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Attitudes towards cycling in Long Xuyen, Viet Nam: An exploratory study

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ABSTRACT

The promotion of cycling has recently received strong support from the Vietnamese government, and there has been a call for changes in planning to create suitable environment for cycling. However, knowledge in this field is limited since the travel behavior literature in Viet Nam focused on other travel modes, and the context of small cities was largely ignored. The aim of this research is to understand people's attitudes towards cycling in a small city like Long Xuyen. This serves as an exploratory study to inform and develop future research on this issue. A qualitative approach was used to identify the main influences affecting people's cycling decisions. The results showed that people's cycling choice was affected by attitudinal factors, subjective norms, and perceived behavioral control. Interestingly, habit was also found to impact people's choice of cycling.

1. INTRODUCTION

Large cities in Viet Nam are currently facing two main problems - traffic congestion and air pollution due to the rapid increase of motorized vehicles in urban transportation (Le & Trinh, 2016). Recently, the promotion of cycling has received strong support from the government through the national program 'Viet Nam Cycling Promotion Program' (Long, 2016). In addition, there has been a call from the government for changes in urban planning to create a more suitable environment for cycling (Vietnamese National Traffic Safety Committee, 2016). In order to effectively design and implement these policies, it is crucial to understand people's travel behavior, particularly in cycling. As Heinen et al. (2010) indicated, understanding bicycle use determinants is essential to provide effective policies to encourage cycling.

There have been several studies of Vietnamese people's travel behavior and determinants of travel mode choice (e.g. Hai & Susilo, 2009; Tuong, 2014; Hoang & Okamura, 2015; Le & Trinh, 2016), with

particular attention given to motorcycles and public transport. These studies have focused on the large metropolitan areas of Viet Nam, including Hanoi and Ho Chi Minh city. However, as different physical, environmental and social characteristics may influence people's cycling behavior (Sallis et al., 2006; Van Cauwenberg et al., 2011), such studies in big cities may be limited in their insights into cycling choice in other parts of Viet Nam, including smaller urban areas. Therefore, urban planners and local policymakers in Viet Nam are currently faced with a shortage of reliable data to make informed decisions on such issues. This research aims to fill this gap by studying people's choice of cycling in the context of a small city in Viet Nam. The research also serves as an elicitation to inform urban planning in similar areas and identify research focus and priorities on this issue.

Long Xuyen was the selected location of this research due to several reasons. First, it is a small city of An Giang province, South of Viet Nam with an area of 106.87 km² compared to the largest city in Viet Nam, Ho Chi Minh city (2,095 km²).

Topologically, the city is relatively flat with a system of rivers and canals that is generally ideal for traveling and transportation. Another reason is that historically, bicycle was the most popular mode of transport in this city in the 1910s; however, the use

of bicycle has decreased significantly over time, and motorcycle has become the dominant mode of transport in recent years. This provides the potential to explore factors and any changes that affect the locals' choice of cycling

