

# THE INFLUENCE OF TRAVEL, RESIDENTIAL LOCATION CHOICE AND LEISURE ACTIVITIES ON WELL-BEING

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**ABSTRACT:** Well-being has recently found acceptance in mobility studies. Travel can influence well-being in numerous ways, going from feelings experienced during travel to participation in activities facilitated by travel. However, most of these studies have emphasized on experienced feelings and moods and levels of satisfaction. This is however only one approach to well-being. Other approaches, stressing (among others) on achieving important goals in life and strengthening social bonds have only received limited attention. Besides, longer term perspectives (e.g., residential location choice and daily activity patterns) have not been included in the analyses. In sum, there is still a lot of space for future research.

## INTRODUCTION

Travel and well-being seem rather unrelated objects. However, travel can affect well-being in various ways. First of all, individuals can have positive or negative feelings when travelling. For instance, a car driver stuck in a traffic jam can experience stress and impatience. However, when travelling in a peaceful environment relaxing and joyful feelings can get the upper hand. However investigated most in travel studies, feelings experienced during travel are only the tip of the iceberg; it is the first thing we think of in the link between travel and well-being, but in fact there is a lot more going on. Our daily activities are not located at the same place but are scattered around a certain activity space. Therefore we need to travel in order to be able to participate in these activities. Since participating in activities gives the opportunity to be satisfied, strengthen social bonds and realize certain personal goals, travel can increase well-being through the participation in activities. Not being able to participate in activities (social exclusion) due to travel limitations can consequently have a profound negative effect on well-being. However, not only the participation in activities is made possible by travel, but also the quality of these activities can be influenced by travel. A stressful travel to an activity can negatively affect the execution of that activity resulting in a reduced possibility of increasing well-being. Not all activities however, are executed at the destination of a trip. Some activities, especially relaxing activities (e.g., reading, listen to music) are performed while travelling. Travelling occupies a non-negligible part of our daily time, which people will try to use to perform possible activities. In some cases, the trip itself is more important than reaching the location; travel is not a way to participate in activities, travel is the activity. For instance, joyriding and recreational walking, jogging and cycling, can give (among other beneficial aspects) a feeling of satisfaction. Less obvious is that potential travel can also have an influence on aspects of well-being. Having a lot of travel options (e.g., owning a car, living close to a public transit network) gives a feeling of freedom and gives people the idea that they are more capable of realizing certain goals. In this paper we will give an overview of studies concerning travel and well-being. It will give a summary of all the possible ways in which travel can affect well-being. We also will go into deeper detail on the well-being part; different aspects of well-being will be discussed. Finally, we will also focus on longer term perspectives and policy implications regarding travel and well-being.

## LITERATURE REVIEW

Previous research on travel and well-being has mainly focused on travel satisfaction (feelings experienced during travel) and the relationship of travel with the participation in activities. According to Ettema et al. (2010), travel affects well-being in three ways: (1) the positive or negative affects experienced during travel itself; (2) the fact that travel

facilitates engagement in activities, which itself helps one to improve his/her well-being; and (3) the fact that the organization of travel has implications for the amount of stress with which activities are performed. In the remainder of this paper we will combine the second and third way in a section called 'activities facilitated by travel'. According to us however, travel can also affect well-being in other ways. For instance, activities can be conducted during travel or travel can be an activity in itself. Besides, potential mobility or the ability to be mobile can give a sense of freedom, increasing well-being. The preceding literature review will analyze these aspects and is composed of following sections: (1) feelings experienced during travel; (2) Travel facilitated activities; (3) Travel as activity and activities during travel and; (4) Potential travel.

