest, my work demands visiting several places during the day. *Matka-aika on lyhin, työni vaatii useammassa paikassa käynnin päivittäin.*

Quickness, ability to get directly to a destination, chance to have time for hobbies. *Nopeus, perille suoraan, ehtiminen harrastuksiin.*

I often need to go to the outskirts of the city. I often have belongings either when I am going – photography equipment related to my work – or when I come back, for example, groceries for the following week from shopping centres along the ring road. *Usein asiaa kaupungin keskustan ulkopuolelle. Mukana myös usein tavaraa joko mennessä - työhön liittyvää valokuvauskalusto jne. - tai tullessa - esim. viikon ruokaostokset kehätien kauppakeskuksista.*

I often do several things during the single visit, like exercise outside of the city, get groceries from a shopping centre, and have the freedom of mobility to meet friends here and there. With public transport, I would have time to do only one thing in per day. *Teen monta asiaa kerralla kuten liikuntakäynnit kaupungin ulkopuolella, ostokset kauppakeskuksessa ja sitten liikunnan vapautta sinne sun tänne kavereita tapaamaan. Julkisilla ei ehtisi kuin yhden jutun päivässä.*

I drive my children to hobbies after a day at work. *Kuskaan lapsia harrastuksiin työpäivän jälkeen.*

A car is the easiest solution for controlling everyday life. I take care of the work, children and hobbies with busy schedule. *Arjen hallinnan kannalta auto on helppoin ratkaisu. Työ, lapset ja harrastukset hoituvat minuuttiaikataululla.*

Driving children (3) to hobbies. *Lasten (3 kpl) kuljettaminen harrastuksiin.*

Asenteet ja arvot pääkaupunkiseudun asukkaiden liikkumistottumusten takana

1. Tutkielman tausta ja tutkimuskysymykset

Sopeutuminen ilmastonmuutoksesta johtuviin ongelmiin ja hupeneviin luonnonvaroihin edellyttää muutoksia elämäntapaamme. Samaan aikaan edelleen voimakkaana jatkuva urbanisaatio aiheuttaa ongelmia, kuten liikenneuhkia ja ilmanlaadun heikentymistä. Nopea ja runsas liikkuminen on voimakkaasti kytköksissä nykyiseen elämäntapaamme. 23 % maailman energiaan liittyvistä kasvihuonepäästöistä on liikennesektorin aiheuttamia ¹⁶⁰. Nykyisellään päivittäinen liikkuminen perustuu pitkälti yksityisauton käyttöön. Pääkaupunkiseudulla on suhteellisen hyvin toimiva julkinen liikenne, mutta siitä huolimatta vuoden 2014 lopulla pääkaupunkiseudulla oli 378 rekisteröityä autoa 1000 asukasta kohden ¹⁶¹. Tämä on vähemmän kuin muualla Suomessa, mutta havainnollistaa kuitenkin yksityisauton merkitystä myös pääkaupunkiseudulla. Ilmastonmuutos, hupenevat luonnonvarat ja kaupungistumisen luomat haasteet edellyttävät muutoksia yksityisautoiluun nojaavaan liikkumissysteemiin. Ihmiset ja heidän elämäntapansa ovat muutoksen ytimessä. Sen vuoksi on tärkeää ymmärtää vaikuttimia ihmisten liikkumistottumusten taustalla. Tämän tutkielman tavoitteena on ymmärtää ihmisten päivittäisiä liikkumistottumuksia heidän asenteidensa ja arvojensa kautta. Keskeisin tutkimuskysymys on: mitä ovat asenteet ja arvot pääkaupunkiseudun asukkaiden liikkumistottumusten takana? Lisäksi perehdytään seuraaviin kysymyksiin: minkälaista ryhmittelyä voidaan muodostaa pääkaupunkiseudun asukkaiden liikkumistottumusten pohjalta? Miten eri ryhmien asenteet ja arvot eroavat?

