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Tore Pedersen

Affective Forecasting: Predicting Future Satisfaction with Public Transport

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Predicting Future
Satisfaction with Public
Transport

Tore Pedersen. *Affective Forecasting: Predicting Future Satisfaction with Public Transport*

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*“As is your sort of mind,
So is your sort of search;
You’ll find
What you desire”*

Robert Browning

*“Man is a creation of desire,
Not a creation of need”*

Gaston Bachelard

*To my wife, Bente, and my sons, Bastian, Joachim and Theodor for being the
light(ning) in my life*

Licentiate Thesis: Affective Forecasting: Predicting Future Satisfaction with Public Transport.

Tore Pedersen, Department of Psychology, Karlstad University, Sweden.

Abstract

Affective forecasting refers to the process of predicting future emotions in response to future events. The overall aim of the present thesis was to investigate, by applying the framework of Affective forecasting, how car users predict their satisfaction with public transport services. Study 1, Part 1 revealed a satisfaction gap between users and non-users of public transport, whereby non-users reported lower satisfaction than users, in overall satisfaction as well as in two quality factors resulting from a factor analysis of a major survey on satisfaction with public transport. It was hypothesized that non-users were biased in their satisfaction reports, something which was subsequently investigated in Study 1, Part 2, where a field experiment revealed that car users suffer from an impact bias in their predictions about future satisfaction with public transport due to being more satisfied with the services after a trial period than they initially predicted they would. Addressing the question of whether or not a focusing illusion is the psychological mechanism responsible for the impact bias, two experiments containing critical incidents were conducted during Study 2, in order to investigate whether or not car users exaggerate the impact of specific incidents upon their future satisfaction with public transport. For car users with a stated intention to change their current travel mode, in Study 2, Part 1, as well as for car users with no stated intention to change their travel mode, in Study 2, Part 2, the negative critical incident generated lower predicted satisfaction with public transport, in support of the hypothesis that the impact bias in car users' predictions about future satisfaction with public transport is caused by a focusing illusion.

Keywords: Affective forecasting; predicted satisfaction; impact bias; focusing illusion; public transport

This thesis is based on the following two research papers, which will be referred to throughout the text using Arabic numerals:

- 1 Pedersen, T., Friman, M. & Kristenson, P. (In press). Affecting Forecasting: Predicting and Experiencing Satisfaction with Public Transport. *Journal of Applied Social Psychology*.
- 2 Pedersen, T., Kristenson, P. & Friman, M. (2009). Effects of Critical Incidents on Car Users' Predicted Satisfaction with Public Transport. Manuscript submitted for publication.

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Introduction

Car usage in Western Europe has grown substantially during recent decades, with a per capita increase in passenger kilometres of as much as 90 percent (Gifford & Steg, 2007; Jakobsson, 2004). Extensive use of the car as a means of transportation brings many positive effects to the individual user. The car makes it easier for individuals and families to meet their needs and obligations; e.g. working, shopping, and social arrangements. The car user is also, in general, quite satisfied with the independence and flexibility that his/her car represents, in relation to his/her need to travel (Steg, 2003; 2005).

On the other hand, car use entails many negative effects for society as a whole. General pollution, noise, and congestion in cities and main arteries during peak hours all represent a growing problem. There is general agreement among politicians and researchers to call for a reduction in car use in order to eliminate some of these negative effects (Steg, 2003). Because the environmental impact of car use is generally severe (Van Wee, 2007), particularly in urban regions where it represents a threat to urban life (Gifford & Steg, 2007), and because there is presently no immediate sign that car use will stop increasing (Sperling & Gordon, 2009), it is important to explore new approaches to understanding the psychological mechanisms related to travel mode choice. Previous research suggests that intervention is not likely to change car users' travel behavior (e.g. Shannon et al., 2006). For example, longer travelling times are often identified as an important obstacle to increasing public transport use. However, a minority of car users state that they are willing to switch to public transport if services are improved, something which entails shorter travelling times, increased service frequencies, and lower fares (Curtis & Headicar, 1997; Eriksson, Friman & Gärling, 2008; Kingham, Dickinson & Copsey, 2001).

Although service organizations seem to be putting a lot of effort into continuously improving their services, one difficulty may still be that people are generally unable to accurately predict the impact of future events on their future

emotions (Ayton, Pott & Elwakili, 2007; Buehler & McFarland 2000; Schkade & Kahneman 1998; Ubel, Loewenstein & Jepson, 2005; Wilson & Gilbert, 2003; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). Consequently, car users' may not be able to predict their future satisfaction with public transport services.