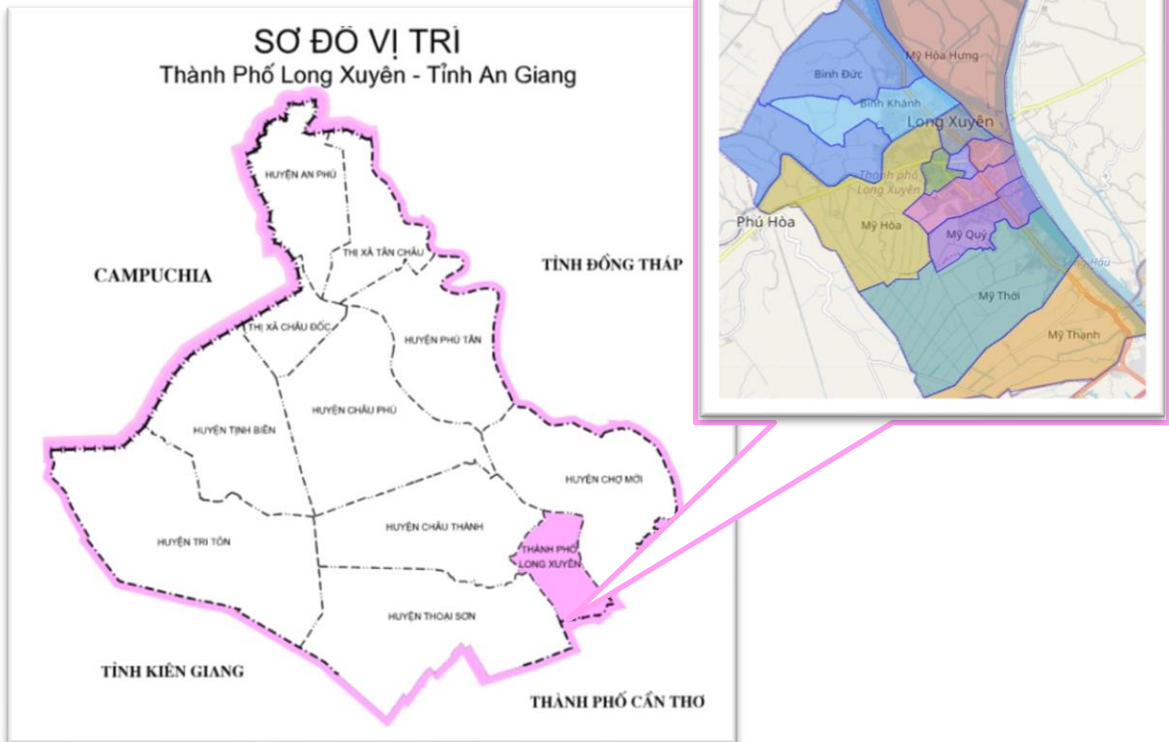


Figure 1. Long Xuyen city's map

This research is an exploratory study that will provide a snapshot of the diversity of factors that influence people's cycling behavior in Long Xuyen. The paper addressed the main question: "what are the main factors that may encourage or deter people in Long Xuyen to make journeys by bicycle?". Within its limited scope, the study does not aim to generate a comprehensive mapping of the cycling attitudes and behaviors in this small city. Its results are expected to serve as a starting point for more extensive research studies on cycling and sustainable transport in Long Xuyen and potentially, in other parts of the country.

2. LITERATURE REVIEW AND ANALYTICAL FRAMEWORK

2.1. Literature review

There is an ample body of literature on individual travel behavior and transport mode choice

(Dieleman et al, 2002; Dargay & Hanly, 2007; Hunecke et al., 2007; Van et al., 2014; Guerra et al., 2018; Harbering & Schlüterb, 2020). Studies of travel behavior were undertaken under a wide range of perspectives such as a variety of spatial levels (i.e. local, national, international), types of journey purpose (i.e. commuting, shopping, leisure), or number of travel modes (i.e. research on one or more travel modes simultaneously). However, the majority of these studies seem to focus on the use of public transport or car as the dominant transport modes, while less attention was devoted to active transport modes, such as walking or cycling (Curtis & Perkins, 2006). In recent years, the interests of scholars were increasingly given to bicycle use, although with a concentration on commuting rather than for other purposes like recreation, health, or leisure (Heinen et al., 2010; Panter and Jones, 2010).

Literature on cycling behaviors provides great insights into understanding how to predict and explain people’s decisions on biking. Several studies found a correlation between the choice of traveling or commuting by bicycle and the built environment factors such as trip distance, population density, and a mixture of land use (Moudon et al., 2005; Pucher & Buehler, 2006; Parkin et al., 2008; Stevens, 2016), infrastructure for bicycle (Abraham et al., 2002; Stinson & Bhat, 2003; Hull & O’Holleran, 2014; Hong et al., 2020) and facilities at work (e.g. bicycle parking, changing and shower facilities) (Abraham et al., 2002; Hunt & Abraham, 2007). Other socio-economic and demographic factors such as age, gender, income, employment status, car ownership also affect an individual’s decisions to cycle (Boumans & Harms, 2004; Pucher & Buehler, 2006; Dill & Voros, 2007). Several studies found that people’s psychological factors (e.g. attitudes, social norms, habits) significantly affect cycling behavior (Verplanken et al., 1997; de Bruijn et al., 2005; Eriksson & Forward, 2011). Other factors including travel time and effort, transportation cost, and safety also play an important role (Pucher & Buehler, 2006). There are fewer studies on factors related to the natural environments such as landscape, weather, and climate; however, these factors were found to have an influence on bicycle use (Dill and Carr, 2003; Pikora et al., 2003; Parkin et al., 2008; Meng et al., 2016).