Liikkuminen palveluna –konsepti (Mobility as a Service, MaaS) nähdään yhtenä tapana edistää kestävästä kehitystä liikennesektorilla. Liikkuminen palveluna -konsepti on malli, joka yhdistää eli liikkumispalvelut yhteen ja tekee niistä palvelupaketteja, jotka mahdollistavat loppukäyttäjän yksilölliset tarpeet huomioivan ovelta ovelle palvelun ¹⁶². Toimiva liikkuminen palveluna –konsepti mahdollistaisi yksityisauton omistamisen ja käytön vähentymisen ja edistäisi liikennesektorin kestävästä kehitystä. Tämä pro gradu tutkimus

¹⁶⁰ Kahn Ribeiro yms. 2007, 325

¹⁶¹ Helsingin kaupunki 2015, 2

¹⁶² Ministry of Transport and Communications 2017

on tilaustyö MaaS Globalille, joka pilotoi liikkuminen palveluna –konseptia. Tutkimuksella tuotetaan taustatietoa liikkuminen palveluna –konseptin kehittämisen tueksi.

2. Asenteet ja arvot tutkimuskohteena päivittäisen liikkumisen kontekstissa

Tutkimuksen keskeisen teoreettisen taustan muodostaa sosiaalipsykologi Shalom Schwartzin arvoteoria ja liikkumistottumuksiin, asenteisiin ja arvoihin liittyvä aikaisempi tutkimus. Schwartzin arvoteoriaa sovelletaan päivittäisen liikkumisen kontekstiin.

Schwartzin määrittelee arvoteoriassaan kymmenen universaalia perusarvoa, jotka perustuvat motivaatioon tai tavoitteeseen, jota arvo ilmentää. Universaalit perusarvot ovat: itseohjautuvuus, virikkeellisyys, mielihyvä, suoriutuminen, valta, turvallisuus, yhdenmukaisuus, perinteet, hyväntahtoisuus ja universalismi. Kutakin perusarvoa määrittävät arvo-osiot, jotka kuvaavat perusarvojen sisältöä ja toisaalta toimivat instrumenttina mitata jonkin tietyn perusarvon ilmentymistä. Esimerkiksi valta-arvoja määrittävät sellaiset arvo-osiot kuin yhteiskunnallinen valta, varakkuus, arvovalta ja julkisen kuvan säilyttäminen, universalismia esimerkiksi tasa-arvo, maailmanrauha, yhteys luontoon ja sosiaalinen oikeudenmukaisuus ja hyväntahtoisuutta esimerkiksi rehellisyys, avuliaisuus ja vastuullisuus. Arvoille tyypillistä on niiden hierarkkinen rakenne, jolloin kompromissin perusteella syntynyt valinta ensisijaisen ja toissijaisen arvon välillä ohjaa toimintaamme ja asenteitamme.¹⁶³

Asenteet ovat tapoja, jotka määrittävät miten me reagoimme maailmaan ympärillämme¹⁶⁴. Asenteet määrittyvät arvojen kautta. Asenteet ovat näkyviä piirteitä ihmisten käyttäytymisessä ja arvot vaikuttavat asenteiden taustalla. Arvoja voidaan tutkia asenteiden kautta.¹⁶⁵ Asenteilla ei ole samanlaista hierarkkista rakennetta kuin arvoilla¹⁶⁶.

Pohjautuen aikaisempaan liikkumiseen liittyvään tutkimukseen hahmottuvat erilaiset arvoihin ja asenteisiin liittyvät teemat, joiden pohjalta tutkimukseen liittyvä kyselylomakkeen strukturoituja kysymyksiä on kehitetty. Nämä teemat ovat turvallisuus, status-

¹⁶³ Schwartz 2012 3-7

¹⁶⁴ Puohiniemi 2002, 5

¹⁶⁵ Van Deth & Scarbrough 1995, 31

¹⁶⁶ Schwartz 2012, 3-4

ja valta-arvot, ympäristöarvot, mukavuus ja mielihyvä, vapaus ja itsenäisyys sekä terveyst- ja hyvinvointiarvot.

3. Menetelmät ja aineistosta muodostetut liikkumissegmentit

Tutkimuksen aineisto on kerätty kyselyllä, jota on jaettu Helsingin, Espoon ja Vantaan kaupunkien sosiaalisen median kanavissa. Lisäksi kyselyä on jaettu Vantaan puskaradio Facebook-ryhmässä, joka on vantaalaisten epävirallinen keskusteluryhmä. Kysely sisälsi sekä strukturoituja että avoimia kysymyksiä. Aineistossa painottuvat jonkin verran 30-44-vuotiaiden ja naisten mielipiteet – näiden osuus aineistossa on suurempi kuin perusjoukossa. Vastaajat ovat myös hieman parempituloisia kuin pääkaupunkiseudun asukkaat todellisuudessa.

