Chapter 8

Transport choice, a matter of habit?
– results from Dutch focus groups

C.E. Scheepers
G.C.W. Wendel-Vos
A.J. Schuit

Submitted
Abstract

Background: Aim of this focus group study was twofold. Our first aim was to provide insight into the motivations for transport choice for short distance trips, particularly taking into account active (cycling or walking) versus passive transport (car). The second aim was to investigate if these motivations differed between different life stages.

Methods: Six focus groups (N=29), two groups per life stage, were conducted investigating motives for transport choice for trips made for respectively commuting, shopping, sports and going to public natural spaces.

Results: No differences in motivations were found between the three life stages. Transport choice and route choice were found to be highly influenced by habits and respondents were perfectly able to rationalize and justify their transport choice afterwards. Trip purpose was also found to influence how someone experiences the route to a specific trip destination.

Conclusions: Our results suggest that in order to stimulate active transport it is important to break through daily routine and habitual behaviour. If respondents become more aware of their transport mode routines they can change their attitude and behaviour towards more active transport behaviour.
Background

Worldwide physical activity levels are declining and various policy measures are taken to reverse that trend. One measure to stimulate physical activity is to affect travelers’ choices regarding transport modes in favour of active modes. According to The Toronto Charter for Physical Activity, stimulating active transport could be seen as one of the best investments to combat the decreasing physical activity levels since active transport is the most practical and sustainable manner to increase physical activity on a daily basis.[1]

To be able to stimulate active transport effectively, it is important to know which factors influence transport choice. Quantitative research methods are often used to explore factors associated with transport choice. This type of research is useful in studying related factors, such as the relation between determinants and diseases, but does not allow the understanding of complex issues and does not give answers to why relations exist.[2] As mentioned by Jones & Ogilvie it is time to reach beyond quantitative methods of associations between travel behaviour and the environment or attitudes, and qualitatively explore the processes and experiences of travel behaviour change.[3]

In our previous (quantitative) studies, we found associations between transport choice and both single trip purposes (e.g. shopping, commuting, taking or bringing persons and sports) and combined trip purposes (for example the combination of shopping with commuting).[4, 5] Moreover, we found that persons between 25 and 44 years old were more likely to use the car than using active transport [4] and thus we assume there is a difference in transport behaviour between life stages. However, in both studies information about motives for transport choices was missing. Information concerning these motives is important, since the intention to behave in a certain way is affected by attitudes, social norms and self-efficacy. The moment when and the reason why the intention is turned into actual behaviour is influenced by barriers and skills.[6] An important set of barriers lies within the environment or more specifically, in the interaction between individuals and their environment (for example neighbourhood typology).[7] Aim of this focus group study was twofold. Our first aim was to provide insight into these motivations for transport choice for short distance trips, particularly taking into account active (cycling or walking) versus passive transport (car). The second aim was to investigate if these motivations differed between different life stages.

Methods

This study is part of the impActs of actiVE traNsport in Urban Environments (AVENUE) project. Aim of the AVENUE project is to provide in-depth information on the characteristics of short car
and active transport trips and on the feasibility of replacing short car trips with active transport modes. Replacing the car by active transport modes is feasible up to a certain distance. In the AVENUE project we considered a distance up to 7.5 km as a feasible cycling or walking distance since it represents a maximum of 30 minutes of cycling at an average speed; a time-span that links up with physical activity guidelines.[8, 9] In 2007, 70% of all trips in the Netherlands were shorter than 7.5 km. Of these, 36% were made by car, 34% by cycling, and 27% by walking.[10] Altogether, it seems feasible, at least for the Dutch situation, to define short-distance trips as those up to a trip length of 7.5 km. A summary of the AVENUE project is described elsewhere.[11] In this study, focus groups were used to investigate motivations for choosing the car, bicycle or walking for trips made with the purpose of shopping, commuting, sports and going to public natural spaces.

**Study population**

Respondents were selected from (a) the participants of the online-questionnaire used in the AVENUE project (N=14) as well as (b) existing qualitative research panels (N=15). For all respondents information concerning gender, age, education level, household composition, trip purpose and accompanying transport mode and preferred transport mode was available. Since differences in proximity and connectivity were shown to influence transport choice [12], we attempted to get a heterogeneous study population by selecting respondent from both a highly urbanized region (Amsterdam; >800,000 inhabitants) and a medium urbanized region (Amersfoort; >150,000 inhabitants). To be eligible to the focus groups, participants had to be adults (18 years or older) with a car at their disposal. Furthermore, they had to make short trips for at least two of the trip purposes under study. Since we were interested in motivations for choosing between two or more transport modes, participants had to use more than one transport mode for these trip purposes. Per focus group at least two respondents were selected with the car as preferred transport mode.