It would, of course, be an advantage if people were able to make choices and decisions, based on rational judgments, which were certain to lead to a desirable outcome. However, this is unfortunately not the case, as many everyday judgments may be systematically biased (Gilovich & Griffin, 2002). Furthermore, many marketing techniques are outmoded, and do not provide managers with the information they need (Burke, 1996). Thus, when approaching car users in an attempt to make them switch to public transport, one may fail if one assumes that car users employ strict rational judgments when contemplating a switch of travel mode.

In this thesis, it is suggested that car users' reluctance to switch their transport mode is based on biased predictions about their future satisfaction with public transport. This implies that car users with a strong car-use habit misjudge the extent to which alternative means of transportation would satisfy their travel needs. Consequently, if people are unable to accurately predict their future satisfaction, knowledge about the psychological mechanism responsible for these mispredictions is likely to aid authorities and companies in planning and implementing future policies and marketing campaigns. In terms of the context of public transport, policies and campaigns aimed at increasing use of public transport can then be more goal-oriented as regards countering the adverse effect of these psychological mechanisms.

The present thesis aims to understand car users' evaluations of public transport by viewing them in the light of affective forecasting. More specifically, it is concerned with car users' predictions about their future satisfaction with public transport. The two studies included focus on discrepancies between car users' predictions and their actual experiences, as well as how these mispredictions can be psychologically explained.

In the following section, an overview is presented of the research into affective forecasting, also containing a brief overview of satisfaction research. There then follows a subsection which provides an explanation of the impact biases of affective forecasting, containing an introduction to the focusing illusion as an explanation for the biases. Finally, the empirical studies are summarized and discussed.

Affective Forecasting

The present thesis aims to investigate car users' predictions of their future satisfaction with public transport by applying the framework of affective forecasting.

The process of predicting future emotions in response to future events is termed affective forecasting (e.g. Wilson & Gilbert, 2003). Generally, people want to be able to predict whether they will be satisfied or dissatisfied with the decisions they make, as well as how satisfied or dissatisfied they will be, because they believe that satisfaction with various parts of their lives, or with various purchases, makes them happy and thus enhances their subjective well-being. An evaluation of previous research into affective forecasting shows that various emotions (e.g. satisfaction, joy, disgust, anger, fear) and overall emotional states (e.g. quality-of-life, well-being) have been in focus. This thesis concerns itself with how car users predict their future satisfaction as regards using public transport services.

Satisfaction/dissatisfaction is a state resulting from comparisons between initial expectations and perceived service or product performance. It is characterized as having both affective and cognitive components. Thus, satisfaction/dissatisfaction contains a specific emotion and a cognitive appraisal of this emotion (Oliver, 1997). Experiencing satisfaction/dissatisfaction may furthermore entail varying degrees of arousal, e.g. ranging from contentment to elation, in the case of a pleasurable experience. Confirmation of expectations

will lead to either satisfaction or dissatisfaction. Disconfirmation of expectations, however, will lead to either satisfaction or dissatisfaction on the basis of whether the level of positive or negative expectations is high or low (Oliver, 1997).

Previous research into satisfaction (e.g. Bolton & Drew, 1991; Fornell, 1992; Westbrook & Oliver, 1991) underlines the importance of distinguishing between overall satisfaction and encounter satisfaction. Encounter satisfaction refers to satisfaction with single transactions or encounters with a product or service (e.g. Oliver, 1980; Oliver & Desarbo, 1988), whereas overall satisfaction (e.g., Bolton & Drew, 1991; Fornell, 1992; Westbrook & Oliver, 1991) refers to satisfying or dissatisfying encounters with a product or service over time. In both cases, satisfaction is either defined as an overall judgment of satisfaction or decomposed into satisfaction with performance or quality attributes.

Research into satisfaction is generally conducted by means of asking customers to report their degree of satisfaction with a product or service. Public transport is a service which aims to meet travel needs. However, people's choices regarding future behavior are often based on their former predictions about how different outcomes will make them feel (Loewenstein, O'Donoghue, & Rabin, 2003; Mellers, Schwartz, & Ritov, 1999; Wilson & Gilbert, 2003). Research into affective forecasting has revealed that people's predictions about their future satisfaction, in response to future events, are actually biased in that they generally exaggerate the effects of future events upon their future satisfaction. Thus, it is well established that people mispredict the impact of future events upon their future satisfaction when making affective forecasts (Schkade & Kahneman, 1998; Ubel & al. 2001; Ubel, Loewenstein & Jepson, 2005; Wilson & Gilbert, 2003; Wilson et al., 2000).

