



Using travel socialization and underlying motivations to better understand motorcycle usage in Taiwan



Hsin-Li Chang*, Chi-Yen Lai

Department of Transportation and Logistics Management, National Chiao-Tung University, Rm. A803, Assembly Building 1, No. 1001, Daxue Rd., East Dist., Hsinchu City 30010, Taiwan, ROC

ARTICLE INFO

Article history:

Received 16 September 2014
Received in revised form 9 March 2015
Accepted 16 March 2015
Available online 2 April 2015

Keywords:

Motorcycle usage
Motivations
Perceived parental attitude

ABSTRACT

This study introduces self-determination theory (SDT) to refine previous models of vehicle usage motivation. We add travel socialization theory regarding parental influence on vehicle usage to enhance previous structural models describing motorcycle usage behavior. Our newly developed model was empirically verified in a sample of 721 motorcycle users in Taiwan. In addition to instrumental, symbolic, and affective motivations, perceived parental attitudes (PPAs) towards motorcycle riding were found to have a significant effect on individuals' motorcycle use habits. Additionally, participants who perceived their parents to have more positive attitudes toward motorcycles were found to have more experience being chauffeured on motorcycles by their parents. Based on these results, we suggest means to confront the challenges brought on by the rapid growth of motorcycle usage, especially serious motorcycle traffic accidents. These results improve our understanding motorcycle usage in Taiwan and can be used by transportation professionals who are seeking solutions to the rapid growth of motorcycle usage.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Although economic development in Taiwan has been accompanied by a dramatic increase in car ownership, motorcycles remain popular and are commonly used due to the country's suitable climate, high population density, and mixed land-use design for business activities and residences. High motorcycle usage (0.65 motorcycles per person on average) has generated challenges concerning traffic operation and management and also a high frequency of fatal and severe-injury traffic accidents in Taiwan each year (Chen, 2009). According to statistics published by Institute of Transportation (IOT, 2012), 3323 persons were killed by traffic accidents in 2011, more than sixty percent of whom were motorcycle riders or passengers. In addition to efforts devoted to reducing speeding, dangerous riding behaviors, and unlicensed youth riders, the government has also provided a variety of incentive strategies to encourage people to use public transportation (e.g., price reductions and some free public transportation mileage) as an alternative to riding motorcycles in the hopes that this will reduce the number of fatalities resulting from motorcycle traffic accidents. Despite these efforts, however, statistics provided

by the Ministry of Transportation and Communications R.O.C. indicate that Taiwan's motorcycle count has continued to rise throughout the past decade. This suggests that reducing the cost of public transportation alone has been inadequate to induce people to give up their motorcycles, and additional factors affecting motorcycle usage should be considered to solve this problem.

In addition to the economic factors (i.e., travel time and cost) and socioeconomic variables (i.e., income and residential locations) that have been widely used to explain travelers' behavior, psychological factors have also been examined by studies of individuals' choice of transportation (Salon, 2009). Steg (2005) summarized the attractiveness of car use with three categories of motivation: instrumental, affective, and social. Baslington (2008) introduced travel socialization theory, which proposes that travel preferences are learned during development, and argued that parental car use plays a very important role in children's perceptions of different modes of travel while growing up. Hausteine et al. (2009) further applied this theory to explore the effect of travel socialization during childhood on choice of transportation in adulthood.

Theories of motivation and travel socialization have been used to explain car usage through different viewpoints. Motivation is considered to be the need or desire that causes a person to act in a particular way, which may typically be generated intrinsically. Travel socialization, on the other hand, is the process by which travel preferences and vehicle use behaviors of individuals are

* Corresponding author. Tel.: +886 3 5731908; fax: +886 3 5712365.
E-mail addresses: hlchang@cc.nctu.edu.tw (H.-L. Chang),
acearox.tem97g@g2.nctu.edu.tw (C.-Y. Lai).

influenced by the attitudes and behaviors of others, especially parents and family members. Among studies exploring the factors affecting car use, self-motivation and socialization have been applied separately. No attempt has been made to simultaneously explore the effects of intrinsic motivation and external socialization on mode-of-travel behavior. Therefore, to improve our understanding of the factors influencing travel preferences, this study sought to develop a more comprehensive model that combines motivations and socialization. Based on this integrated theoretical model, we then conducted an empirical study to explore the factors affecting motorcycle usage using data collected in Taiwan.

2. The conceptual framework of motorcycle use

2.1. Motivations for vehicle use

Many factors have been applied to explain car usage, including convenience and pleasure. [Steg \(2005\)](#) further divided the attractiveness of car use into three categories based on the theory of material possessions ([Dittmar, 1992](#)). These three categories are as follows: (1) instrumental motivation, defined as the convenience of car use ([Steg, 2005](#)), includes the practical utilities provided by a car, speed, travel cost, travel time, availability, loading capacity, flexibility, etc. Private cars are commonly considered to provide higher instrumental value than public transportation ([Jakobsson et al., 2002](#); [Mackett, 2003](#); [Steg, 2003](#)). (2) Affective motivation includes emotions associated with pleasure, excitement, and feelings of status evoked by using a car ([Anable and Gatersleben, 2005](#); [Steg, 2005](#); [Steg et al., 2001](#)). (3) Symbolic motivation represents the identity of a person, including one's expression of self-image, their personal social status, and the psychosocial values that people express to others through their cars ([Allen, 2002](#); [Gardner and Abraham, 2007](#); [Joireman et al., 2001](#); [Mann and Abraham, 2006](#); [Van Lange et al., 1998](#); [Vugt et al., 1995](#)).