### ***Feelings experienced during travel***

Previous studies on positive or negative affects experienced during travel itself are rather limited. Ettema et al. (2011) compared commute travel satisfaction of car trips with different kinds of bus trips (differences in travel time and accessibility to bus stops). Travel satisfaction was higher among people travelling by car. Respondents travelling by bus experienced a lower travel satisfaction. However, satisfaction differed with different kinds of bus trips. Shorter travel times and higher access to bus stops increases travel satisfaction. Car users also experienced a more positive mood during the day. However, the mood during the day of bus users with the most attractive bus conditions (short travel times and high access to bus stops) is almost just as high as car users. Car users also experienced a higher level of satisfaction with life (on days they travelled) in comparison with bus users. This demonstrates a relationship between the experienced quality of travel and overall well-being. Although car users have a higher satisfaction with travel and life in general, this study indicates that travel conditions (e.g., public transport services) can influence travel satisfaction and, as a consequence, evaluations of life as a whole. Olsson et al. (2012) found the same results for commuting by car and commuting by public transit. Travelling by car gives a higher degree of travel satisfaction than travel by public transit. However, they also included walking and cycling (active travel) into the analysis, concluding that active travel contributes more to satisfaction with the work commute than public transit and driving. Abou-Zeid (2009) on the other hand, states that individuals who commute by car have a lower travel satisfaction than commuters who travel by public transport or with non-motorized travel. Car users experience less enjoyment and more stress, anxiety, impatience and anger while commuting. Besides, public transport allows for engagement in activities (e.g., talking to others), resulting in positive feelings. Similar to Olsson et al. (2012), they also found greater travel satisfaction of people travelling with non-motorized travel. It seems consequently that active travel contributes more to travel satisfaction than non-active travel. This could be partly explained by the desirable physical exercise which walking and cycling provide (having beneficial effects on both physical and mental well-being). Besides, promoting active travel can also help against the growing problem of increasing obesity and coronary diseases in most western countries (Olsson et al., 2012; Penedo and Dahn, 2005). Abou-Zeid (2009) also states that increasing the possible ways of travelling will increase travel satisfaction. Offering temporary free public transit passes to commuters who normally travel by car, does not only increase the use of public transit, it will also result in a higher travel satisfaction of car users. Individuals who decide to continue commuting by car, are probably more convinced of the choice to use the car. Individuals who switched to commuting by public transport (once in a while), initially commuted by car probably due to strong general car habit, and not because they have a preference for car use (Verplanken et al., 1997). Due to temporary free public transit passes they are more aware of their travel options. Since they now make more use of their preferred travel mode, this will positively influence their travel satisfaction and their evaluation of life as a whole.

### ***Travel facilitated activities***

Certain types of intentional activities offer ways to achieve sustainable changes in well-being (Lyubomirsky et al., 2005). If people are engaged in interesting or rewarding activities, they will feel more pleasant than unpleasant emotions, which can result in an improvement of life satisfaction (Diener, 2000). Therefore, travel does not only have a direct influence on well-being, it also affects well-being through the participation of certain activities (e.g., work, leisure) and the perceived quality of these activities. People travel because it gives them the opportunity to participate in daily activities. This activity-based approach emphasizes that the availability of travel options is an important determinant of

how individuals and households schedule their activities in time and space (Axhausen and Gärling, 1992; Ettema et al., 2010; Ettema and Timmermans, 1997). Individuals with limited travel options (e.g., low income groups, mobility-impaired elderly and people living in remote neighborhoods) may consequently not be able to participate in their preferred activity. Therefore, they have to participate in activities which give them less satisfaction, or they will not participate in any activity at all (social exclusion). Such an exclusion from activities can result in distress with people since travel gives people the ability to access key life enhancing opportunities, such as employment, education, health and their supporting social networks (Eisenberger et al., 2003; Lucas, 2012). Recent (Australian) studies investigating the relationship between transport disadvantage, social exclusion and well-being found no direct link between transport disadvantage and well-being. Travel disadvantage does however, have a negative indirect link with well-being, through social exclusion, which has a strong negative link with well-being. It are especially vulnerable/impaired persons (e.g., older females, individuals with a low income) who deal with social exclusion and a reduced well-being (Currie et al., 2009, 2010; Delbosc & Currie, 2011). Besides, people can get forced to travel with a travel mode which is not preferred. Elderly people who are no longer able to drive, are being forced to use alternative ways to travel. Rural residents can be forced to use the car since public transit is limited and distances are too long to walk and cycle. There appears to be a relationship between travel options and activity engagement, implying that changes in characteristics of travel options will affect the ease with which activities are carried out, which may affect well-being (Ettema et al., 2010). Not only the participation in activities, but also the way activities are executed affects well-being. Stress, time-pressure and hassles increase negative mood. They decrease the control over activities and have a negative effect on life satisfaction. This suggests that improvement in travel options, such as shorter travel and waiting times, will result in less time-pressure, more efficient and less stressful performance of activities and a resulting increased well-being. According to Abou-Zeid (2009), travel satisfaction can vary across different types of (leisure) activities. Travel satisfaction is highest for activities where individuals experience a high level of happiness when conducting that activity (e.g., eating out). This suggests that travel satisfaction does not only affect satisfaction during activities; the stance toward certain activities also influences travel satisfaction when travelling to these activities.