Mispredictions in affective forecasting (Ayton et al., 2007; Buehler & McFarland, 2000; Schkade & Kahneman 1998; Wilson et al., 2000; Wilson & Gilbert, 2003; Wilson & Gilbert, 2005) are generally caused by an impact bias, whereby people overestimate the impact of future events upon their future satisfaction. This impact bias is broken down into mispredictions about (a) the

intensity of future emotions (e.g. Buehler & McFarland, 2001), i.e. how strong or intense the emotions will be, and (b) the duration of the emotions (e.g. Gilbert et al., 1998; Wilson et al., 2000), i.e. how long the emotions will last after the event.

Instances of misprediction about the intensity or duration of emotions in response to specific situations or future events are abundant. For instance, people living in California are no happier than people living in other regions even though people tend to predict they will be (Schkade & Kahneman, 1998); receiving or not receiving desirable grades, as well as being granted or not being granted tenure, do not make people as intensely elated or miserable as predicted (Buehler & McFarland, 2001); and the obvious joy that supporters experience when their football team wins a game does not last as long as they predict (Wilson et al., 2000).

Related to satisfaction with public transport, it is possible that car users predict that their satisfaction with day-to-day travel will decrease when forced or persuaded to switch to public transport services. Furthermore, there is also a possibility of car users predicting that the impact of switching travel mode on their travel satisfaction will last longer than will actually be the case. If car users misperceive the quality of travel associated with different modes of transport, they will be likely to make suboptimal decisions as regards deciding between their cars and public transport.

Biases in Affective Forecasting: The Focusing Illusion

The focusing illusion is a mechanism known to generate biases in affective forecasting in that it makes people base their predictions on a few salient features which are perceived as being related to the future situation (Ayton et al., 2007; Schkade & Kahneman, 1998; Ubel et al., 2001; Ubel, Loewenstein & Jepson, 2005; Wilson et al., 2000). When basing their predictions about emotions and satisfaction on a few salient features, people may overlook other features which will also elicit emotions, and perhaps also other types of

emotions. Thus, people focus unduly on a few salient features and disregard other features in the future event. Consequently, the result may be satisfaction/dissatisfaction that is experienced less strongly and less durably than initially predicted.

The focusing illusion has been studied in previous research, e.g. in relation to how it would affect one's general well-being and happiness if one were to win the lottery (Ayton et al., 2007), become permanently injured or disabled (Ayton et al., 2007; Ubel et al., 2001; 2005), see one's football team win or lose a match (Wilson et al., 2000), receive favorable or unfavorable grades in exams (Buehler & McFarland, 2001), or move to another region with a more favorable climate (Schkade & Kahneman, 1998).

The general results from studies of transient (temporary) events, such as winning or losing a football game or receiving favorable or unfavorable grades in an exam, show that people tend to overestimate the intensity and duration of future satisfaction or dissatisfaction due to a focusing illusion (e.g. Buehler & McFarland, 2001; Wilson et al., 2000). However, with regard to predicting the emotional impact of future non-transient (permanent) events, such as becoming permanently disabled, the results are somewhat inconclusive. It has not conclusively been established whether or not the focusing illusion is the mechanism responsible for mispredictions in this domain, or whether failure to appreciate the process of adaptation may also serve as an explanation for the biases (Ayton et al., 2007; Ubel et al., 2005). A permanent change in travel mode may represent one instance of a future non-transient event as it implies a more or less permanent change in behavior. Thus, further research is called for in order to explore the effects and consequences of the focusing illusion (Ayton et al., 2007).

The focusing illusion has not yet been studied in relation to people who contemplate future behavioral changes, e.g. car users' predictions about their future travel satisfaction with other transport modes. An important question to ask is whether or not the focusing illusion hinders car users from making correct predictions about future satisfaction with public transport. A switch of

travel mode is not likely to dramatically affect an individual's life in the same way as becoming permanently disabled. However, it is likely to have a more substantial effect than, for instance, the transient outcome of a football game. Even if an improved public transport system were to be offered, it would probably still be the case that car users would have to make sacrifices, especially initially, due to the known difficulties of changing an acquired car-use habit (Fujii & Gärling, 2005).