Despite this rich body of literature on cycling behavior and choice, very few numbers of studies were conducted in the context of Southeast Asia (Le

Loo et al., 2015). This warrants a risk of imposing Western regions’ knowledge of cycling to inform policymaking in the Eastern regions. Due to the differences in culture, climate regimes, and degrees of development between these two regions, travel behavior and attitudes are non-generalizable (Le Loo et al, 2015). Similarly, the transferability of studies on cycling behavior among cities within one country is also not straightforward. In the US and Europe, the share of cycling differ between cities even within the same country (Buehler & Pucher, 2011; CIVITAS, 2016; Nelson & Allen, 1997). The reasons were cited as location’s different characteristics in terms of demographic (e.g. percentage of students in the city population), built environment (e.g. less sprawl), cycling conditions (i.e. cycling safety, cycling facilities), local gasoline prices, and car ownership (Nelson and Allen, 1997; Dill and Carr, 2003; Buehler & Pucher, 2011). Thus, research of cycling behavior at a city level is important in generating specific knowledge and understanding about this issue.

2.2. Adapting Theory of Planned Behavior for a qualitative study of cycling

With the efforts to explain or predict one’s performance of a particular behavior, several theories have been employed, including the Theory of Planned Behavior (TPB) (Ajzen, 1991). Human behavior is reasonable and is guided by attitudes, subjective norms, and one’s perception of control factors that inhibit or facilitate the behavior as seen in Figure 2.

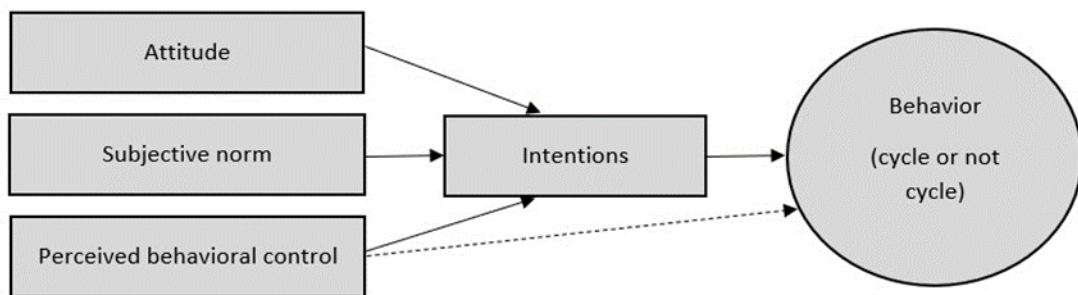


Figure 2. The Theory of Planned Behavior (adapted from Ajzen, 1991)

As Montaña and Kasprzyk (2008, p. 71) explained, the first element, which is attitude, is ‘determined by the individual’s beliefs about outcomes or attributes of performing the behavior (behavioral beliefs)’. A person’s subjective norm is ‘determined by his or her normative beliefs, that is, whether important

referent individual approves or disapproves of performing the behavior’. Finally, perceived control is ‘determined by control beliefs concerning the presence or absence of facilitators and barriers to behavioral performance’.

TPB is the most-cited theory used in travel behavior research (Panter & Jones, 2010). It provides an excellent framework to explore factors influencing human behavior (Montaño and Kasprzyk, 2008). The three elements of TPB, including attitude, subjective norm, and perceived behavioral control were indicated to have significant impacts on cycling decisions (Gatersleben & Uzzell, 2007). This study is inductive research with no hypothesis about factors that influence people’s cycling choices. Qualitative data collected from interviews are described and explained based on this theory. This framework serves as a guide for coding the formation of categories of the factors affecting bicycle use decisions, which will be explained further in the following section.