### ***Travel as activity and activities during travel***

In most cases, trips are being made in order to participate in certain activities (activity-based approach). However, this is not always the case; the demand for travel is not always as derived as commonly accepted. For some trips, travel in itself is more important than reaching the destination. Most of these trips are leisure activities (e.g., joyriding, recreational walking/jogging/cycling). The sensation of speed, the exposure to the environment and the enjoyment of scenic beauty are the main goal of travel. However, it can also be the case that the demand for an activity may arise as a consequence of the desire to travel. For instance, people can decide to eat out instead of staying at home because they have a desire to get out and go somewhere. The destination/activity becomes an excuse or justification for the desired travel; the trip generated the activity. Travel has become the main activity itself. Besides, well-being increasing activities can also be conducted while traveling. Traveling time is often used to relax, think, read or listen to music. These “anti-activities” often give individuals the opportunity to settle down mentally and escape daily life. Commuting to work, for instance, is often regarded as a desired transition between home and work, which allows for types of activities described above. Cycling and walking also have the additional benefit of physical exercise while traveling (Mokhtarian and Salomon, 2001).

### ***Potential travel***

Previous literature review deals with effective travel behavior. However, potential travel behavior can also play an important role. Being able to travel in a desirable way will positively affect well-being. For instance, driving cessation among elderly can decrease well-being since it reduces the feeling of independence and autonomy and increases a feeling of imprisoning. So it is not only a reduction in actual mobility (e.g., leading to a reduction in social contact and participation in rewarding activities) that negatively affects well-being, but also a reduction in potential mobility (Ziegler and Schwanen, 2011). This can be partly explained by the capabilities approach. This approach, originated from the work of Sen (1993) states that well-being is linked with freedom and being able to live the preferred life. So not being

able to travel as preferred (e.g., due to driving cessation) can restrict freedom and decrease well-being. The ability to be mobile can also be referred to as motile (Kaufmann et al., 2004; Flamm and Kaufmann, 2006). Motility relates to three elements: access (the range of possible mobilities according to place, time and other contextual constraints); competence (skills and abilities necessary to travel); and appropriation (the way individuals interpret and act upon perceived or real access and skills). Individuals who possess a high degree of all three aspects (for instance a person owning a car, being able to ride a bicycle and is receptive to all sorts of transportation modes) will be very motile, resulting in a wide range of travel opportunities, a feeling of freedom and an increased well-being. The potential of movement can also be expressed as a form of capital. Kaufmann et al. (2004) refer to movement capital as the potentiality of movement, whereas Urry (2007) refers to network capital as the capacity to engender and sustain social relations facilitated by travel. A decrease in this capital can, just as a decrease in other kinds of capital (e.g., economic capital), bring along a decrease in well-being.

## **DISCUSSION AND FUTURE RESEARCH**

Previous research on travel and well-being has mainly focussed on experienced feelings and moods and levels of satisfaction (during travel or activities facilitated by travel). However, there is more to well-being than just satisfaction. Achieving important goals in life and strengthening social bonds are also important factors of well-being. These factors can also be affected by travel; travel can facilitate activities which increase self-development and social bonds. In this part we will discuss the different aspects of well-being and give an overview of how travel can affect well-being, using a theoretical model incorporating long term perspectives. Finally we will take a look at the policy implications.