Aineiston analyysissä on käytetty enimmäkseen tilastollisia menetelmiä. Vastaajat on ryhmitelty ensisijaisen ja toissijaisen liikkumismuodon mukaan liikkumissegmentteihin. Liikkumissegmentit luovat pohjan aineiston analyysille. Liikkumissegmenttien avulla on hahmotettu eroja ja yhtäläisyyksiä erilaisia liikkumistottumuksia omaksuneiden ihmisten välillä. Analyysissa on käytetty enimmäkseen ristiintaulukoiteja, ja niihin perustuvia kuvia, sekä epäparametristä Kruskal-Wallis testiä, joka on erityisen hyödyllinen, kun halutaan tunnistaa pieniä, mutta silti tilastollisesti merkittäviä eroja eri ryhmien välillä. Vastaukset avoimiin kysymyksiin syventävät analyysia ja tarjoavat selitystä tilastollisin menetelmin havaittuihin trendeihin. Vastaajien asuinpaikkakuntaa, asumismuotoa, sukupuolta, ikää sekä tulotasoja on hahmotettu niiden suhteellisten osuuksien mukaan kussakin liikkumissegmentissä. Vastaajien asuinpaikkaa ja sekä eri liikkumissegmenttien esiintyvyyttä eri asuinalueilla on havainnollistettu postinumeroalueisiin perustuvalla paikkatietoanalyysillä.

Ryhmittelyn tuloksena syntyneet liikkumissegmentit suurimmasta pienempään ovat: (1) aktiiviset julkisen liikenteen käyttäjät (34 % vastaajista), (2) ensisijaiset autoilijat / toissijaiset julkisen liikenteen käyttäjät (17 % vastaajista), (3) ensisijaiset julkisen liikenteen käyttäjät / toissijaiset autoilijat (14 % vastaajista), (4) sporttiset julkisen liikenteen käyttäjät (11 % vastaajista), (5) sporttiset autoilijat (11 % vastaajista), (6) vannoutuneet autoilijat (7 % vastaajista) ja (7) jalankulkijat ja pyöräilijät (5 % vastaajista). Liikkumis-

segmentit eivät ole saman suuruisia, joten isompien liikkumissegmenttien mielipiteet edustavat suuremman joukon mielipiteitä.

4. Keskeiset tulokset ja johtopäätökset

Enemmistölle vastaajista turvallisuus päivittäisessä liikkumisessa on riittävällä tasolla. Tarkempi tarkastelu liikkumissegmenteittäin paljastaa kuitenkin eroja turvallisuuteen liittyvissä vastauksissa. Ne vastaajat, jotka käyttävät vähiten julkista liikennettä, pelkäävät myös keskimäärin eniten muiden matkustajien aiheuttamaa häiriötä tai vaaraa. Samankaltainen trendi on havaittavissa illalla ja yöllä yksin kävelyssä: ne, jotka perustavat liikkumisensa enimmäkseen yksityisautoiluun, pelkäävät myös keskimäärin enemmän ulkona kävelemistä enemmän kuin muut. Kaikissa liikkumissegmenteissä on ihmisiä, jotka kokevat, että pyöräily ei ole muun liikenteen vuoksi turvallista pääkaupunkiseudulla. Jos henkilö kokee, että turvallisuus on uhattuna, tämä saattaa ohjata henkilöä käyttämään jotain turvallisemmaksi kokemaansa kulkumuotoa – näin turvallisuusarvot saattavat vaikuttaa henkilön liikkumisvalintoihin.

Julkisen liikenteen ja yksityisauton käytön kohdalla statukseen liittyvillä arvoilla ei näytä olevan suurta merkitystä. Harva vastaaja kokee, että julkisen liikenteen käyttö on vain niitä varten, joilla ei ole muuhun varaa eikä juuri kukaan vastaajista koe, että julkisen liikenteen käyttö ei sovi heidän imagoilleen. Sen sijaan osa vastaajista kokee, että pyöräily on osa heidän imagoaan ja 20 % kaikista vastaajista kokee, että yksityisauton käyttö ei sovi heidän imagoilleen. Nämä ihmiset ovat aktiivisen julkisen liikenteen käyttäjiä, jalankulkijoita ja pyöräilijöitä ja sporttisia julkisen liikenteen käyttäjiä. Kaiken kaikkiaan vastaajilla kaikissa liikkumissegmenteissä on enimmäkseen myönteinen asenne pyöräilyä ja kävelyä kohtaan.

