Chapter 8
Satisfaction with Leisure Trips: Findings from Ghent, Belgium

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Abstract Recently, studies have started analysing how people perceive their travel and how satisfied they are with it. This travel satisfaction – i.e., the mood during trips and the evaluation of these trips – can be affected by trip characteristics, such as the used travel mode and trip duration. In this study – analysing leisure trips of 1720 respondents living in the city of Ghent (Belgium) – we do not only look at the effect of trip characteristics on travel satisfaction, but also on the effects of travel-related attitudes and the residential location on travel satisfaction, both singly and each controlling for the other. The latter makes it possible to analyse whether people who live in their preferred neighbourhood based on travel preferences (e.g., car lovers living in suburban-type of neighbourhoods) are more satisfied than people who do not. Furthermore, this chapter also explores possible outcomes of travel satisfaction. It is possible that satisfying trips with a certain travel mode increase the chance of choosing that mode for future trips of the same kind, whether or not indirect through changes in attitudes. Repetitive positively or negatively perceived trips might also affect longer-term well-being, such as life satisfaction, both directly and indirectly through the performance of – and satisfaction with – activities at the destination of the trip. On the other hand, life satisfaction can also influence people's satisfaction with short-term activity episodes, such as satisfaction with leisure trips and activities.

Keywords Travel behaviour · Travel satisfaction · Attitudes · Well-being · Residential location

8.1 Introduction

Over the past decades there has been an increased attention towards subjective well-being across multiple disciplines. Although travel occupies a considerable share of our daily time budget and enables out-of-home activity participation, the

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effect of travel on well-being has only been examined recently. Since approximately 2010, studies have started analysing how people perceive their trips, mostly focussing on the effect of trip characteristics (e.g., trip duration, travel mode) on trip satisfaction. Most of these studies found that long trip duration and public transport use are related with low levels of travel satisfaction, while short trips and active travel mostly result in high travel satisfaction (e.g., Mao et al. 2016; Morris and Guerra 2015a, b; Legrain et al. 2015; Olsson et al. 2013; Páez and Whalen 2010; St-Louis et al. 2014; Ye and Titheridge 2017). Although valuable insights have been gathered from these studies, the effects of the built environment and internal factors (such as travel-related preferences and attitudes) on trip satisfaction remain underexplored. Furthermore, most studies regard trip satisfaction as an outcome of certain travel-related choices and trip characteristics. However, satisfaction with travel could affect attitudes towards the used travel mode and could therefore affect future mode choices. Additionally, trip satisfaction might also affect the performance of – and satisfaction with – the activity at the destination of the trip. As a result, experiencing frequent positive emotions during travel and positively evaluating trips may not only affect long-term well-being – such as life satisfaction – directly, but also indirectly, through the experience of the activity at the destination (Bergstad et al. 2011; De Vos et al. 2013; Ettema et al. 2010). However, besides these bottom-up effects from short-term satisfaction (with travel and activities enabled by travel) to long-term life satisfaction, life satisfaction might also affect satisfaction with short-term activity episodes. A person who is satisfied with his/her life, might also be more satisfied with travel, compared to a person with low levels of life satisfaction. At present, however, our insights in the link between travel and well-being remain limited. We consequently raise three research questions which can help to fill the gaps in existing literature concerning travel satisfaction:

RQ1: What affects travel satisfaction?
RQ2: What are the possible outcomes of travel satisfaction?
RQ3: How is travel satisfaction related with long-term well-being?

This chapter will try to provide answers on the above mentioned research questions based on an Internet survey with 1720 respondents from the city of Ghent, Belgium. This survey contains information regarding respondents' satisfaction with the most recent leisure activity, satisfaction with the trip towards this activity and satisfaction with life in general. This chapter is organised as follows. Section 8.2 describes neighbourhood selection and sample recruitment. Section 8.3 explains the key variables used in this research. The main results are described in Sect. 8.4, while the discussion and conclusion are provided in Sect. 8.5.

8.2 Neighbourhood Selection and Sample Recruitment

In this study we use data from a 2012 Internet survey on residential location (choice), travel behaviour, travel satisfaction and well-being, which took place in the city of Ghent, Belgium (250,000 inhabitants). We stratified Ghent's total population based on residential neighbourhood in order to examine differences in travel behaviour and travel satisfaction between people living in urban neighbourhoods and those living in suburban neighbourhoods. In total 27,780 invitations with a link to the survey were distributed by hand in two internally homogeneous sets of five urban and seven suburban neighbourhoods within the city of Ghent. The five urban neighbourhoods, built before the Second World War, have a high density (average density: 7900 inhabitants per km^2), a high diversity, extensive public transport services and a design stimulating active travel. The seven suburban neighbourhoods, mainly built after the Second World War, are characterised by low densities (average density: 1700 inhabitants per km^2), low diversities, a street configuration stimulating car use (e.g., T-intersections and dead-end streets) and limited public transport services (Fig. 8.1). All households within the selected neighbourhoods received an invitation, covering about one fourth of all households in Ghent (see De Vos et al. 2016).