3. METHODOLOGY

Since travel behavior is a complex subject (Clifton & Handy, 2003), and qualitative methods is ‘vital to understanding the complexity of transportation

Table 1. Sample distribution based on selected characteristics

Age group	Cyclists		Former cyclists		Non-cyclists		Total
	Male	Female	Male	Female	Male	Female	
18-29	1		2				3
30-44			1	2			4
45-59		2				1	3
≥ 60	1					1	2
Total	2	3	3	2		2	12

The three types of cyclists were defined as follows: (1) ‘Cyclists’ are those who are currently using bicycles for any purposes and ride bicycle at least one time per week (5 participants), (2) ‘Non-cyclists’ are those who have never used bicycles before (2 participants), and (3) ‘Former cyclists’ are those who used to use bicycles to travel in the past but currently have switched to other alternative transport modes (5 participants).

Since participant selection is based on criteria such as cycling experiences and several demographic characteristics, purposive and snowball techniques were employed to ensure having enough participants that meet the criteria of the research. In the samples, the number of females (7) was a little higher compared to males (5). The participants had ages ranging from 21 to 64 and were quite well allocated among the three types of cyclists. There were two students, six full-time workers, one homemaker, and two unemployed. Educational levels of participants ranging from elementary to university graduates. Most of the participants lived

behavior, which rest upon the subjective beliefs and behaviors of the individual person’ (Poulenez-Donovan and Ulberg, 1994), a qualitative method, which is a semi-structured interview was employed in this study to explore factors that encourage or deter people from cycling. As this is an exploratory study about potential factors influencing people’s cycling decisions, the sample size was relatively small, with twelve participants. The results were discussed to gain insights into potential factors influencing individual cycling choice in Long Xuyen and did not aim to be generalized.

The sample of twelve people over 18 years old was chosen based on their cycling experiences: cyclists, non-cyclists, and former cyclists. In order to access a diversity of experiences of cycling, participants will be selected across age (18-69), gender (all genders), and profession (employed, unemployed, self-employed, retired).

in households that owned motorcycles, and two of those also had cars.

Interviews were undertaken in a quiet, public place, and were recorded from a hand-held recording device. Data collected and recorded during the interviews were fully transcribed. Grounded Theory (Strauss & Corbin, 1998) with Charmaz coding approach (Charmaz, 2006; Thornberg & Charmaz, 2014) were employed to analyze the data. However, rather than fully applying the three stages of Grounded Theory, researcher did not use the third stage which involves the formation of theory. Instead, the first stage was used to identify ideas and concepts, and the second stage was combined with the analytical framework TPB to set up categories of factors influencing people’s choice of cycling.

4. FINDINGS AND DISCUSSION

4.1. Factors influencing people’s choice of cycling

People’s cycling choice in Long Xuyen was influenced by attitudinal factors such as health,

environmental concerns, safety, mobility, pace, speed and travel time. Factors of subjective norm included the recommendations from important referents such as parents and friends, and the social

norms of cyclists' low status. Factors of perceived behavioral control included travel distances, costs, road surface quality, climate and weather. Habit was also found affect people's choice of cycling.