Summary and Conclusions

Environmental and quality-of-life problems are associated with the ever-increasing use of cars. Consequently, policies and marketing campaigns are implemented which aim to increase public transport use. However, just how car users predict their future travel satisfaction with public transport has not yet been fully clarified. Car users' reluctance to switch to public transport may be caused by an impact bias, whereby they make inaccurate predictions about their possible future satisfaction with public transport usage and thus make non-optimal decisions about which specific travel mode will satisfy them. Henceforth, the focus of the present thesis will be on potentially biased predictions caused by the focusing illusion. The empirical studies summarized in the next section address this issue further, as applied to car users' predictions of their satisfaction with public transport.

Summary of Empirical Studies

Overview

The primary aim of the empirical studies was to investigate car users' predictions of their future satisfaction with public transport. The secondary aim was to investigate whether or not the focusing illusion is the mechanism responsible for satisfaction biases.

In Study 1, a survey was conducted to disclose potential discrepancies in satisfaction between users and non-users of public transport. Subsequently, an intervention, a trial passenger project, was carried out in order to investigate whether or not car users' actual experiences of public transport differed from their predictions of their future satisfaction with services, something which would imply an impact bias.

In Study 2, two experiments were conducted in order to investigate the possible existence of a focusing illusion.

*Study 1: Predicting and Experiencing
Satisfaction with Public Transport*

The aim of Study 1, Part 1 was to investigate whether or not non-users of public transport reported lower satisfaction levels than frequent users of services. In a major European survey regarding satisfaction with public transport, data collected in 2006 from 1000 respondents in and around Stockholm, Sweden was used. The survey consisted of 17 items related to overall satisfaction with services, as well as attribute-specific satisfaction, e.g. travel time, seat availability, whether or not vehicles were clean and modern, distance to nearest bus stop, safety onboard vehicles and at stations, and employee information and friendliness. A factor analysis (principal component analysis) of the items resulted in three factors, which were interpreted as reliability (travel time, waiting time, seat availability), comfort (cleanliness of vehicles, information, staff behavior, comfort), and safety (safety onboard and safety at stations). Comparisons, measured as independent t-tests, between non-users (those who traveled by public transport once a month or less frequently) and users (those who traveled by public transport more frequently than once a month) showed that non-users reported lower overall satisfaction and satisfaction with the reliability and safety of the services, but not with the comfort aspect. Based on previous research into affective forecasting, it was

hypothesized that non-users' reports of their satisfaction may be inaccurate due to an impact bias, which was subsequently investigated in Study 1, Part 2.

The aim of Study 1, Part 2 was to empirically examine whether or not habitual car users were able to accurately predict their future satisfaction with public transport. The sample consisted of 106 participants, all of whom used their cars as their primary travel mode to and from work, but who would also objectively be able to travel by bus or train as public transport services existed between their homes and workplaces and stops were within walking distance. The participants were recruited using radio spots, letters of invitation sent to workplaces, and visits to private homes by local transport authorities. The participants agreed to voluntarily use public transport to and from their workplaces. They signed a contract obligating them to use the services on a daily basis, receiving a free one-month ticket. The participants completed a web-questionnaire before, during, at the end of, and two weeks after their one-month period of using public transport. The results from repeated-measures MANOVA showed that the car users experienced greater satisfaction with public transport than they had predicted they would. Thus, the results support the hypothesis that car users mispredict their satisfaction levels due to an impact bias.

*Study 2: Effects of Critical Incidents on Car
Users' Satisfaction with Public Transport*

The aim of Study 2, Part 1 was to investigate whether or not car users' inaccurate predictions about their future satisfaction with public transport is caused by a focusing illusion. In this part, 56 habitual car users participated who had stated their intent to change their travel behavior in favor of more public transport use. Three variations (one positive, one negative, and one neutral) of a frequent critical incident in public transport were used as focusing tasks. The participants were randomly assigned one of the three variations of the same critical incident, or a control condition with no critical incident. Firstly, the

respondents rated their current satisfaction with public transport. Then, they read the description of the critical incident. Finally, they predicted what their satisfaction would be if they were to encounter that same incident when using public transport. The participants in the control condition did not read any descriptions of critical incidents. They only predicted what their satisfaction would be if they were to use public transport. The results from inter-group multivariate analysis of variances (MANOVA) showed that the group subjected to the negatively-framed critical incident predicted lower levels of satisfaction than the other groups. As the car users predicted lower satisfaction, both overall and on several attribute-satisfaction measures, this implies that car users' predictions were biased by a focusing illusion. It was concluded that the car users' stated intention to undertake a shift in travel mode represented the expectation of a pleasant experience. This expectation may have been stronger than the positive and neutral variances of the critical incidents, which may subsequently have resulted in similar predictions of satisfaction in these groups.