In socio-demographic terms, the urban neighbourhoods are characterised by lower household car possession, smaller household sizes and lower median incomes, compared to suburban neighbourhoods. Urban neighbourhoods are also inhabited by a relatively high share of citizens from outside the EU-15 area (9.5%), while this is not the case in suburban neighbourhoods (non-EU-15 citizens only account for 1.6%). Urban residents are in general younger than suburban residents, although age distributions can vary between the different urban and suburban neighbourhoods. While there are small variations within urban versus suburban neighbourhoods, physical characteristics of the neighbourhood and socio-demographics of the residents differ more considerably between urban versus suburban neighbourhoods (Table 8.1, see also City of Ghent 2012; De Vos et al. 2016).

The cover letter asked for an adult household member who participated in the residential location choice to complete the survey. Eventually, 1807 persons completed the survey, of which 1720 were retained after data cleaning. Table 8.1 indicates that urban and suburban respondents are approximately representative of the total population of the chosen urban and suburban neighbourhoods. The age distribution of urban and suburban respondents is comparable with the age distribution of the total population of the chosen neighbourhoods; on average, urban respondents are younger than suburban respondents. Similar to the total population of the neighbourhoods, the size, income and car ownership of households in our sample is considerably higher in suburban neighbourhoods than in urban neighbourhoods. Furthermore, in comparison with suburban respondents, more