Since we anticipated an influence of life stage on transport choice, focus groups were conducted for three different life stages: 1) persons with an age between 18 and 30 years and without children, 2) persons with an age between 25 and 45 years with children living at home and 3) persons with an age between 45 and 65 years who are single or have children living away from home. For every life stage, two focus groups were conducted with a minimum of 4 persons per group of which one was held in Amsterdam and the other was held in Amersfoort.

An Institutional Review Board (IRB) approval was not warranted (and therefore not obtained) since an IRB is only needed when daily life of participants is influenced or participants should perform specific actions.[13] Informed consent was gathered for all participants prior to participating in the focus groups. Prior to the moment that the authors received the data from the owner of the internet panel all data were anonymized and the authors did not have access to any identifying information.
App
In preparation of the focus groups, respondents were asked to fill in questions concerning their transport choice in ‘real life’ by filling in questions in an app on their smart phone. This app was specially designed for this study. With this app, some general questions were asked about opinions and beliefs of car use, cycling and walking and the choice of transport modes for each trip purpose. Respondents also kept a diary (in the app) during three days (of which one weekend day) to register all transport modes and purposes of all trips during the days. Questions were asked on the pros and cons of their transport choice. When a person did not own a smart phone he/she received these questions by email (N=10). Due to technical problems we did not obtain information from the app for two respondents.

Focus groups
Focus groups are used to better understand how people feel or think about an issue, product or service.[14] Our focus groups lasted approximately 150 minutes and were carried out based on a topic list and protocol. The focus groups were guided by a moderator of a professional organization specialized in performing and analyzing focus groups and were observed behind a one-way mirror by an observer of the organization plus one of the researchers (CS). All focus groups were videotaped and minutes were made by a professional minutes secretary. As mentioned earlier, information obtained by the app was used as input for the focus groups. Per trip purpose, respondents were asked which transport mode they normally use and their motivation for this transport choice. Triggers and barriers of the different transport modes were explored and answers given in the app were discussed. Respondents were also asked to select three out of more than 100 pictures illustrating their feelings belonging to this trip made with their chosen transport mode. By asking respondents why they selected these pictures insight was obtained in the feelings associated with different trip purposes.

Based on these focus groups and app an outcome report was written by the moderator and observer. This outcome report was discussed with the researcher who observed the focus groups (CS) and afterwards finalized.

Results
Table 8.1 shows the characteristics of the study population included in the analysis. A total of 29 respondents participated in this study, with an equal distribution over the different life stage groups. For all life stages, slightly more women participated. Distribution over preferred transport mode differed between the different life stage groups. In life stage 1 and 3 both the car and the bicycle were preferred transport modes. In life stage 2 the preferred transport mode was the
car. Overall, only a small proportion of the participants mentioned walking as their preferred transport mode. Across life stages, respondents from life stage 3 (age between 45 and 65 years old who are single or have children living away from home) tended to make fewest trips up to 7.5 km for commuting purposes and most trips for recreational purposes (going to public natural spaces / sports).

Since results from the focus groups regarding motives for transport choice, perceived triggers and barriers for transport choice, route choice and perception of the route did not differ between life stages, results from the focus groups will be presented and discussed for all life stage groups together.

Motives for transport choice

The participants of the focus groups mentioned that their transport choice was highly influenced by habits. For each trip purpose, participants have already decided at some moment in the past

<table>
<thead>
<tr>
<th>Table 8.1 Characteristics of the study population per life stage group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life stage 1</strong></td>
</tr>
<tr>
<td>Persons aged 18-30 years, without children</td>
</tr>
<tr>
<td>(N=9)</td>
</tr>
<tr>
<td>Men (N)</td>
</tr>
<tr>
<td>Age (mean (SD))</td>
</tr>
<tr>
<td>Education level (N)</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Preferred transport mode (N)</td>
</tr>
<tr>
<td>Car</td>
</tr>
<tr>
<td>Bicycle</td>
</tr>
<tr>
<td>Foot</td>
</tr>
<tr>
<td>Making trips of max 7.5 km for the purpose of…. (N)</td>
</tr>
<tr>
<td>Commuting</td>
</tr>
<tr>
<td>Shopping</td>
</tr>
<tr>
<td>Sports</td>
</tr>
<tr>
<td>Public natural spaces</td>
</tr>
</tbody>
</table>
which mode is most suitable and they therefore tend to use that specific mode for that specific purpose. Due to this habitual behaviour, respondents generally did not consider all their transport choice options preceding a trip made for a particular purpose. In those cases in which they did use an alternative transport mode, this was usually a planned action because changing their transport mode influences departure time and trip duration.