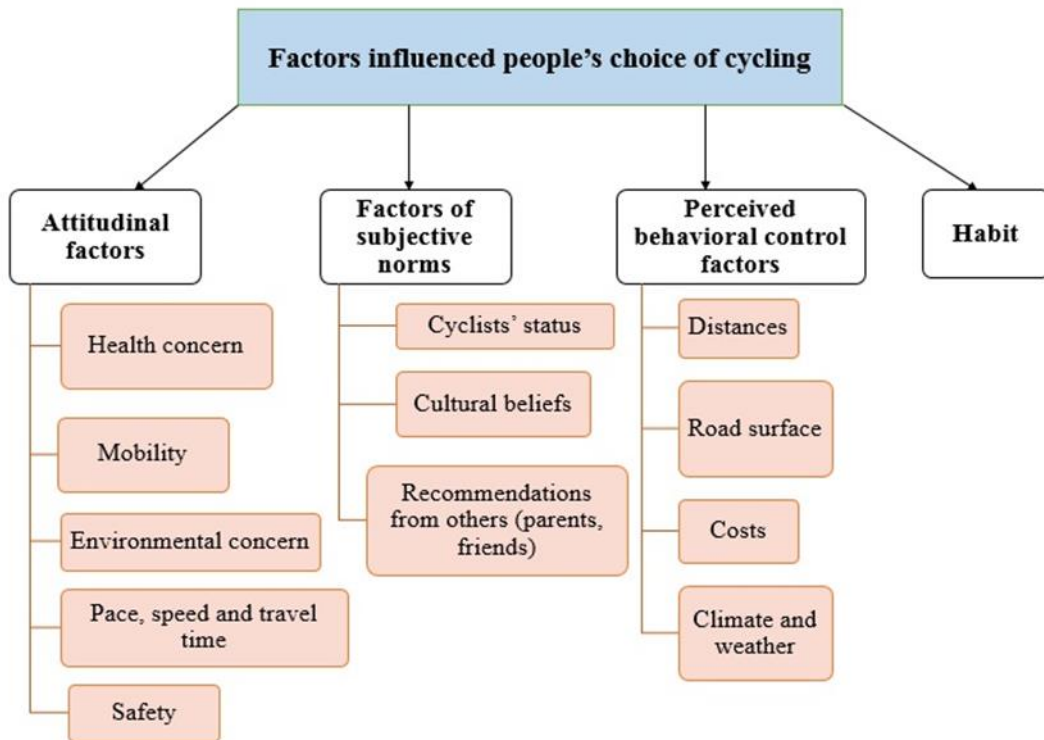


Figure 3. Factors influenced people's choice of cycling in Long Xuyen

4.1.1. Attitudinal factors

a. Health concerns

Nine participants choose to cycle as they see the health benefits of riding bicycles. A male cyclist (63 years old) talked about his decision of cycling:

‘... I’m already old. Cycling is a kind of sport that helps me to improve my health. I do exercise in many ways, and cycling is an option that can help me be healthy when I’m aged. That’s why now I choose to bike more.’

It is interesting to note that the majority of participants, including both current cyclists and former cyclists, recognized the positive effects of biking on their health and believed cycling is an important activity to achieve that. In fact, cycling has been widely recognized as an active travel mode that adds to overall physical activity which in turn reduces the risks of several chronic diseases such as obesity, cardiovascular disease, and diabetes (Braun et al., 2016). Therefore, the participants who care

about their health will have a strong motivation to ride bicycles instead of motorbikes or cars. This finding was found similar to previous studies. For example, Akar and Clifton (2009) conducted research about cycling on campus and found that when respondents recognized cycling could help them to maintain their health, they would consider riding bicycles to exercise.

b. Pace, speed and travel time

Travel time is another factor that has an influence on people's choice of travel cycling in Long Xuyen. For instance, one male participant, a former cyclist (35 years old) pointed the reason he does not choose bicycle:

‘The main reason that I don’t use bicycle is that I want to save time... Because of my work characteristics, it requires much traveling to contact with other offices, so it would be fast and convenient if I use motorbike.’

Indeed, previous research indicated that many people prefer short travel time (Hunt & Abraham, 2007), and that long travel time by bicycle was often perceived unpleasant (Wardman et al., 2007). In this study, the slow pace and speed when traveling with bikes were again, perceived as a disadvantage due to long travel time. However, this is not always the case because there were participants who considered these features of cycling as an advantage:

‘... riding a bicycle with leisurely pace allows me to have time for sight-seeing and observe changes of our city.’ (female, cyclist, 55 years old)

‘When traveling by motorbike, it’s too fast to look around. The reason I choose cycling is because I can ride slowly, allowing me to observe everything around.’ (male, cyclist, 21 years old)

It is worth noting that there were different attitudes towards pace, speed, and travel time when using bicycles. The reason could be that people can ride bicycles for different purposes. Specifically, those who travel to workplaces are usually put under time pressure as they have fixed work hours, and thus, prefer other faster travel modes. On the other hand, those who have leisure time to cycle for exercise, or recreation purposes may accept the slow pace of cycling and thus, have time for enjoyment of the city’s scenery. This was evidenced by previous study where travel time in recreation trips was perceived less important compared to commuting trips (Heinen et al, 2010).