### ***Hedonic and eudaimonic well-being***

There exist two main approaches to well-being: a hedonic approach and a eudaimonic approach. The hedonic stance on well-being is based upon the idea that the experienced happiness or pleasure, through the satisfaction of preferences, is the basis of well-being. On this view, people will try to maximize their well-being by satisfying their (daily) needs. However, satisfying certain desires will not necessarily result in an improved well-being. For instance, eating large amounts of sweets on a regular basis may produce moments of happiness. However, it might lead to bad health and unhappiness on the long run. This indicates the importance of time on well-being, which is only partly incorporated in the hedonic view of well-being (Nordbakke and Schwanen, 2012; Ryan and Deci, 2001). Well-being is more than just satisfying certain needs. According to Maslow (1968), satisfying daily needs is just a starting point in satisfying more advanced, emotional and social needs, such as self-actualization and transcendence. Only by satisfying these advanced needs, an increase in quality of life or well-being can be realized. The eudaimonic stance on well-being incorporates these advanced needs. In his *Nichomachean ethics*, Aristotle considers hedonic happiness to be a vulgar idea, making humans slavish followers of desires. According to him, true happiness could be found in the expression of the virtue, in doing what is worth doing and realizing the best thing within oneself, or one's true potential, also referred to as flourishing (Nordbakke and Schwanen, 2012; Ryan and Deci, 2001; Ryff and Singer, 2008). Hedonic well-being (and the subjective well-being (SWB) approach in particular) consists of three components: The presence of positive feelings; the absence of negative feelings and overall satisfaction with life. The first two components are often referred to as affective components; they detect self-reported emotions or moods during an episode or activity. Overall satisfaction with life is referred to as the cognitive part of hedonic well-being. The eudaimonic approach to well-being (and especially the psychological well-being (PWB) approach in particular), can be seen as the striving for perfection that represents the realization of one's true potential (Ryff, 1995). It accentuates the importance of life meaning and personal growth for sustained well-being. It supports that factors such as life purpose, opportunities for growth and realizing the best thing within thyself, and having positive relationships are important for well-being. According to Ryff (1989) and Ryff and Singer (2008) PWB is composed of six core dimensions, each of which representing frequently endorsed aspects of what it means to be healthy, well and fully functioning: self-acceptance, positive relations with others, personal growth, purpose in life, environmental mastery and autonomy.

## ***Incorporating long term perspectives***

Not all activities that individuals take part in are satisfying. Some activities, such as working, doing groceries or chauffeuring children to/from school may not bring along positive feelings and satisfaction (hedonic well-being). However, not conducting these activities can negatively affect well-being on the long run. In fact, individuals have a daily activity pattern, a set of activities individuals need to conduct in order to maximize their well-being on the long run (eudaimonic well-being). However, individuals are faced with the inseparability and scarce nature of space and time (Neutens et al., 2011). Besides, daily life is becoming more complicated; the types of activities increase (e.g., leisure activities) and everyday life spaces are located farther apart. This results in tighter schedules in terms of space and time, with aspects such as travel and activity organization becoming deciding factors in quality of life (Flamm & Kaufmann, 2006). The built environment can influence the ability of realizing the daily activity pattern. According to Ritsema van Eck et al. (2005), individuals living in high-density environments are more capable of realizing their daily activity program in comparison with individuals living in low-density suburbs (for all modes of transport), due to shorter distances and a higher accessibility. This can positively affect well-being of urbanites, in comparison to suburbanites. The residential location choice can consequently affect well-being. This choice is affected by travel; people will self-select a certain neighborhood which enables them to travel as much as possible with their preferred travel mode (residential self-selection). A person who prefers public transit, for instance, often has an affinity for urban residential neighborhoods, as public transit is best organized in these urban areas (De Vos et al., 2012; Handy et al., 2005; Schwanen and Mokhtarian, 2005; van Wee, 2009). Not being able to reside in the preferred neighborhood (residential dissonance; due to constraints such as distance to work and income) can result in short-term dissatisfaction (since the preferred travel modes are not ideally available in the chosen neighborhood) and a reduced well-being in the long run (since a reduced travel satisfaction can negatively affect well-being). Motility and movement capital can partly explain the link between the chosen neighborhood, travel and well-being. A certain neighborhood has specific constraints in accessibility (the first aspect of motility) and will reduce the movement capital of inhabitants. Besides, the third aspect of motility (appropriation) is important, especially for dissonant residents. In some cases these individuals will exclude certain disapproved travel modes as a matter of principle, declining their movement capital. This can result in participating in less satisfying activities or no activities at all, resulting in a reduced well-being. Previous literature review and the current discussion enable us to develop a theoretical model of all the links between travel and well-being (Fig. 1). According to us, the long-term decision of the residential location can affect the potential travel behavior. The travel-related attitudes, where the residential choice is (partly) based upon, and the physical constraints/abilities (accessibility) of the chosen neighborhood will affect potential travel. This potential travel can directly affect well-being (due to feelings of freedom), but can also influence activity patterns of individuals. A limited movement capital can result in less (or no) participation in certain rewarding activities, negatively affecting well-being. All the possible activities related to travel (travel facilitated activities, activities during travel and travel as activity) are also related with feelings experienced during travel; negative feelings (e.g., stress) during travel can negatively affect the executed activity; while a negatively perceived activity can bring along negative feelings while travelling. In both cases, well-being can be negatively affected. This theoretical model also indicates that travel affects both eudaimonic well-being (especially long-run aspects such as self-development) and hedonic well-being (especially short-term satisfaction). Future travel research consequently needs to withdraw both types of well-being into an overall well-being.