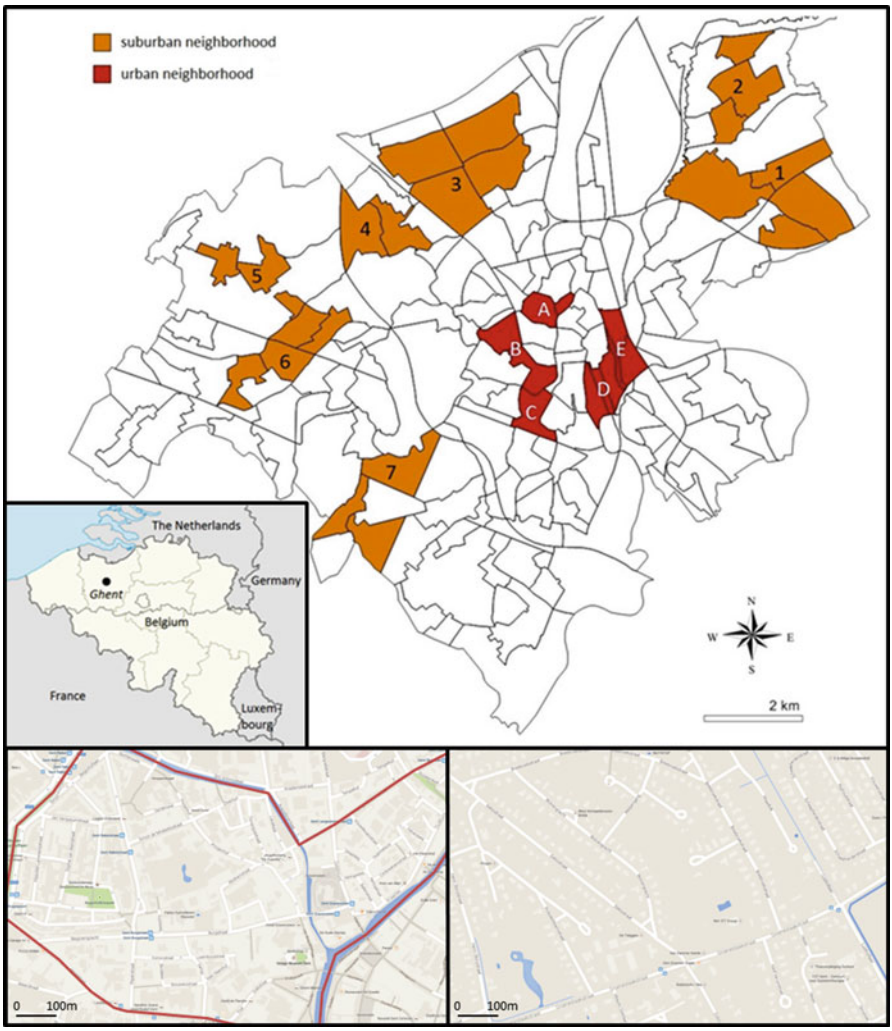

Fig. 8.1 Distribution of neighbourhoods in Ghent Region (Suburban neighbourhoods: (1) Oostakker; (2) Oostakker-centre; (3) Mariakerke/Wondelgem; (4) Mariakerke-centre; (5) Drongen Luchteren/Campagne; (6) Drongen-centre; (7) Sint-Denijs-Westrem. Urban neighbourhoods: A: Patershol/Begijnhofdries; B: Ekkergem/Bijloke; C: Station; D: Zuid; E: Heernis/Sint-Macharius.) and street network of an urban (left) and suburban (right) neighbourhood (neighb. Patershol/Begijnhofdries (boundary indicated by *red line*) and neighb. Mariakerke/Wondelgem, respectively) (Source: City of Ghent 2012; Google maps)

women and highly educated people in our sample live in urban neighbourhoods (Table 8.1). Although the recruitment method results in a rather low response rate (i.e., 6.5%; which is comparable with other travel behaviour studies using the same

Table 8.1 Socio-demographic statistics for urban and suburban participants (for more information, see De Vos et al. 2015, 2016)

	Urban		Suburban		Total sample
	Sample	Population	Sample	Population	
Age (distribution)					
18–34 (%)	43.5	41.3	20.4	22.2	33.7
35–49 (%)	23.2	22.7	27.3	26.2	24.9
50–64 (%)	19.6	17.9	31.5	26.8	24.7
65 + (%)	13.7	18.1	20.7	24.8	16.7
Gender					
Female (%)	48.8	49.5	41.4	51.0	45.7
Education					
High educ. (university degree) (%)	82.1	N/A	70.8	N/A	77.3
Household composition					
Average household size	2.0	1.8	2.7	2.5	2.3
Household net income/month					
Low income (<1750 euro) (%)	24.1	N/A	9.9	N/A	17.9
Avg. income (1750–3499 euro) (%)	49.3	N/A	49.4	N/A	49.4
High income (3500+ euro) (%)	26.5	N/A	40.7	N/A	32.7
Household car possession					
0 (%)	32.4	35.9	7.7	9.7	21.9
1 (%)	54.4	52.5	50.3	55.5	52.6
>1 (%)	13.2	11.6	42.3	34.8	25.5
N	991	23,279[a]	729	23,440[a]	1720
%	57.6	49.8	42.4	50.2	100

[a]Only adult inhabitants were taken into account

sampling method (e.g., Ben-Elia et al. 2014; Cao 2012)), the respondents are roughly comparable to the population of the selected neighbourhoods in socio-economic and demographic terms. Since the main goal of this study is to achieve an analytical representation of relationships among multiple variables, it is important to have a large and sufficiently diverse sample (Groves 1989). As our sample size is relatively large, this allows us to estimate relationships with ample confidence. The collected data for this study is cross-sectional. Although the used data provides us with a large amount of information, it does not capture possible changes over time in respondents' behaviour, attitudes and satisfaction concerning travel.

8.3 Key Variables

8.3.1 Satisfaction with the Trip to the Most Recent Leisure Activity

The survey asked respondents how they experienced the trip to their most recent out-of-home leisure activity. In order to measure people's travel satisfaction we used the Satisfaction with Travel Scale (STS) (De Vos et al. 2015; Ettema et al. 2011; Friman et al. 2013). This scale measures travellers' mood (i.e., experienced emotions) during a trip and travellers' evaluation of this trip. The affective emotions are measured by six items based on two dimensions, i.e., valence (ranging from unpleasant to pleasant) and activation (ranging from deactivation to activation), which are assessed by the Swedish Core Affect Scale (SCAS) (Västfjäll et al. 2002; Västfjäll and Gärling 2007). The endpoints of each item are combinations of the valence and activation dimensions. Three items range from negative activation to positive deactivation (i.e., stressed – calm; worried – confident; hurried – relaxed) and the other three from negative deactivation to positive activation (i.e., bored – enthusiastic; tired – alert; fed up – engaged). A cognitive evaluation of the trip being made is measured by three additional items that refer to the general quality and efficiency of the trip (i.e., *the trip was the worst – best I can think of; the trip was low – high standard; the trip did not go well – went well*). For all the nine scales, scores vary from −3 to 3 with a higher score implying higher satisfaction.