Kaikissa liikkumissegmenteissä on ihmisiä, jotka ilmoittavat arvostavansa ympäristöarvoja ja ottavansa ympäristöasiat huomioon kulkumuodon valinnassa. Kuitenkin näiden vastaajien osuus niissä liikkumissegmenteissä, joissa suositaan kävelyä, pyöräilyä ja julkista liikennettä, on suurempi kuin yksityisautoilua suosivissa liikkumissegmenteissä. Enemmistö ilmoitti, että asuinpaikan valintaan on vaikuttanut se, kuinka helposti pääsee kulkemaan julkisella liikenteellä, kävellen tai pyörällä, kuitenkin niin, että ympäristöystävällisiä kulkumuotoja käyttävät vastaajien joukossa suhteellinen osuus oli suurempi.

Ympäristöarvoihin liittyvät kysymykset osoittavat, että vaikka enemmistö vastaajista heijasteli ympäristöarvoja vastauksissaan, ympäristöarvojen vaikutus päivittäisiin liikkumisvalintoihin jäi osalla vähäiseksi. Tässä hahmottuu arvoristiriita. Ympäristöarvoja, jotka heijastelevat Schwartzin arvoteorian universalismiarvoja, arvostetaan, mutta jotkin muut arvot menevät kuitenkin ympäristöarvojen edelle käytännön päivittäisissä liikkumisvalinnoissa. Tutkimus koskee kuitenkin vain päivittäisen liikkumisen kontekstia, eikä sen perusteella voi arvioida vastaajien koko elämäntavan ympäristöystävällisyyttä, mikä on ratkaisevaa ilmastonmuutoksen hillitsemisen kannalta.

Mukavuus on perustavanlaatuinen arvo, joka ohjaa ihmisten liikkumisvalintoja. Usein juuri se kulkumuoto, jota vastaaja eniten käyttää, koetaan myös mukavaksi. Myös ne vastaajat, joiden liikkumisvalintoihin vaikuttavat ympäristöarvot, pitävät eniten käyttämänsä kulkumuotoa mukavana tapana matkustaa. Tämän havainnon pohjalta näyttäisi siltä, että ne, joiden liikkumisvalintoihin on ympäristöarvot ovat vaikuttaneet, eivät ole kuitenkaan joutuneet uhraamaan mukavuutta ympäristöarvojen vuoksi.

Vapaus arvona yhdistyy Schwartzin itseohjautuvuuden perusarvoon. Yli puolet (57 %) vastaajista kokee, että jos ei omista yksityisautoa, liikkumisen vapaus on rajoittunutta. Voimakkaimmin näin kokevat ne, jotka enimmäkseen käyttävät yksityisautoa päivittäisessä liikkumisessaan, mutta myös muissa liikkumissegmenteissä on vastaajia, jotka kokevat, että liikkumisen vapaus rajoittuu, jos ei ole omaa autoa. Myös pyöräily yhdistyy vapauden kokemukseen päivittäisessä liikkumisessa. Erityisesti avoimien vastauksien perusteella näyttäisi kuitenkin siltä, että vapauden tunnetta koetaan erityisesti pyöräillessä, mutta pyöräily kulkumuotona ei kuitenkaan mahdollista liikkumisen vapautta kaikissa tilanteissa. Kysyttäessä mitä liikkumisen vapaus tarkoittaa vastaajille, lähes 50 vastaajaa ilmoitti, että eri kulkumuotojen yhdistely takaa parhaiten liikkumisen vapauden. Myös liikkumissegmenttien rakenne viestii eri kulkumuotojen yhdistelyn hyödyistä: vain vannoutuneet autoilijat, jotkut aktiivisista julkisen liikenteen käyttäjistä sekä jalankulkijoista ja pyöräilijöistä, mainitsivat, että he käyttävät enimmäkseen vain yhtä kulkumuotoa. Tämä on rohkaiseva tulos liikkuminen palveluna –konseptin kehittämisen näkökulmasta. Jos liikkuminen palveluna –konsepti pystyy tarjoamaan nykyistä helpomman tavan yhdistää eri kulkumuotoja, potentiaalisia käyttäjiä voisi löytyä siitä joukosta, joka jo nykyisellään kokee, että eri kulkumuotojen yhdistely takaa parhaiten liikkumisen vapauden.