Prior research has viewed affective motivation as the feelings evoked by traveling, including as pleasure, arousal, dominance, feelings of sensation, superiority, etc. ([Anable and Gatersleben, 2005](#); [Lois and López-Sáez, 2009](#); [Russell and Lanius, 1984](#)). However, these emotions surrounding car usage may come from different sources, such as from the act of driving itself or from showing off with one's car. Therefore, when discussing affective motivations for car usage, it is best to differentiate those emotions evoked by driving from those evoked by showing off. Self-determination theory (SDT) provides another way to help us clarify the relationships among the motivations of and factors affecting car use.

[Ryan and Deci \(2000\)](#) introduced the notion of self-determination, defined as human actions experienced by choice, and used self-determination theory (SDT) to explain individual differences in motivation. SDT argues that there are two types of motivation that affect people's behaviors: intrinsic and extrinsic. Researchers have applied SDT to analyze a variety of physical activities and found that motivations can positively affect psychosocial outcomes such as attitudes, intentions, and self-perceptions ([Chen and Jang, 2010](#); [Hagger et al., 2002](#); [Niemi et al., 2006](#); [Williams et al., 2006](#)). Intrinsic motivation is what makes people act in order to fulfill their personal goals without significant external rewards, such as their spontaneous inclinations, interests, and sense of accomplishment or satisfaction. People's enjoyment of driving is an example of an intrinsic motivation for vehicle usage. In contrast, the motivation that induces people to act in order to achieve something separate from the behavior itself is called extrinsic motivation. For example, saving travel time and obtaining higher accessibility are extrinsic motivations for people to use private vehicles ([Ryan and Deci, 2000](#)).

According to SDT's concepts of extrinsic and intrinsic motivation, instrumental motivations for car use can be classified as extrinsic motivations. Affective motivations for car use can be divided into intrinsic affective motivations and extrinsic affective motivations according to emotions evoked by different sources. That is, drivers may enjoy driving itself because it is interesting and exciting to them ([Anable and Gatersleben, 2005](#)), which is an intrinsic affective motivation. On the other hand, drivers might enjoy driving a car because they can show off their prestige, which is an extrinsic affective motivation. Symbolic motivations for car use can be classified as extrinsic affective motivations that affect car usage directly and/or as important antecedents that produce extrinsic affective motivations ([Steg and Tertoolen, 1999](#)).

2.2. Parents' influence on traveling mode usage

[Haustein et al. \(2009\)](#) found that an individual's attitudes toward modes of travel are significantly related to their parents' travel behaviors. The results indicated that those who were driven in cars by their parents more as children are more likely to use cars as adults. Likewise, people from car-free families are more likely to adopt a life without cars than those who live in families with cars ([Gotschi et al., 2009](#); [Haustein and Hunecke, 2007](#)). As further evidence of the effect of parents on travel preferences, [Mackett \(2002\)](#) found that children who are often accompanied by adults when they travel to school exhibit weaker travel-related abilities. [Lin and Chang \(2010\)](#) argued that children who are escorted to school by private cars have reduced physical activity. The more frequently children experience being chauffeured by private vehicles, the higher their tendency to use private vehicles as adults. [Kingham and Donohoe \(2002\)](#) proposed that parents' attitudes should be targeted for change in order to change their children's attitudes.

According to the travel socialization theory proposed by [Baslington \(2008\)](#), individuals' selected modes of travel are significantly affected by their parents' habits during the developmental stages where skills, values, and knowledge are learned. [Johansson \(2006\)](#) found that parents' attitudes towards modes of travel are an important determinant of their children's travel choices. Parents' attitudes and behaviors toward car usage were found to affect children's car usage experiences during childhood and then influence their car use habits in adulthood. Accordingly, parents' attitudes and behaviors toward motorcycle usage are expected to have similar effects on their children's future habits of motorcycle usage. Little research, however, has focused on parents' influence on children's motorcycle use in adulthood.

2.3. An extended motivational model for motorcycle use

Motivation theory and socialization theory have been applied separately in previous studies of car usage and there has been little research to explore the combined effects of these two theories on vehicle usage. This study attempts to combine related motivations of vehicle usage with parental influences with the aim of investigating their joint effects on motorcycle usage in Taiwan. We begin by extending and developing a theoretical model with six latent variables.

We first defined the variable "motorcycle use habits" as one's degree of using a motorcycle to undertake one's daily activities. Instrumental motivation was defined as the degree of instrumental meaning underlying one's motorcycle use. Symbolic motivation was defined as the degree to which one feels that riding a motorcycle shows status and prestige. Intrinsic affective motivation to use a motorcycle was defined as the degree of enjoyment one feels from the act of riding a motorcycle itself, and extrinsic affective motivation was defined as the degree of enjoyment one

Download English Version:

<https://daneshyari.com/en/article/572180>

Download Persian Version:

<https://daneshyari.com/article/572180>

[Daneshyari.com](https://daneshyari.com)