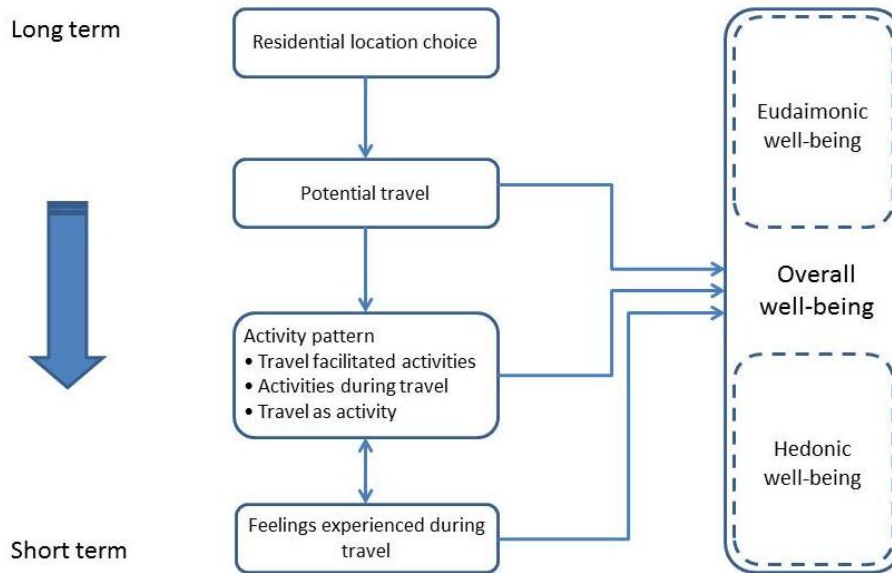


Figure 1. Theoretical model of links between travel and well-being

## Policy implications

Not only the relationship of short-term versus long-term well-being is important, also the relationship between individual versus social well-being is essential. Policy makers will try to maximize well-being of people. However, improving well-being of a car loving person, by giving him/her the opportunity to travel by car as much as possible will result in a reduced social well-being, since car use brings along congestion and air pollution. In order to increase travel satisfaction (and the related overall well-being) and decrease congestion and air pollution, it seems that policy makers need to do two things: (i) making public transit more satisfying and (ii) making people more able to walk/cycle to their destination. Ettema et al. (2011) have indicated that long travel time and especially long waiting/walking time negatively influences travel satisfaction and satisfaction with life. Improvements of public transit services, by increasing accessibility and especially increasing the frequency of public transit could consequently positively influence (hedonic) well-being. Since active travel contributes most to well-being (Abou-Zeid, 2009; Olsson et al., 2012) it is important to make active travel more promising by decreasing travel distances. This is where spatial planning gets into play. Increasing density and diversity will decrease travel distances. It will also decrease social exclusion, since car possession and a widespread public transit are no longer necessary to participate in a certain amount of activities. Besides, it will increase the ability of people to realize their daily activity pattern. A design oriented toward non-motorized travel can further increase travel satisfaction of walking/cycling. Improvements of public transit services and improvements in spatial planning can be combined to a certain degree. Transit Oriented Development (TOD), for instance, where the development of housing, employment, activity sites and public services is focused around existing or new public transit stops served by frequent, high quality and efficient intra-urban rail services (Cervero, 1998; Curtis et al., 2009), designed to create a relatively high density, compact and mixed urban form (Knowles, 2012; Loo et al., 2010) can (i) make public transit more satisfying (due to high quality accessibility and frequency) and (ii) make people more able to walk/cycle to their destination (due to short distances in the compact, mixed environment). Of course, further research is necessary.

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