General attitude of the respondents was that the bicycle is the standard transport mode for short distances. This perception of using the bicycle as a standard option for short distance trips was strongest for respondents living in highly urbanized areas. However, the perception of a feasible cycling distance differed per person. In general, distances of 10 to 15 minutes cycling were perceived as a feasible cycling distance by nearly everyone.

“Cycling is a very common mode of transport within Amsterdam.” (Man, life stage 3)

“I really cannot manage without my bicycle. Doing everything by car in Amsterdam is not an option. I use my bicycle in my free time for grocery shopping, going to the park and the playground, visiting friends and family, etc.” (Woman, life stage 2).

Perceived triggers and barriers of the car, bicycle and walking

Respondents mentioned several advantages of using a car. The feeling of freedom and comfort as well as the possibility to take a large amount of goods with you and the fact you are invulnerable to weather conditions like rain were perceived as advantages of using a car. Respondents mentioned the high costs of driving a car as well as the many traffic jams as disadvantages of using a car.

‘Using the car gives me the freedom to travel places in all types of weather’ (Man, life stage 1)

“The car gives me an enormous amount of freedom.” (Woman, life stage 3)

Cycling gave the respondents also a feeling of freedom, as well as being flexible and active. An advantage of cycling mentioned by a large group of the respondents was that cycling contributed to a healthy lifestyle.

“I go to the gym. Why would I be lazy and go there with the car?” (woman, life stage 1)

Moreover, the shorter travel time for reaching your destination, especially when your destination is in the city centre was mentioned as an advantage of cycling. Disadvantages mentioned were
not being able to take that many goods with you (compared to the car) and being more vulnerable to weather conditions.

Respondents perceived walking as a way to relax. Being more flexible and the fact that you do not need any gear like a car or a bicycle were perceived as advantages. However, most respondents perceived walking as too slow and more suitable for recreational purposes.

“If I have to walk somewhere it usually takes me longer than when I take another transport mode; that is why I often choose not to walk.” (Woman, life stage 2)

Environmental factors like noise, smell and vibrations did hardly influence transport choice or the choice of particular routes. However, the negative effects of noise and smell were experienced more often when walking or cycling than when taking the car.

“I do not refrain from using the car for environmental reasons, but I have started driving more economically” (Woman, life stage 1)

Safety aspects were mentioned predominantly by women. In the evening women were more likely to choose an alternative route or take the car since this was mentioned to be the safest transport mode e.g. the fastest possibility to escape from a dangerous situation.

“There is a chance you may be harassed by a drunkard while walking (by night).” (Woman, life stage 2)

“I avoid taking certain routes in the evening. I still take the bicycle but stick to the safer roads.” (Woman, life stage 3).

Respondents were found to be perfectly able to rationalize and justify their transport choice afterwards. The negative aspects of the car for example were more important for cyclists and the negative aspects of the bicycle were more important for the car users. However, since these negative aspects were not experienced the same way by the users of this transport mode, for example car users, these users did not experience any necessity to change their transport behaviour.

Route choice & perception of the route
Just like transport choice, route choice was highly determined by habits. Respondents have decided somewhere in the past which routes suite them best and they usually will take those routes. Because of routine, respondents tend not to pay much attention to the route and situations dur-
ing the trip. Although (negative) observations during this trip influenced a respondent’s attitude at that moment, this did not cause enough disturbance to establish a change in route choice.

Based on the selection of the pictures illustrating the feelings of the respondents associated with a trip purpose, we found that trip purpose did influence how someone experiences the route to the specific trip destination. When going to work, respondents were most vulnerable for the negative aspects on the route as a result of the feelings of stress and hurrying associated with this trip purpose. When going to public natural green environments, respondents experienced the least negative aspects, which could be explained by the fact that respondents experienced the route to public natural green environments as a part of their recreation trip. It was mentioned that even when a respondent takes the same route for more than one trip purpose, he/she experiences this route differently due to this trip purpose.

“If I go out in my free time it doesn’t matter if I have to wait at one or two traffic lights, but if I am on my way to work it definitely matters.” (Man, life stage 3)

Discussion

Participants of this study reported that their transport choice and route choice were highly influenced by habits. Once decided on a transport mode for a specific trip purpose, they do not change it nor do they consider other transport options. However, the purpose of the trip did influence how a person experiences the route. As a result of feelings of stress and hurrying respondents were most vulnerable for negative aspects of the route when going to work. Respondents were the least vulnerable for negative aspects during the route when making trips for going to public natural green environments. In line with this, Gardner & Abraham found that travel time was less important for leisure-related journeys than for functional journeys.[15]