In addition to cycling purposes, differences in occupations were also found resulting in different travel time and speed demands among respondents, which in turn affected their travel mode choices. For example, a respondent pointed out:

‘Many people who sell lottery also ride bicycle...Riding bicycle slowly allows them to find customers easier...No, you can’t sell lottery if you ride a motorcycle, it’s too fast.’ (female, former cyclist, 43 years old)

Depending on the occupational characteristics, pace and speed could be perceived positive or negative, and thus, affect cycling decisions. As one participant said that since his work requires traveling to different places, using motorcycle would help him arrive at the places quickly, and therefore, he did not use a bicycle. Selling lottery tickets on the other hand, requires the sellers to meet and invite customers to buy tickets, and thus, the sellers can only approach the customers by walking or riding a bicycle.

c. Environmental concern

Recognizing the environmental benefit of riding a bicycle, seven participants said they choose traveling with bikes to protect the environment.

‘There are too many motorcycles now, which cause more pollution due to the exhaust fumes released from those vehicles. I think I should do something to help reduce pollution that may benefit society. Riding bicycle won’t cause pollution and helps the air fresher ... That’s why recently I like to cycle more.’ (male, cyclist, 63 years old)

Indeed, cycling has been widely defined as an environmentally-friendly activity. Therefore, the participants chose biking over other motorized transport because they wanted to contribute to protecting the environment. This finding was similar to Daley et al (2010)’s, where cyclists felt good as they could do something positive for the natural environment. Other research also found people who have high ecological awareness (i.e. cycling is good for the environment) tended to use bicycles for commuting (de Geus et al., 2008).

d. Safety

There were five participants who answered that safety issues have affected their cycling decisions. One female respondent (non-cyclist, 64 years old) was concerned about safety because she used to have a bad experience with bicycles in the past:

‘I don’t want to try bicycles anymore... I’m scared of accidents. When I was 12, I was hit by a bicycle and although I wasn’t injured, I was really scared and I have always thought about that.’

The other four respondents, on the other hand, decided to use bicycles because they feel safer compared to other travel modes.

‘Cycling is much safer. If I have to choose one between bicycle and motorcycle, I will choose a bicycle... When I ride motorbike, I don’t dare to cross the road, it’s scary; but with bicycle, I can go anywhere. For example, if the street is too crowded, I can stop and walk my bike. If the street is less crowded or empty, I can cross the street on my bike.’ (former cyclist, 43 years old)

Another respondent also believed that riding a bicycle is safer compared to other transport modes in the context of street crimes:

‘... You know that area, don’t you? That area is very complex. If you travel by motorbike at night around 11pm, they can stop you, hit you and get away with

your motorbike... if you ride bicycle, and wear normal clothes, they will think you're a manual laborer and they will not attack you.' (female, cyclist, 40 years old)

It is clear that safety issue plays a role in participants' biking choices. This was illustrated by the case of the first respondent, who has never tried bicycle because of her experience of being hit by a bicycle in the past. Although it happened more than fifty years ago, the negative impression about safety involving cycling has remained that made her afraid and stopped her from trying bicycle. Indeed, previous studies revealed that concerns about cycling safety deterred people from using bicycle. For example, Heinen et al (2010) pointed out that many people thought 'cycling was less safe than walking, driving a car or using public transport' (p.74) and therefore did not use bicycles.

However, it is interesting to note that while cycling was usually perceived less safe compared to other travel modes, especially at night (Department for Transport, 2010; Heinen et al., 2010), this study had a different finding. According to the respondents, they decided to use bicycles because they felt safe to cross the roads and travel at night-time. This difference could be due to the fact that in Viet Nam, motorcycle is the dominant travel mode. Instead of comparing safety between using bicycles and cars or public transport, the respondents compared the safety between using bicycles and motorcycles. As a result, the respondents chose bicycle over motorcycle since they perceived riding a bicycle is safer in many cases.

e. *Mobility*

Mobility characteristics such as the flexibility of movement (i.e. stop or start) of travel modes may influence people's choice of a particular travel mode. There were three respondents choosing to ride bicycles because of their distinct mobility compared to motorcycles.