The primary aim of Study 2, Part 2 was to further investigate whether or not car users' predictions are affected by a focusing illusion. One specific aim, furthermore, was to eliminate the possible effect of positive expectations on these predictions. In this part, 38 car users participated who had not stated their intention to change their travel mode. Two variations (one positive and one negative) of a critical incident were used as focusing tasks. The participants were randomly assigned one of two variations of the same critical incident, or a control condition with no critical incident. Similar to Study 2, Part 1, the respondents rated their current satisfaction with public transport and then read the description of the critical incident. Finally, they predicted what their satisfaction would be if they were to encounter that same incident when using public transport. The participants in the control condition did not read any descriptions of critical incidents. They only predicted what their satisfaction would be if they were to use public transport. The results from inter-group multivariate analysis of variances (MANOVA) showed that the group subjected to the negatively-framed critical incident predicted lower satisfaction levels than

the other groups, implying that the car users' predictions were biased due to a focusing illusion in the negative condition.

Discussion

The ever-increasing use of cars poses a threat to the environment, in general, and to our quality of life, in particular, especially in urban areas. It is necessary to undertake novel approaches in order to understand the psychological mechanisms underlying car users' reluctance to use public transport. The present thesis has challenged the managerial assumption that car users are able to make accurate predictions about their potential or forthcoming satisfaction with public transport, i.e. that they are reluctant to use public transport because they will actually not be very satisfied with this mode of transport. Contrary to this assumption, the present thesis has found support for the hypothesis that car users are reluctant to use public transport due to a focusing illusion and that experiencing public transport leads to greater satisfaction than car users initially predict.

Reviewing previous research into affective forecasting (e.g. Wilson & Gilbert, 2003), it was hypothesized in Study 1, Part 1 that non-users of public transport would be less satisfied with the services than more frequent users. As the results showed that this was, in fact, also the case, the hypothesis was supported. Consequently, it was further hypothesized in Study 1, Part 2 that this difference in satisfaction was an effect of non-users being biased in their evaluations. The results of Study 1, Part 2 showed that car users do not make accurate predictions about their forthcoming satisfaction with public transport, supporting the hypothesis that car users in fact mispredict their future satisfaction with the services.

Study 2, Parts 1 and 2 support the hypothesis that the focusing illusion is responsible for the impact bias in car users' predictions about their forthcoming satisfaction with public transport by showing that focusing on negative or

undesirable employee behavior made car users predict lower satisfaction with public transport, both overall and with regard to certain service attributes. In fact, focusing on one single negative critical incident was sufficient to alter the car users' predictions about their future satisfaction with the services.

No effect of positive critical incidents on car users' predictions was observed. One explanation for this finding is that the positive expectations of the participants in Study 2, Part 1 had no effect, something which would constitute one reasonable interpretation since fairly similar results were obtained during both parts of Study 2. Another explanation is that the results reflect the fact that the participants in both parts of Study 2 had positive expectations vis-à-vis the services. For instance, appropriate employee behavior, in that the bus driver waits at the bus stop, is expected and will thus not generate any increased satisfaction levels, whereas a bus leaving the station, even though the driver is aware you are trying to catch that bus, will clearly generate dissatisfaction.

The present thesis reports results that are in line with previous research into affective forecasting, i.e. people also mispredict their future satisfaction with regard to public transport. Obviously, undertaking a switch in travel mode is not a permanent condition, like becoming permanently disabled or experiencing a transient event such as seeing one's favorite football team win or lose. However, switching travel mode represents a deliberate and voluntary action that implies a daily, future behavioral change. This has not been investigated in previous research into affective forecasting. Thus, a contribution made by the present thesis to the ongoing research into affective forecasting is that mispredictions about future levels of satisfaction are also present as regards predicting the satisfaction outcomes of future behavioral changes. Additionally, this thesis has investigated actual behavioral changes in a field setting, i.e. behaviors actually taking place in real life situations, while previous research has chiefly concerned itself with experiments containing imagined future events which may or may not happen. Thus, the thesis links predictions with experiences in an intra-group context.