Since the internal consistency (i.e., the average correlation of a scale's items) of the six items measuring emotions during the trip and the three items measuring the cognitive evaluation of the trip are assessed as good (Cronbach's alpha is respectively 0.87 and 0.86), we created a positive emotions variable by averaging the scores of the six items measuring affective emotions and a positive evaluation variable by averaging the scores of the three items measuring cognitive evaluation.

8.3.2 Satisfaction with the Most Recent Leisure Activity

In order to measure how satisfied respondents were with their most recent out-of-home leisure activity (visiting family/friends; going out to restaurant, bar, club; going to forest, park, nature; participating in sports or cultural activity; recreational shopping) we used a similar scale as the STS, but applied on the activity instead of on the trip (see De Vos 2018). This Satisfaction with Activity Scale (SAS) therefore also contains six items analysing the experienced emotions during the (leisure) activity, ranging from negative to positive with varying levels of activation (i.e., stressed – calm; worried – confident; hurried – relaxed; bored – enthusiastic; tired – alert; fed up – engaged). A cognitive evaluation of the leisure activity made is measured by three additional items that refer to the general quality of the activity (i.e., *the activity was the worst – best I can think of; the activity was low – high*

standard; the activity did not go well – went well). In analogy with the STS, the scores of the SAS vary from −3 to 3 with a higher score implying higher satisfaction.

Parallel to the STS, we separated the affective component of activity satisfaction (i.e., emotions during the leisure activity) from the cognitive component of activity satisfaction (i.e., evaluation of the leisure activity). Since the internal consistency of the six items measuring emotions during the activity and the three items measuring the cognitive evaluation of the activity are good (Cronbach's alpha is 0.82 and 0.79, respectively), we created a positive emotions variable by averaging the scores of the six items measuring affective emotions and a positive evaluation variable by averaging the scores of the three items measuring cognitive evaluation.

8.3.3 Life Satisfaction

Life satisfaction − a cognitive evaluation of how good one's life is over a longer period of time – has been measured using the Satisfaction With Life Scale (SWLS) (Diener et al. 1985; Pavot and Diener 1993). This scale asks respondents – on a five-point scale going from 1 (strongly disagree) to 5 (strongly agree) − to which extent they agree with five statements: i.e., *In most ways my life is close to my ideal; The conditions of my life are excellent; I am satisfied with my life; So far I have gotten the important things I want in life; If I could live my life over, I would change almost nothing*. Since the internal consistency (reliability) of this scale is high (Cronbach's Alpha = 0.88), one life satisfaction variable was created by averaging the scores on the five items.

8.3.4 Travel-Related Attitudes

In this study we make a distinction between mode-specfic attitudes and travel-liking attitudes. In order to measure respondents' attitudes and preferences towards different travel modes three types of variables were used. First, respondents were asked to which degree they like to travel with different travel modes (car; bus or tram; train; bicycle; on foot) on a five-point Likert scale. Second, the survey asked respondents which of the following 12 positive aspects they linked with the use of the five travel modes (yes/no): good for image; environmentally friendly; relaxing; comfortable; time saving; flexible; cheap; offering privacy; healthy; safe; reliable; possibility to perform activities during travel. For each travel mode we added up the number of positive aspects respondents indicated. Finally, ten questions asked respondents to indicate (on a scale from 1 to 10) what their ideal neighbourhood looks like, from a travel-related perspective (e.g., a neighbourhood with good car accessibility, a neighbourhood with good public transport facilities). Based on factor analyses we created factors which represent attitudes towards specific travel modes (for more information regarding these factor analyses, see De Vos et al. 2016, 2018).

Besides mode-specific attitudes, we also analysed travel-liking attitudes. In order to measure people's liking for travel – independent from elements such as mode choice and the type of trip – respondents were asked to indicate to which extent they agree with the following six statements on a scale from one (totally disagree) to five (totally agree): *I like to discover new and unfamiliar places; Reaching my destination is the only good thing about travel; Traffic makes me nervous; I like to travel; Travelling is boring; Travel time is wasted time*. After reversing the scores on the negative statements on travel liking (statement 2, 3, 5 and 6), Cronbach's alpha was measured. Although the value of Cronbach's alpha is satisfactory (i.e., 0.75), the value increases to 0.81 when deleting the first and third statements (i.e., *I like to discover new and unfamiliar places* and *Traffic makes me nervous*). We therefore created a travel-liking variable by averaging the scores on statements 4 and the reverse scores of statements 2, 5 and 6 (for more information, see De Vos and Witlox 2016).