'I find that biking is easier than riding a motorbike. For example, when traveling on bad roads, if I ride a bicycle, I can stop sometimes and avoid potholes simply by walking my bike while it's hard to do with the motorbike.' (female, cyclist, 55 years old)

'The night market is often very crowded. If I ride a motorbike, I have to accelerate many times as I want to have a look at each stall, and if I do it every time I change to another stall, it would release exhaust fumes which will badly affect my health, it also costs petrol and I have to spend more time for

moving in the crowd, really tired! With a bike, it's easier. I just need to walk my bike when I move to another stall, much simple.' (female, former cyclist, 30 years old)

The influence of mobility factor on cycling decision was not widely discussed in the literature. This could be due to the predominance of literature on developed countries' contexts, where road infrastructure is generally well-maintained and there may be not many traditional/street markets. In a developing country like Viet Nam, especially in small cities like Long Xuyen, small roads with poor quality, and congestions are very common. Cycling will allow more flexibility for riders as they can stop to walk with their bikes through bad roads to avoid discomforts and sometimes accidents. In addition, when going shopping around in crowded street markets, where stalls are placed side by side, it is understandable that mobility becomes an important feature of the travel mode that people would choose.

4.1.2. *Factors of the subjective norms*

a. *Recommendations from others*

In travel behavior, encouragement and recommendation from other people can play a role in one's choice of travel mode. A male, 25 years old, the former cyclist said that his decision of cycling was partly because of the advice from his parents:

'... They think I'm a little chubby and it's not good, so they told me to cycle to improve my health.'

He confirmed when being asked whether his decision of cycling was actually based on their recommendation: 'Yeah, sometimes it matters because I usually listen to my parents.'

Another respondent talked about the situation that he successfully convinced several of his friends to ride bicycles with him: '... it has been a call for groups of old friends biking together, not only for sport but also to have fun.'

Later he added: '... they did make time to ride bicycles. Several people who are already retired, bought bicycles. Even in the area surrounding my place, some working people have also started to buy bicycles. Walking, cycling together, it's quite fun.'

In fact, the link between one's cycling behavior and perceived social norms was identified before in the literature. A stronger intention of using bicycles was found as a result of the support of the riders' friends or family (Eriksson & Forward, 2011) or those who

are perceived important to the riders (de Bruijn et al., 2005).

b. Social norms of cyclists' status

The norms about the low status of cyclists were also identified by several participants as one of the factors that influence their decision or other people's decision to use bicycles. One participant said many people choose to use motor vehicles instead of bicycle to avoid being perceived as a person from low-income population:

'Sometimes, maybe depend on each individual, several people think that if they ride bicycles, other people will think that they are poor, so they want to switch to motorcycles or cars.' (male, former cyclist, 25 years old)

Therefore, people may desire to switch from bicycle to motor vehicles because it could make people overcome the feeling of being in a low status: 'When I see my friends [riding motorbikes] like that, I want to be equal to them.' (male, former cyclist, 25 years old)

This finding about the effect of the perception of cyclists' low status on cycling choice were in line with previous research. For example, qualitative research conducted by Daley and Rissel (2011) in Sydney found that commuter cyclists felt themselves being treated as second-class citizens and not professional since they did not have a car.

It was also interesting to note that the norm in which cyclists are perceived as low-class was remarked upon by males. A participant talked about her male grandchild's decision of switching from bicycle to motorbike. She said as being a male, it is expected that he needs to be able to financially support his life and his future family. Motorbike is something that can add to his life and his image which implies his incomes. He could be judged by other people by looking at his image, including his mobility.

