



The bicycle and the city: Desires and emotions versus attitudes, habits and norms



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ABSTRACT

The paper explores the motivational basis of the use of the bicycle for daily travel necessities in a big city. Different from previous research on cycling, this study used a social psychological model (Perugini and Bagozzi's model of goal-directed behaviour) as a theoretical framework and focussed on prediction of desires. A total of 387 residents of Rome (Italy) were administered a structured questionnaire measuring attitudes, subjective norms, perceived control, positive and negative anticipated emotions, desire, and past behaviour concerning their use of the bike in the city. Results showed how positive emotions mediated the effects of attitudes, perceived social norms, and negative emotions on desire. This suggests that the affective factors could play a more direct role in orienting people's desire in relation to both the behaviour considered and the particular context: a large city where mobility is based on motorised systems and support facilities for bicycles are scarce.

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1. Introduction

One of the main goals of the recent transport policies proposed by the European Union is enhancing mobility within and among European cities, while at the same time reducing local congestion, accidents, and pollution (European Commission, 2012). In other words, people should feel free to get around in urban areas, but have to minimise the social and ecological impact of their travel choices. As private cars and motorbikes are still responsible for a considerable amount of pollution and a significant number of road accidents and health problems in many urban contexts, the development of alternative transport methods, such as public transportation and bicycles, has often been recommended (European Commission, 2012). The European Commission, for example, has suggested how most of the state members of the European Union could develop bicycle-based sustainable mobility for their cities (Dekoster & Schollaert, 1999).

However, policies directed at such implementation have barely taken off in most European countries, and the same can be said for the social psychological literature which should inform such

policies. As a matter of fact, although several studies have been conducted with the aim of detecting the main social psychological factors that affect the diffusion of sustainable mobility in urban contexts, most of these studies have focussed on public transportation. Moreover, as Gatersleben and Uzzel (2007) recently stated, most of the research on travel behaviour has been limited to studies focussed on utilitarian appraisal, while other aspects, such as the affective dimensions, have often been neglected or studied mainly from the sole perspective of commuters' stress.

More generally, little is known about how emotional factors can combine with other social psychological factors such as attitudes, norms, and habits in explaining people's travel mode choices. This is particularly true for the studies concerning the use of bikes in the city: although many of them have investigated the relationship existing among selected factors (such as attitudes and everyday actual or self-reported commuting habits), to our knowledge no attempt has been made to analyse the relationship among these predictors using a comprehensive social psychological model as a theoretical framework. Furthermore, most studies have focussed on people's intentions or self-reported behaviours (see, e.g., Gatersleben & Haddad, 2010), but have neglected desires which, for example, might be particularly appropriate to take into account when dealing with contexts where cycling is not a common practice and structural facilities are lacking. Previous research has shown how, even in such contexts, many people can hold positive

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attitudes toward cycling, although they might not actually develop an intention to cycle (see for e.g., [Gatersleben & Appleton, 2007](#); [Oja, Vuori, & Paronen, 1998](#); [Rimano, Piccini, Metastasio, Chiarolanza, & Passafaro, 2012](#); [Rimano et al., submitted for publication](#)). This could be due to the fact that they might not have developed the corresponding desire. Thus, analyzing desire might be particularly useful in these cases because it might give insights into how cycling uptake could increase if, for example, other conditions which are known to affect intentions are positive. However, no previous study has attempted to study the determinants of the desire to use a bike in the city.

This paper aims to address these shortcomings by applying the tenets of a theoretical framework that enables simultaneous consideration of both the attitudinal or cognitive (pros and cons) and the affective (emotional) implications of travel mode choices, with particular reference to the desire to use a bike for daily necessities in a big city.

