

Title: THE INFLUENCE OF THE INDIVIDUAL'S RISK PERCEPTION AND ATTITUDES ON TRAVEL BEHAVIOR

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Abstract:

Promoting sustainable transportation and the shift from car to public transportation (PT), walking and cycling are important for many reasons, including environmental, economic and public health. The encouragement of individuals' transition to PT necessitates changes in urban planning, transportation system and improved accessibility to the various activities by PT. In this paper we claim that changes in individuals' attitudes, beliefs and risk perception also play an important role in this transition in travel behavior. Reducing the use of the car necessitates provision of alternative transport modes. Road users must also believe that a transition to PT and walking will improve their wellbeing. To persuade road users to give up using their cars, the problem has to be presented as a visible and immediate threat. Our hypothesis is that road accidents and the risk of being involved in them are more visible and are perceived as a greater threat than is the negative environmental impact, so individuals tend to weigh road-accident risk more than air-pollution risk. This study analyzes the effect of individuals' risk perception and fatalistic beliefs, in addition to demographic and socio-economic characteristics, on their willingness to shift from car to public transportation and walking. It further examines the relationship between people's behavior and their attitudes and beliefs. Finally, it attempts to identify barriers in Arab communities to the transport system, urban planning, and accessibility of the various activities. In a case study of Arab cities in the Galilee region of northern Israel an integrated approach was taken comprising various methods: development of a theoretical framework, descriptive analysis, factor analysis to create attitudinal factors, linear regression to examine the effect of the individual's characteristics on travel time by car, and developing a mode-choice model for commute trips based on a stated-preference survey with attitudinal factors among the explanatory variables. This study is based on data from a survey of 342 individuals in one Israeli Arab town. The survey includes four parts: the first part includes socio-economic and demographic characteristics. The second part includes information about travel behavior including travel time and number of trips both in weekdays and in weekends by travel mode, and the third part includes stated preference experiment of mode choice with the purpose of identifying the individual's willingness to shift from private to PT and walking for various purposes. The final part of the survey inquired about 31 attitudinal variables that were used to measure environmental awareness, risk perception of road accidents, the belief in fatalism as well as sensitivity to various individual travel features such as travel time, privacy, availability and flexibility. The results support the hypothesis that perception of risk of being involved in road accidents positively affects sustainable travel behavior, as expressed by the willingness to use public transport, while concern for and knowledge of environmental problems exerts no significant effect on travel-mode choice. Additionally, despite participants' concern about environment problems they persist in using the car as the dominant travel mode; they prefer the car's advantages, especially the feeling of privacy, over health considerations. Trip purpose also plays an important role in travel-mode choice, and results showed that people tend to shift to public transport more for work trips and less for other purposes.