Terveyden arvostus näkyy pyöräilyyn ja kävelyyn liittyvissä vastauksissa. Kävely hyötyliikuntana on tärkeä osa liikuntatottumuksia 74 % vastaajille. Tämä on yllättävä tulos, koska moni vastaaja, jonka ensi- eikä toissijainen liikkumismuoto ei ole kävely, kuitenkin kokee kävelyn hyötyliikuntana olevan tärkeä osa liikuntatottumuksia. Samankaltainen, toisin ei yhtä voimakas, trendi on havaittavissa kysymyksessä ”valitsen aina kun mahdollista kulkutavaksi pyöräilyn tai kävelyn”. Tässä hahmottuu samankaltainen arvoristiriita kuin ympäristöarvojen kohdalla: kävelyn ja pyöräilyn terveysvaikutukset kyllä tunnustetaan, mutta osalla vastaajista jotkin muut arvot ohjaavat yleensä päivittäisi liikkumispäätöksiä. Liikkuminen palveluna –konsepti voisi tarjota mahdollisuuden toteuttaa ympäristö- sekä terveysarvoja, jotka heijastelevat Schwartzin universalismi- ja turvallisuusarvoja, uhraamatta kuitenkaan esimerkiksi mukavuutta, joka on perustavanlaatuisen liikkumisvalintoihin vaikuttava arvo.

Liikkuminen palveluna –konseptin näkökulmasta potentiaalisia käyttäjiä ovat ne, jotka eivät omista autoa tai jotka voisivat luopua auton omistamisesta. Tämän vuoksi vastaajilta on kysytty myös asenteita liittyen autoihin ja auton omistamiseen. Enemmistö vastaajista ei koe, että autot ovat kiinnostava puheenaihe tai että auto olisi heille kulkuvälineen lisäksi myös harrastus. Vain pieni osuus vastaajista (6 %) oli samaa mieltä väitteen ”auto kannattaa ostaa heti, kun se on mahdollista” kanssa. Vastaukset osoittavat, että auto on ennen kaikkea hyödyllinen kulkuväline, mutta sen käyttämiselle ja omistamiselle ei ole juuri muita kuin käytännöllisiä syitä. Käytännön syyt vaikuttavat myös muiden kulkumuotojen käyttöön, esimerkiksi edullisuudella on merkitystä, mutta käytännön syiden lisäksi kävelyn, pyöräilyn ja julkisen liikenteen käytön taustalla voi olla imago-, ympäristö- ja terveysarvoja.

Aineistosta hahmottuu ryhmä ihmisiä, jotka eivät halua käyttää yksityisautoa, koska se ei sovi heidän imagoonsa. Nämä ihmiset ovat enimmäkseen aktiivisia julkisen liikenteen käyttäjiä, jalankulkijoita ja pyöräilijöitä ja sporttisia julkisen liikenteen käyttäjiä. Nämä ovat samat liikkumissegmentit, joiden vastaajat heijastelevat voimakkaimmin Schwartzin universalismiarvoja – he korostavat ympäristöarvoja ja he myös ottavat muita liikkumissegmenttejä useammin liikkumispäätöksissään huomioon myös tulevat sukupolvet. Näissä liikkumissegmenteissä enemmistö kokee myös, että auton omistaminen sisältää vaivalloisia piirteitä. Sosiologi John Urry korostaa ”kuluttaja yhteisöjen”

tärkeyttä uuden liikkumissysteemin läpimurrossa ¹⁶⁷. Schwartz puhuu yhteisön sisällä olevista alaryhmistä, jotka edustavat erilaisia arvomaailmoja. Dominantin alaryhmän arvot edustavat ihannetta yhteiskunnassa. Yhteisön arvoihanteet voivat muuttua, jos voimasuhteet eri alaryhmien välillä muuttuvat. ¹⁶⁸ Voisivatko universalismiarvoja arvostavat, yksityisauton käyttöä välttävät ihmiset muodostavat uuden ”kuluttaja yhteisön” ja mahdollisesti muuttaa yhteiskunnan vallitsevia arvoja? Voisivatko nämä ihmiset olla edelläkävijöitä ja näin edesauttaa uuden liikkumissysteemin läpimurtoa?

Suomenkielisen lyhennelmän alatunnisteissa olevat viitteet viittaavat englanninkielisen työn lähdeluetteloon.

¹⁶⁷ Urry 2011, 132

¹⁶⁸ Schwartz 2011, 4-5