One interesting remark pertains to the results from previous research into affective forecasting, where the general findings are that people tend to overestimate the intensity or duration of future emotions as a response to future events. Although the results from the present thesis are in line with previous research into affective forecasting, in that people mispredict the intensity of future emotions (i.e. satisfaction), one distinct difference remains present nevertheless. In this thesis, car users underestimate the positive effects of a future event, which is somewhat different than results from previous research, whereby people tended to overestimate both positive and negative emotions. The results in this thesis may thus imply, albeit somewhat speculatively, that car users' future switching of their travel mode was, in fact, perceived as something negative, and that they have thus overestimated the negative effect of that switch, as opposed to underestimating the positive effect, even though the effect manifested itself on the satisfaction part of the satisfaction-dissatisfaction scale.

There are several managerial implications in these results. Firstly, one cannot assume that car users are able to accurately predict their potential satisfaction with public transport or to make their decisions accordingly. Secondly, car users' biased evaluations are likely to result in mispredictions about how well public transport services will satisfy their travel needs, subsequently resulting in possible reluctance to use public transport. Thirdly, since mispredictions about future satisfaction levels are likely to occur, the framework of affective forecasting is applicable with regard to understanding people's reluctance to undertake other types of behavioral changes as well, for instance with regard to behaviors which protect the individual's health or which reduce the potential risk of illness or accidents. Finally, reluctance to use public transport would not seem possible to correct by introducing positive features, i.e. car users might not be as influenced by positive advertisements about public transport as one might have hoped for. This may also be the case with regard to people's reluctance to undertake other types of behavioral change, whereby positive advertisements may not have the desired effect.

Limitations

Some possible limitations regarding the results of this thesis must be pointed out. Firstly, the participants in Study 1, Part 2 may not be representative of the general population of car users, which may bias the results and subsequent interpretations. For instance, participants volunteering to take part in the study may have predicted a high level of satisfaction due to anticipating a pleasurable experience. However, if the general population of car users is less positive about public transport, then there will be potentially larger discrepancies between predictions and experiences than those found in this study, possibly reflecting a situation where real-life predictions may in fact be even more biased.

Secondly, a field experiment does not allow the same strict level of control over variables as does a laboratory experiment, which may bring some restriction to bear on causal inferences from the results, even though the field experiment is very similar to the context of everyday life and thus ensures greater external, or ecological, validity. However, Study 2 included participants who had stated their intention to change their current travel mode, as well as participants who had not. Both parts of Study 2 offer results that support each other, implying a robustness that is interesting to note from a validity point-of-view. Study 2, Part 1 was conducted in a natural setting, whereas Study 2, Part 2 was conducted in a laboratory setting, constituting an instance of the triangulation of methodology (Kristensson, Matthing & Johansson, 2008).

Thirdly, the non-generation of effects originating from the positive critical incident in Study 2 may indicate that the focusing task may have been too weak. One cannot rule out that a stronger manipulation may potentially have generated a significantly positive focusing effect. On the other hand, public transport may very well be a type of service where positive incidents do not generate increased satisfaction levels, while negative incidents do generate dissatisfaction.

Future Research

In order to reduce the adverse effects of car use on the environment, one needs to undertake alternative approaches in order to sell public transport to car users, as they do not accurately predict their future satisfaction with public transport. This constitutes an impact bias, which is influenced by the focusing illusion. To further explore ways of correcting the adverse effects of this focusing illusion, either of two paths can be followed during future research. The first path is to investigate whether or not car users' predictions improve if their attention is defocused (cf. Ayton et al., 2007; Ubel et al., 2005; and Wilson et al., 2000 for defocusing techniques), i.e. by introducing aspects outside of public transport. This defocusing may prompt an awareness of the things in life that will remain the same, even if a change in travel mode occurs, and that the impact of the change in travel mode on future satisfaction may not be as dramatic as initially predicted. The second path is to investigate whether or not an awareness of the process of adaptation, which is described as a distinct type of focusing illusion (Ubel et al., 2005), is also likely to improve car users' predictions about their satisfaction with public transport.