2. The social psychological determinants of the use of a bike in the city

Commuting by bike in the city can be “healthy” and “dangerous” at the same time; and people seem to be aware of the controversial character of this means of transportation. These are some of the aspects that emerge from the international scientific literature published on the topic of the use of bikes in the city. For example, studies of sports medicine and kinesiology have suggested the substantial health-enhancing potential of physical activity when it is of moderate intensity and is incorporated into people’s daily life routines, as in the case of commuting by bike to work or to school (see [Matheson et al., 2011](#); for a recent review; see also [Haskell et al., 2007](#); [Oja et al., 1998](#)). Considerations regarding the benefits for health (and the environment) are those reported more often by bicyclists when they are asked to explain why they commute by bike (e.g., [Gatersleben & Appleton, 2007](#); [Hopkinson & Wardman, 1996](#)). However, riding a bike in the city has its drawbacks, one of which is the risk of road accidents. This is one of the main concerns of cyclists and can affect an individual’s decisions about whether to use a bike in the city or not. In this sense, its role is thought to be greater than that of other already ascertained factors, such as the gradient (or “hilliness”) of the trail, the distance from the destination, the time of the ride, the climate of the area, the traffic conditions, and the quality of the cycling facilities (see, e.g., [Gatersleben & Appleton, 2007](#); [Hopkinson & Wardman, 1996](#)). These considerations are usually referred to as to the practical, instrumental, or utilitarian reasons that may motivate the use of bicycles in an urban context. They are typically linked to the attitude toward this specific behaviour and to the perceived control over it. [Gatersleben and Appleton \(2007\)](#) showed that attitudes toward cycling and the perceptions of various personal and external barriers can affect an individual’s decision to use a bike for his or her daily commute to work or to school. Yet more general attitudes also seem helpful in understanding the determinants of this behaviour. [Bopp et al.](#), assessed the role of eco-friendly attitudes (EFA) and found that individuals higher in EFA “were more likely to actively commute (walk or bike to work) and less likely to drive, and reported more self-efficacy, fewer barriers, and more motivators for AC [active commuting]” ([Bopp, Kaczynski, & Wittman, 2011](#), p. E9). Hence, the authors concluded that “public health-based interventions to promote AC may use ecology-themed messages for greater reach and impact” ([Bopp et al., 2011](#), p. E9).

However, more recent contributions have directed attention also to other social psychological factors able to orient people’s decisions in favour of or against the use of bikes in the city. For

example, [Gatersleben and Uzzel \(2007\)](#) investigated the affective appraisals of the daily commute, and compared four transport alternatives (driving, using public transportation, walking, and cycling). Findings indicated that “walking and cycling journeys are the most relaxing and exciting and therefore seem the most optimum form of travel from an affective perspective” (p.416). Results of qualitative studies (see, e.g., [Rimano, et al., 2012](#)) confirmed that people tend to mention several emotional aspects (both positive and negative) when asked to indicate the positive and negative aspects that they would associate with commuting by bike in the city. Feelings of joy and happiness (linked to the sensation of freedom, for example) are among the positive feelings recorded, but several fears are typically mentioned as well, particularly linked to the risk of accidents (always recurrent) and health problems (for example, due to breathing polluted air). Other important aspects which emerged in the literature concern the role of habits and social norms. Many people reported that they did not intend to commute by bike because they were not willing to change their habit of using other means of transportation (typically private cars; [Rimano et al., 2012](#)). Moreover, when people were asked to indicate who they thought would approve or disapprove of them if they decided to commute by bike, different relevant categories tended to be listed, ranging from relatives and peers to specific social groups, such as environmentalists and bike producers ([Rimano et al., 2012](#)).

All in all, these studies suggest that practical (utilitarian) considerations and emotional reactions combine to determine people’s willingness to use a bike in the city. Moreover, there is a possibility that normative considerations and habits might play a role as well. However, none of these studies have assessed the relative role played by all of these possible determinants combined and, more generally, to our knowledge no attempt has been made to test them using a comprehensive social psychological model. This is a shortcoming because the use of theoretical models is of crucial importance for a full understanding of socially relevant behaviours and for planning adequate promotional strategies.

3. Predicting desires to use a bicycle in the city

A further aspect that emerges from the literature is that many people tend to declare that they would actually like to use a bike for their daily commute in the city (for example, to work or to school), but that they are discouraged by several practical obstacles, such as the absence of cycling facilities and/or the bad quality of existing ones ([Gatersleben & Appleton, 2007](#); [Rimano et al., 2012](#)). In other words, there seem to be people who desire to use a bike more often, but do not for various contingent reasons. [Perugini and Bagozzi \(2004\)](#) have defined desire as “a state of mind whereby an agent has a personal motivation to perform an action or to achieve a goal. Such motivation is based on an integration of different sources of appraisals (e.g., emotional, evaluative, social, etc.) and represents the first step towards a decision to act, typically followed by an intention to do so” (p.71). [Perugini and Bagozzi \(2004\)](#) further specified the differences existing between desires and intentions in relation to three criteria: the perception that the subject can perform the action (perceived performability of the action), the perceived connection of the action with a goal that the subject wants to attain (action connectedness), and the definite versus indefinite time within which the action is framed (temporal framing). The authors have empirically demonstrated that desires compared to intentions tend to be associated with lower perceived performability, lower connection to action, and a more indefinite temporal frame ([Perugini & Bagozzi, 2004](#)). For example, a person can have the desire to use a bike in the city even when lacking the perception that he/she will be able to do so in his/her city, and in the absence of a specific commitment to act. Moreover, this person

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