8.3.5 Trip Characteristics, Residential Location, Household Car Ownership and Socio-demographics

Respondents were asked to indicate which travel mode (car; train; bus/tram; bicycle or on foot) they used to reach their most recent out-of-home leisure activity. If they used more than one travel mode to reach their destination, they were asked to indicate the travel mode covering the longest distance. Somewhat more than half of the respondents (i.e., 883; 51.8%) travelled by car, 165 respondents (9.6%) used public transport (117 bus/tram users and 48 train users), 337 respondents (19.8%) cycled and 319 (18.7%) respondents walked to their most recent out-of-home leisure activity. Sixteen respondents did not indicate which travel mode they used. The survey also asked for trip distance and trip duration of the most recent leisure trip. Almost half of the trips (48.8%) were shorter than 5 km, while slightly more than half of the trips (53.9%) had a duration of less than 15 min. It has to be noted that trip distance and trip duration are highly affected by respondents' residential location. Trip duration and especially trip distance of suburban residents are significantly higher compared to trip duration and distance of urban residents. Finally, respondents were also asked with whom they travelled (alone, or together with their partner, family, friends or colleagues/acquaintances).

Since survey invitations were distributed in two internally homogeneous sets of typical urban and suburban neighbourhoods in Ghent, we have information on the residential neighbourhood of respondents, i.e., suburban versus urban. Somewhat more than half of the respondents (i.e., 57.6%) live in urban neighbourhoods, while 42.4% of the respondents lives in suburban neighbourhoods.

The survey also asked respondents to indicate the number of cars their household owns. About half of the respondents (52.6%) lives in a household with one car, 21.9% of the respondents lives in a household without a car, while 25.5% of the

respondents' households possesses two or more cars. Finally, we also asked for respondents' socio-demographics. Information on the following socio-demographic characteristics was collected: participants' age, gender, educational attainment, job status, the monthly net income of respondents' household, household size and household composition (see Table 8.1).

8.4 Results

In order to present the major results of this research, we provide answers to the three research questions separately.

RQ1: What affects travel satisfaction?

In this study, we analysed the effect of trip characteristics (i.e., trip duration, trip distance, travel mode and trip companionship), travel-related attitudes (i.e., mode-specific attitudes and travel-liking attitudes), and the residential location on satisfaction with leisure trips.

In line with previous studies (e.g., Mao et al. 2016; Morris and Guerra 2015b; Olsson et al. 2013; Páez and Whalen 2010; St-Louis et al. 2014; Ye and Titheridge 2017), results of our data indicate that people using public transport are least satisfied with their trips and that active travel – especially walking – results in the highest levels of travel satisfaction; intermediate levels are found for car users (De Vos et al. 2015, 2016). Consistent with other studies (e.g., Ettema et al. 2011; Morris and Guerra 2015a; Olsson et al. 2013; St-Louis et al. 2014), trip duration has a negative effect on trip satisfaction, although we only found significant negative effects for car and public transport users (De Vos et al. 2016). Travel time has no significant effect on trip satisfaction of active travellers – a result that has also been found by Mao et al. (2016) – possibly indicating people's enjoyment for walking and cycling itself. For car users we also found positive significant effects of trip distance on trip satisfaction (De Vos et al. 2016). This might be explained by possible confounding between the liking for the trip and the liking for the activity at the destination, together with the fact that out-of-home leisure activities located farther away are mostly performed less common and might therefore being perceived more rewarding. On the other hand, it can also indicate that people like, among other factors, to enjoy scenic beauty and explore new places. Finally, we also found that travelling alone results in significantly lower levels of trip satisfaction compared to when travelling with others. No significant differences were found between travelling with partner, friends, family and colleagues/acquaintances (De Vos 2018). To the best of our knowledge, this is the first study that analyses the effects of trip distance and travel companionship on trip satisfaction.

Although most studies indicate that travel satisfaction is affected by external trip characteristics, such as trip duration, congestion levels and travel mode, it is also possible that travel satisfaction is affected by internal factors such as travel-related preferences and attitudes (St-Louis et al. 2014; Ye and Titheridge 2017). We

analysed the effect of both mode-specific attitudes and travel-liking attitudes on trip satisfaction. Mode-specific attitudes have a significant positive effect on trip satisfaction when using that particular mode. Trip satisfaction of car users, for instance, is positively affected by a positive stance towards car use (De Vos et al. 2016). Furthermore, travel-liking attitudes also have a significant impact on trip satisfaction. People with a negative stance towards travelling in general (e.g., people perceiving travel time as wasted time), have significantly lower levels of trip satisfaction compared to people who like – or at least do not dislike – travelling (De Vos and Witlox 2016).