The present thesis provides support, however, for the notion that the focusing illusion is the psychological mechanism responsible for the impact bias in car users' predictions about public transport, which in turn can explain their reluctance to use public transport more often. However, there may well also be other domains (e.g. increasing health and reducing health-risks and accidents) where people are reluctant to undertake a behavioural change, i.e. domains where managers would benefit equally from knowledge of these mechanisms. Therefore, one should also attempt to explore how people predict their future satisfaction in other domains where behavioral changes are needed.

Conclusions

Car users are unable to accurately predict their potential future satisfaction with public transport, and this shortcoming is an effect which is influenced by the focusing illusion. Negative aspects of public transport services generate lower predicted satisfaction, whereas positive aspects do not generate higher predicted satisfaction. Actually experiencing public transport services does generate more accurate predictions and greater perceived satisfaction.

However, recruiting car users and implementing trial passenger projects in order to make car users experience public transport is both time-consuming and costly. Public transport authorities and contractors should thus attempt to engage in alternative marketing approaches in order to attract car users and aid them in undertaking a possible shift in their travel mode.

The introduction of features outside the domain of public transport, which may remain unchanged even though a shift in travel mode is undertaken, may possibly draw car users' attention away from the initial narrow range of salient negative features (cf. Ayton et al., 2007) of the service and may thus generate greater predicted satisfaction. Introducing the process of adaptation may make car users aware of the possibility of adapting to a new travel mode, i.e. public transport, which may, in a similar vein, moderate the adverse effects of this distinct kind of focusing illusion (Ubel et al., 2005) and subsequently generate greater predicted satisfaction.

These are actions that may serve to achieve the overall goal of sustainable travel, by helping car users to undertake a switch in travel mode and thereby contributing toward a cleaner environment, thus also enhancing the quality of life for people residing in urban areas.

In the same vein, other societal contexts and domains may also benefit substantially from the results of such research. There are many domains where people may be reluctant to change their current behavior, e.g. with regard to undertaking healthy behavior or with regard to reducing unhealthy behaviour. Authorities, companies, and managers in different societal domains cannot

simply assume that people are capable of making accurate predictions about their future satisfaction. Thus, one must acknowledge the fact that people's judgments are often biased and consequently approach the target audience accordingly.

References

- Ayton, P., Pott, A. & Elwakili, N. (2007). Affective forecasting: Why can't people predict their emotions? *Thinking & Reasoning*, 13, 62-80.
- Bolton, R. N. & Drew, J. H. (1991). A multistage model of consumers' assessments of service quality and value. *Journal of Consumer Research*, 17, 375-384.
- Buehler, R., & McFarland, C. (2001). Intensity bias in affective forecasting: The role of temporal focus. *Personality and Social Psychology Bulletin*, 27, 1480-1493.
- Burke, R. R. (1996). Virtual shopping: Breakthrough in marketing research. *Harvard Business Review*. March-April, 1996, 120 –131
- Curtis, C & Headicar, P. (1997). Targeting travel awareness campaigns. Which individuals are more likely to switch from car to other transport for the journey to work? *Transport Policy*, 4, 57-65.
- Eriksson, L, Friman, M. & Gärling, T. (2008). Stated reasons for reducing work-commute by car. *Transportation Research Part F – Traffic Psychology and Behaviour*, 11, 427-433.
- Fornell, C. (1992). A national customer satisfaction barometer: *The Swedish experience*. *Journal of Marketing* 56, 6-21.
- Fujii, S. & Gärling, T. (2005). Temporary structural change: A strategy to break car-use habit and promote public transport. In: G. Underwood, (Ed), *Traffic and transport psychology*, Amsterdam: Elsevier, pp. 585–592.
- Gifford, R., & Steg, L. (2007). The impact of automobile traffic on quality of life. In T. Gärling, & L. Steg. (Eds.), *Threats from car traffic to the quality of urban life: Problems, causes, and solutions*. Amsterdam: Elsevier.
- Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., & Wheatley, T. F. (1998). Immune Neglect: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology*, 75, 617-638.

