Car-use, satisfaction with travel and subjective well-being

Cecila Jakobsson-Bergstad, Tommy Garling and Amelie Gamble, University of Gothenburg
Lars E. Olsson, Karlstad University

Abstract
The present study is part of a research project with an overall aim to increase the theoretical understanding of the car's instrumental, social, symbolic, and affective meaning and the role of the car for satisfaction with travel and for general satisfaction with life. In the present study the focus is on the interactions between satisfaction with transportation, car-use, and socio-economic background variables, as well as on the relation to subjective well-being in life. To assess these questions, a nationwide survey was conducted in late 2007. 1185 randomly selected Swedish households from three areas with different population size; metropolitan-, semi rural-, and rural areas, completed the survey.

Subjective well-being
The search for well-being has attracted a lot of attention in various disciplines, from philosophy and religion, to psychological and economical research. On average it is suggested that 50 % can be explained by personality or genetics, 10 % by socio-economic factors (circumstances), and the remaining 40 % by our actions. Some research has focused on cognitive evaluations of life as a whole, whereas other has focused on specific emotions associated with actions and behavior in everyday life. Since about 40 % of happiness can be explained by actions and behaviour it may be assumed that daily activities, such as work, shopping, activities with children, and different leisure activities, play an important role. Many of our daily activities require that we travel from one location to another. The car usually outperforms other modes of transport with respect to time-use and feelings of independence. It may therefore be assumed that the choice of, or the possibility to choose, the car as transport mode may facilitate the performance of our daily activities.

STS - Satisfaction with Travel Scale
To capture how satisfied people generally are with their travel a new scale was developed measuring satisfaction with everyday travel without focusing on any specific mode, we name this the Satisfaction with Travel Scale (STS). The idea behind STS originates from, on the one hand, the long tradition of research on subjective well-being, and on the other, from the customer satisfaction research. In both research traditions it is argued that cognitive as well as affective evaluations should be taken into account to get valid measures of overall satisfaction.

Questionnaire
The questionnaire comprised several modules consisting of questions of (i) car-use, daily travelling, and satisfaction with travel, (ii) affective reactions during previous week and general in life, (iii) affective reactions and transport mode choices related to 9 prespecified categories of daily activities, (iv) satisfaction in life, and (v) socio-demographic factors. Satisfaction with travel was measure with STS, affective dimensions with the composite Swedish core affect scale (cSCAS, V?stfj?ll & G?rling, 2007), and cognitive dimension of satisfaction with life (SWL) with the Satisfaction with life scale (Diener et al., 1984).

Results
Multiple regression analyses with car-use as dependent variable (defind as the percentage of car as mode to daily activities during last week) and socio-economic variables as independent variabels
showed that number cars in a household, age, and children in the household were all positively related to weekly car-use, whereas education and population size were negatively related.

- Analysis focusing on population size, metropolitan, semi rural, and rural, revealed that although people living in metropolitan areas were found to use their car less to their daily activities, no differences were found with respect to distance traveled by car on a yearly basis. Also, they did not differ on their STS or SWLS scores.

- The importance for life satisfaction of sharing household with a partner and having a job is well documented in the literature, and is once again confirmed by this study. The literature also states that income (above a basic threshold) have a weak relationship with well-being. This can however not be confirmed in our study where household income does seem to play a significant role. It should also be noted that the model with exclusively socio-economic predictors do report an R2 of .065, which is in line with previous research suggesting figures around .10.

- Separate multipel regressions analyses with SWL as dependent variable was performed for the three areas with varying population size. For the rural area the number of activities per se (with or without a car) were important, but was mediated by affect associated with the activities. Living with a partner and household income was found to be socio-economic variables of significance. It was also revealed that, in contrast to other areas, percentage of car-use to daily activities were a significant predictor of SWL. For the semi-rural area the results were somewhat different. Income did not play a significant role, whereas living with a partner and percentage employment did. Number of activities did not contribute significantly in explaining SWL, but affect associated with daily activities did. For the metropolitan areas the only background variable of importance for the level of SWL was living with a partner. As for the other areas affect associated with daily activities were a significant predictor. Also, adding STS in a fourth step of the analysis did contribute significantly to the model.

- The STS consisted of six items capturing both affective and cognitive evaluations of everyday travel. Reliability measures for the scale showed a fairly strong Cronbach’s alpha (.77) and the average of the six items were calculated as an index of satisfaction. Comparing household characteristics with respect to STS revealed significantly lower scores on STS for households with children. These households also used the car to daily activities more often as compared to households without children. Multipel regression analyses with STS as dependent variable revealed that, besides living without children in the household, increasing age was positively related to STS. Income, education, annual car-use, marriage, number of cars, or gender did not contribute to STS. However, adding satisfaction with life and affect associated with weekly activities did significantly increase the degree of explanation of the model (from 3% to 12%).