We found higher levels of travel satisfaction for suburban respondents compared to urban respondents, and this for all travel modes. However, when controlling for other variables (such as socio-demographics, attitudes and trip characteristics), residing in an urban neighbourhood only has significant negative effects on trip satisfaction for car and public transport users, possibly due to congestion levels in urban areas. Higher levels of travel satisfaction of suburban respondents can partly be explained by the fact that elements like age, travel distance, household income and driver's license possession are all higher, on average, for suburban residents than for urban residents, and that satisfaction tends to be higher for those with higher values on those variables (De Vos et al. 2016).

Previous studies have indicated that both the residential location and travel-related attitudes have an important effect on travel mode choice. However, these attitudes can also affect mode choice indirectly, through the residential location choice (De Vos et al. 2012; Handy et al. 2005; Schwanen and Mokhtarian 2005). People with a preference for car use, for instance, will probably also have a preference for living in a suburban-style of neighbourhood, which are mostly designed to be well-accessible by car. As a result, it can also be argued that people try to select themselves in neighbourhoods enabling them to have satisfying trips (Cao and Ettema 2014; De Vos and Witlox 2016). However, due to elements such as income, distance to work and varying preferences within households, people might end up residing in a (non-preferred) neighbourhood which does not enable them to travel in a desired way. Consequently, these people might be less satisfied with their performed trips. Results of this study indicate that not living in the desired neighbourhood – based on travel-related attitudes – can reduce travel satisfaction levels. Urban residents with a preference for car use and suburban environments have significantly lower levels of travel satisfaction compared to urbanites with a preference for active travel, public transport and an urban setting. For suburban residents, however, travel satisfaction levels do not significantly differ according to travel-related attitudes and preferences (De Vos et al. 2016).

RQ2: What are the possible outcomes of travel satisfaction?

Travel satisfaction is often regarded as the outcome of certain trip characteristics (e.g., trip duration) and travel-related choices (e.g., travel mode choice). However, what is often neglected is that satisfaction with trips might also affect future travel

behaviour. To the best of our knowledge, only the effect of travel satisfaction on travel mode choice has been analysed so far. The limited studies that have explored this relationship indicate that the frequency of choosing a certain mode is positively affected by satisfaction with previous trips using that particular mode (Abou-Zeid and Ben-Akiva 2012; Beirão and Cabral 2007; Reibstein et al. 1980). This is in line with studies from Kahneman et al. (1997) and Kahneman and Krueger (2006), indicating that a retrospective evaluation of a past episode can affect the prospective choice of an alternative in order to maximise happiness. Although not analysed before, it is also plausible that travel satisfaction influences travel-related attitudes. Satisfying trips with a certain mode might result in a more positive stance towards that specific mode. In this study we analysed a cyclical process between travel mode choice, travel satisfaction and travel-related attitudes using a structural equation modelling approach. Results of this study, focussing on walking and cycling, indicate that the cognitive evaluation of walking and cycling trips – itself being highly affected by the experienced emotions during the trip – has a positive effect on the attitudes towards the respective mode. In turn, these attitudes have a positive effect on choosing to walk or cycle, respectively (De Vos et al. 2018). If this process repeats itself multiple times, positive reinforcement might generate scripted choice and habitual mode use.

Although not emperically analysed, it is also possible that travel satisfaction affects the residential location (choice). People who are not satisfied with their daily travel might also not be satisfied with their residential location as their residential neighbourhood – setting the parameters within which many travel choices are made for a considerable amount of time – might force them to travel in an undesired way. Car travel in urban areas might be hampered by congestion, car-free zones and limited parking space, while people living in suburban or rural areas might have to travel longer distances than desired, possibly with an undesired mode (i.e., the car). Therefore, low satisfaction with daily travel might result in low residential satisfaction and an increased intention to change the residential location in favour of a neighbourhood enabling people to travel in a desired way (De Vos and Witlox 2017).

RQ3: How is travel satisfaction related with long-term well-being?