- Gilovich, T. & Griffin, D. (2002). Heuristics and Biases: Then and Now. In T. Gilovich, D. Griffin and D. Kahneman (eds), *Heuristics and Biases: The Psychology of Intuitive Judgment*. 1 –18, Cambridge: Cambridge University Press.
- Jakobsson, C. (2004). Accuracy of household planning of car use: comparing prospective to actual car logs. *Transportation Research Part F – Traffic Psychology and Behaviour*, 7, 32-42.
- Kingham, S., Dickinson, J. & Copsey, S. (2001). Travelling to work: will people move out of their cars. *Transport Policy*, 8, 151-160.
- Kristensson, P., Matthing, N. & Johansson, N. (2008). Key Strategies in Co-Creation of New Services. *International Journal of Service Industry Management*, 19, 474-491.
- Loewenstein, G., O'Donoghue, T. & Rabin, M. (2003). Projection Bias in Predicting Future Utility, *Quarterly Journal of Economics*, 118, 1209 –1248.
- Mellers, B., Schwartz, A., & Ritov, I. (1999). Emotion-based choice. *Journal of Experimental Psychology: General*, 128, 332-345.
- Oliver, R. L. (1997). *Satisfaction. A behavioral perspective on the consumer*. New York: McGraw-Hill.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17, 460-469.
- Oliver, R. L. & DeSarbo, W. S., (1988). Response determinants in satisfaction judgments. *Journal of Consumer Research* 14, 495-507.
- Schkade, D. A.; Kahneman, D. (1998). Does living in California make people happy?: A focusing illusion in judgments of Life Satisfaction. *Psychological Science*, 9, 340-346.
- Shannon, T., Giles-Corti, B., Pikora, T., Bulsara, M., Shilton, T. & Bull, F. (2006). Assessing commuting habits and potential for modal change. *Transport Policy*, 13, 240-253.
- Sperling, D. & Gordon, D. (2009). *Two billion cars. Driving toward sustainability*. USA: Oxford University Press.

- Steg, L. (2003). Can public transport compete with the private car? *LATSS Research*, 27, 27-35
- Steg, L. (2005). Car use: Lust and must. Instrumental, symbolic and affective motives for car use. *Transportation Research Part A*, 39, 147-162.
- Ubel, P. A.; Loewenstein, G., Hershey, J., Baron, J., Mohr, T., Asch, D. A., & Jepson, C. (2001). Do non-patients underestimate the quality of life associated with chronic health conditions because of a focusing illusion? *Medical Decision Making*, 21, 190-199.
- Ubel, P. A., Loewenstein, G., Jepson, C. (2005). Disability and Sunshine: Can hedonic predictions be improved by drawing attention to focusing illusion or emotional adaptation? *Journal of Experimental Psychology: Applied*, 11, 111 – 123.
- Van Wee, B. (2007). Environmental effects of urban traffic. In T. Gärling, & L. Steg. (Eds.), *Threats from car traffic to the quality of urban life: Problems, causes, and solutions*. Amsterdam: Elsevier.
- Westbrook, R. A. & Oliver, R. L. (1991). The dimensionality of consumption emotion patterns and consumer satisfaction. *Journal of Consumer Research* 18, 84-91.
- Wilson, T. D. & Gilbert, D. T. (2003). Affective forecasting. In M. P. Zanna (ed), *Advances in Experimental Social Psychology*, 35, 345-411, Waterloo, Ontario: Academic Press.
- Wilson, T. D., Wheatley, T., Meyers, J. M., Gilbert, D. T., & Axsom, D. (2000). Focalism: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology*, 78, 821-836.

Affective Forecasting: Predicting Future Satisfaction with Public Transport

Affective forecasting refers to the process of predicting future emotions in response to future events. The overall aim of the present thesis was to investigate, by applying the framework of Affective forecasting, how car users predict their satisfaction with public transport services. Study 1, Part 1 revealed a satisfaction gap between users and non-users of public transport, whereby non-users reported lower satisfaction than users, in overall satisfaction as well as in two quality factors resulting from a factor analysis of a major survey on satisfaction with public transport. It was hypothesized that non-users were biased in their satisfaction reports, something which was subsequently investigated in Study 1, Part 2, where a field experiment revealed that car users suffer from an impact bias in their predictions about future satisfaction with public transport due to being more satisfied with the services after a trial period than they initially predicted they would.

Addressing the question of whether or not a focusing illusion is the psychological mechanism responsible for the impact bias, two experiments containing critical incidents were conducted during Study 2, in order to investigate whether or not car users exaggerate the impact of specific incidents upon their future satisfaction with public transport. For car users with a stated intention to change their current travel mode, in Study 2, Part 1, as well as for car users with no stated intention to change their travel mode, in Study 2, Part 2, the negative critical incident generated lower predicted satisfaction with public transport, in support of the hypothesis that the impact bias in car users' predictions about future satisfaction with public transport is caused by a focusing illusion.