Perceived triggers of car use obtained in this study were in line with previous research.[16-19] Guiver [20] observed in a focus group study on bus and car travel that respondents viewed transport modes differently depending on whether they were users or non-users. In line with Simons et al., who investigated which factors determined transport choice of young Belgium adults for trips to school/work and to other nearby destinations, environmental factors did hardly influence transport choice.[19] Hagman [17] states that disadvantages of car use, are experienced directly, such as “costs”, “corrosion”, or “repairing”, and other are not personally experienced but are drawn from public discourses, such as “environmental impact” or “accidents”. These differences in presentation can be related to differences in how this knowledge about disadvantages is produced in transport choice. Knowledge about safety and environmental risks is produced in
a more distanced, reflexive and generalizing way what makes this knowledge more relative and negotiable.\[17\] It can be argued that since respondents do not experience these environmental problems personally, they are less motivated to process this information and thus environmental problems have little influence on driving behaviour.

As mentioned earlier, it was expected that the intention to behave in a certain way was affected by attitudes, social norms and self-efficacy, and would predict behaviour.\[6\] The moment when and the reason why the intention would be turned into actual behaviour is influenced by barriers and skills. However, based on our results it can be concluded that these barriers do not influence transport choice on the short term. To be specific, habits seem to act as a barrier to behaviour change. Habit learning is a cognitive and motivational process in which the control of action is outsourced to the environment, which means that when the appropriate circumstances occur the sequences of actions are triggered automatically.\[21\] According to Aarts et al. this concept of habit may set a boundary condition for the applicability of the theories of reasoned or planned behaviour in predicting and explaining repeated behaviours as transport choice, since most habitual behaviour arises without conscious intent and need neither reasoning nor planning in order to occur.\[22\] Thus, changing of intentions will not necessarily influence behaviour.\[21\] Verplanken et al. mentioned that to be able to change habitual behaviour other intervention strategies are needed than for non-habitual behaviour. Reason for this is that people with strong habits possess motivational and informational biases that reduce the likelihood that they will receive and evaluate favourably new, counter habitual information. Therefore, they may fail to avail themselves of new and better alternatives, simply because their expectations reduce awareness of such information and these biases will reduce the impact of informational campaigns and help maintain existing behaviour patterns.\[21\] However, the disruption of habits does provide opportunities for interventions to promote the desired new behaviour\[21\], thus in this case a mode shift.

**Strength and limitations**

As mentioned earlier, transport research is predominantly characterized by quantitative research designs. In this study we used a qualitative research study that enabled us to investigate the motives for transport choice in more detail. Outcomes of this study resulted, in combination with the earlier quantitative studies, in more in-depth insight on transport choice.

One of the trip purposes under study was going to sports facilities. In this study we focused on sports facilities in general. However, in our study respondents with children only performed individual sports like fitness and thus did not experience any stress to be there on time. It would be expected that this is different for respondents engaging in team sports, since they have to be at a specific time at the sports accommodation. The same could be true for respondents sporting
at outdoor facilities because respondents have to travel larger distances to these facilities than when going to the fitness.

In this study we found that transport choice and route choice were highly influenced by habits. However, responses during the focus groups (attitudes) could have been influenced by their habitual transport choice, since respondents performing habitual behaviour are more likely to change their attitudes than their behaviour (self-fulfilling prophecy).[23] Therefore, future research should investigate which decisions are made before developing these habits as well as how these habits influence motives for transport choice. As mentioned earlier, habits seem to act as a barrier to behaviour change and the disruption of habits does provide opportunities for interventions to promote a mode shift. For example, it has been argued that healthy behaviour, such as active transport, can be nudged by designing neighbourhoods that facilitate such behaviour.[24] However, in a previous systematic review we could not draw any conclusion about how such an intervention should be designed and which intervention tools are most effective. [25] Therefore, future research should investigate which decisions are made before developing these habits as well as how these habits influences motives for transport choice and how effective intervention should be designed. For the latter, small scale intervention studies are needed which include also some qualitative research methods (e.g. interviews, focus groups).

**Conclusion**

The present study aimed to provide insight into the motivations for transport choice for respectively commuting trips, shopping trips, sports trips and trips to public natural spaces and how these motivations differ between the different life stages. No differences in motivations were found between the different life stage groups. Transport choice and route choice were found to be highly influenced by habits and respondents were perfectly able to rationalize and justify their choices afterwards. The purpose of the trip was also found to influence how a person experiences the route. Our results suggest that it is important to break through this daily routine and habitual behaviour. If respondents become aware of their transport mode routines they can change their attitude and behaviour towards more active transport behaviour.
References

11. Scheepers, C.E., et al., Perceived Accessibility is an important factor in transport choice - results from the AVENUE project [submitted].