Travel satisfaction can be regarded as short-term satisfaction (i.e., in case of a person's mood during trips) or medium-term satisfaction (i.e., in case of overall satisfaction with daily travel), and is related with long-term life satisfaction (De Vos and Witlox 2017). Life satisfaction is directly affected by medium-term domain satisfaction and both directly and indirectly affected – through domain satisfaction – by short-term emotional well-being (i.e., the experience of positive emotions). As a result, travel can have an important impact on life satisfaction. However, besides direct effects of travel satisfaction on life satisfaction, it is also possible that travel influences life satisfaction indirectly. Since participating in out-of-home activities has a clear impact on life satisfaction (Abou-Zeid and Ben-Akiva 2012; Diener

2000; Lyubomirsky et al. 2005), travel has an important indirect effect on satisfaction with life. In case of social exclusion, for instance, where a lack of travel options makes it impossible to engage in rewarding activities, a person's well-being will be negatively affected (e.g., Currie et al. 2009; Lucas 2012). Furthermore, spill-over effects of the (perceived) quality of the trip on the performance and perception of the activity at the destination of the trip are possible (Bergstad et al. 2011; De Vos et al. 2013; Ettema et al. 2010). A stressful trip, for instance, might lower satisfaction with the upcoming activity and can therefore dampen the activity's well-being enhancing effect. On the other hand, travel time can give travellers the opportunity to mentally prepare for the activity ahead, facilitating the performance of that activity (Jain and Lyons 2008; Mokhtarian and Salomon 2001). Besides these bottom-up effects from short-term and medium-term satisfaction on long-term life satisfaction, it is also possible that top-down effects exist in which people with high levels of life satisfaction experience more frequent positive emotions compared to people with lower levels of life satisfaction. As a result, people evaluating their life positively would have a higher probability of being satisfied with their trips, compared to people with a lower life satisfaction.

In order to analyse the relationships between travel and well-being, we used a structural equation modelling approach. In this model, both top-down and bottom-up effects between long-term life satisfaction and short-term satisfaction with the most recent leisure activity and the foregoing trip were analysed, next to the effect of trip satisfaction on satisfaction with the leisure activity at the destination (De Vos 2018). Results indicate that spill-over effects exist from satisfaction with the trip preceding a leisure activity on satisfaction with that activity. The experienced emotions during the leisure activity are strongly affected by the mood during the foregoing trip, while the evaluation of this activity is affected by the evaluation of that trip.[1] Furthermore, results suggest that satisfaction with out-of-home leisure activities has an important effect on life satisfaction, while satisfaction with the trip towards this activity mainly has an indirect effect on life satisfaction, through leisure activity satisfaction. Although significant effects have been found from a positive mood during trips on life satisfaction, the effect of travel on life satisfaction is mainly indirect, by enabling activity participation and by spill-over effects on these activities. This might not come as a big surprise as leisure activities are often performed to satisfy certain needs and maintain or enhance well-being, while travel is mostly a derived demand; in this case to enable participation in leisure activities. Besides effects of satisfaction with short-term activity episodes on longer-term life satisfaction, results also indicate a strong positive effect of life satisfaction on both travel satisfaction and activity satisfaction (De Vos 2018).

[1] It has to be noted that our data does not make it possible to analyse how long spill-over effects last. As a result, we do not know, for instance, if a stressful trip towards a leisure activity negatively affects the perception of the rest of the leisure activity or if only the beginning of the activity will be negatively affected.

8.5 Discussion and Conclusion

Based on the results found from the 2012 data sample from Ghent, Belgium, it can be argued that travel satisfaction is both influenced by – and in itself affects – multiple travel-related elements. As a result, it is possible that travel satisfaction plays a central role in a continuous cyclical travel process (Fig. 8.2). Travel satisfaction is affected by life satisfaction, the residential location, travel-related attitudes and trip characteristics, while on the other hand it also affects these four elements (De Vos and Witlox 2017).[2] Furthermore, satisfaction with the activity at the destination of the trip – which is related with life satisfaction – is also influenced by travel satisfaction. In this continuous cyclical process, the perception of every trip can slightly affect life satisfaction, residential location preferences, travel attitudes and

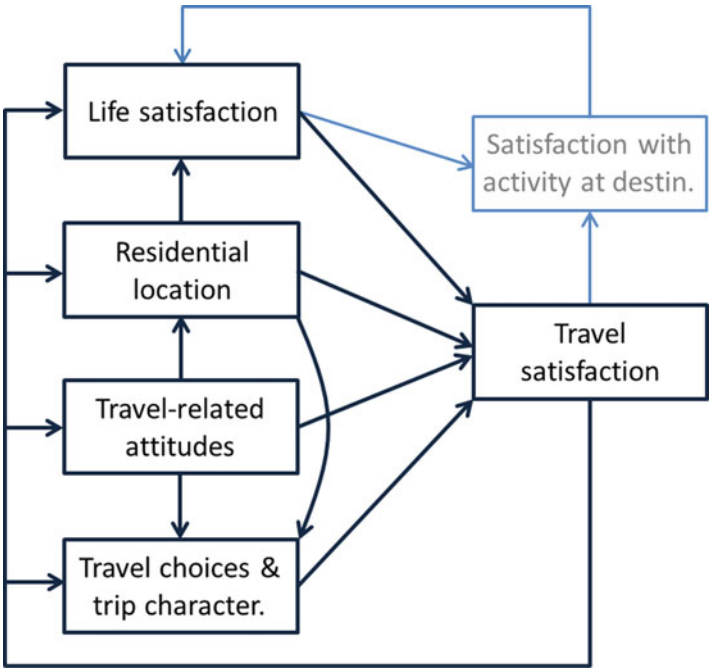

Fig. 8.2 The central role of travel satisfaction in a travel behaviour process (Based on De Vos and Witlox 2017)

[2]Life satisfaction, residential location, travel-related attitudes and travel choices/outcomes are also related with each other (for more information, see De Vos and Witlox 2017). Travel-related attitudes have an impact on travel choices (e.g., travel mode choice), both direct and indirect through the residential location (choice) (i.e., residential self-selection). Furthermore, it is also possible that the residential location (directly) affects life satisfaction.

(future) travel-related choices/outcomes (e.g., travel mode (choice)), four elements which play a role in the perception of future trips. The process shown in Fig. 8.2 is therefore not an isolated process, but a process repeated every time a trip is made (De Vos and Witlox 2017).

The process described above and shown in Fig. 8.2 may play a crucial role in possible habit formation. Travel-related choices, such as destination choice, route choice and especially travel mode choice, often have a repetitive character. For instance, if people choose the same mode over and over again it is possible that behaviour has become habitual and that people choose the same alternative – that satisfied their needs in previous decision making – without a deliberate decision process (i.e., a decision based on attitudes and intentions) (Aarts et al. 1998; Verplanken et al. 1997). However, always choosing the same travel mode for a certain type of trip may not always be the results of habits, but can be the outcome of repeated decision-making processes. According to Triandis (1977), the relationship between habits and deliberate choice making (based on behavioural intentions) is reciprocal: the stronger the determinant habit is, the weaker the determinant intention is, and vice versa. As a result, the role of attitudes in our proposed process (Fig. 8.2) will depend on how habitual travel decisions are. In case, for instance, travel mode choice is a deliberate choice, attitudes play an important role in the process between attitudes, mode choice, residential location and travel satisfaction. In case mode choice has become habitual, the role of attitudes in this process becomes limited and people will most likely repeat past satisfying behaviour (De Vos and Witlox 2017).

Although the used data and found results from this study have provided valuable insights in the research domain of travel and well-being, we feel that this research can benefit from (i) longitudinal data, (ii) qualitative data, (iii) real-time measures, (iv) data from other regions, (v) a focus on satisfaction with travel in general, and (vi) a focus on other trip purposes. First, using longitudinal data makes it possible to capture changes in people's attitudes, behaviour and satisfaction levels, and can consequently provide new insights in the (possible) formation of travel habits. Furthermore, longitudinal data also improves the identification of causal relationships. Second, qualitative research can help explain findings from quantitative studies. Applying in-depth interviews can tell us, for instance, why public transport users perceive trips so negatively or why the effect of travel time and trip distance is different for varying travel modes, which is rather unfeasible with quantitative data. Third, repetitive real-time measures of people's emotions before, during and after a trip – e.g., a few times during the activity at the destination – might provide researchers with detailed information on how emotions developed during a trip flatten out afterwards. Real-time information – possibly gathered by smartphone surveys (Ettema and Smajic 2015; Friman et al. 2017) – also has the benefit that (potential) memory distortions will be avoided and people will not as much relate or confound trip satisfaction with the liking for the activity at the destination of the trip, as might happen when applying a single retrospective method asking information about travel satisfaction (and activity satisfaction) after the activity episode(s) have taken place. Fourth, although the insights from this study are not only of interest for the city of Ghent (as our rather large data set makes it possible to estimate specific

relationships among multiple variables with ample confidence), it might be interesting to conduct a similar study in regions with other mobility cultures, where general attitudes towards certain modes might be different and where certain amenities (e.g., cycling infrastructure) might be lacking. Fifth, analysing satisfaction with daily travel – instead of satisfaction with one specific trip – might result in a stronger and perhaps more realistic link between travel satisfaction and travel behaviour as people's attitudes towards a specific mode, for instance, are formed by the perception of multiple previous trips and not only the most recent one. Finally, focusing on trips and succeeding activities other than leisure might result in different outcomes as they might have different characters. For instance, commute trips and work activities – mostly having a rather mandatory and invariable character – might have different satisfaction levels with trip and activity and different spill-over effects from the commute trip on the work activity.

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