'My grandchild turns 18 this year, he has friends, and he has to keep up with them. He used to always ride bicycle, and currently he rides electric-bicycle. In holidays this year, he hung out with friends. He has a girlfriend, that's why he went with a motorbike... A male should be like that, being a little splurge. He needs to have as much things as possible, otherwise his friends will laugh at him. I can sympathize at this point.' (female, non-cyclist, 64 years old)

Another reason a person gets rid of bicycle to switch to motor vehicles such as motorcycle or car was also

due to the norms that motor vehicles mean an improvement or a progress that the person achieves: '... when people earn more money, they begin to become snobs because they think "how can I ride bicycle for my whole life?", so they start to switch to motorbikes and head to cars, people want to make improvement, don't they? They don't think bicycle as a travel mode anymore. The point is that they want something luxury, beautiful and fast.' (female, former cyclist, 30 years old)

Not only in the context of Viet Nam, but also in Western countries, switching from bicycles to motor vehicles such as cars was considered as a necessary progress. As indicated by Daley and Rissel (2011), there was a norm in Sydney, the 'prevailing car culture', that bicycles are for young people, and when they get old enough, they need to have a car, which is a 'socially reinforced as a rite of passage to adulthood' (p. 214).

4.1.3. Factors of behavioral control

a. Travel distances

Travel distance is another determinant of people's cycling decisions. Longer travel distance requires bicycle riders to spend more time and effort to make the journey. As a result, if travelers perceived that the destination is too far, they will be more likely to use other modes.

'Well, it's ok to ride [bicycle] within 5 or 7 kilometers but if the distance exceeds that then I have to travel by bus or coach.' (male, cyclist, 63 years old)

In literature, several studies showed that long distances would discourage individuals from using bicycles (Cevero, 1996; Parkin et al., 2008; Handy et al., 2010). This study found a similar pattern and thus, was consistent with previous studies.

b. Costs

There were seven respondents who agreed that the relevant costs of different travel modes impact their cycling decisions.

'Using a motorbike is not only costs petrol but also not good for the environment. With a bicycle, even the tire is broken down, it doesn't cost you too much, just several thousand Vietnamese dong to fix. With a motorbike, I have to spend some hundred thousand dong. I'm poor and just can't find that money to pay for it.' (female, cyclist, 55 years old)

For poor people, the impact of costs on their travel mode choice was more obvious. One respondent

said that she has met several people that cannot afford a motorcycle, and they had to ride a bicycle because they had no choice:

‘If they don’t have enough money to buy motorbikes but they have to go to their workplaces every day, they must use bicycles.’

In literature, it was found a similar effect of costs on people’s travel behavior. For example, in several cities of the US, higher gasoline prices led to an increase in bicycle use (Dill & Carr, 2003). Similarly, the high costs of owning, parking, and driving a car encouraged people to switch to cycling (Pucher & Buehler, 2006).

c. Road surface quality

There were four participants said that the reason for themselves and many other people do not ride bicycle was partly because of the bad road surface. A respondent observed:

‘... If the road is flat, cyclists when riding at night will feel comfortable. People like cycling on non-potholed roads rather than the broken ones, so they would choose motorbike because they want to pass the rough roads quickly.’ (female, cyclist, 55 years old)

Indeed, the quality of road surface may influence one’s feeling of comfort, safety, and cycling experiences, and thus, has an effect on their travel mode choice. Stinson and Bhat (2003) found that for experienced cyclists, or for certain groups of cyclists such as the elderly or women, surface quality was perceived as an important feature for cycling.

d. Climate and weather

There were two respondents said the natural environment such as climate and weather affecting their cycling decisions.

‘Regarding the climate, it’s good to ride bicycle in the morning but if riding in the afternoon, it’s quite hot, and sweating, and tired.’ ‘The main problem is that it’s too hot to ride bicycle’, he added. (male, former cyclist, 25 years old)

‘If it’s a big rain, and it’s very windy, then I can’t ride a bicycle in that weather.’ (male, cyclist, 63 years old)

In literature, there has been an increasing realization of climate and weather’s impacts on cycling decisions. Research indicated that in Singapore, cyclists prefer 29.5–31.5°C (Meng et al., 2016), while those in the Netherlands prefer 24°C (Böcker

& Thorsson, 2014). Although preferences in temperature for cycling are different among countries, the ideal temperature is generally expected not too high to be perceived as ‘too hot’ to ride bicycles. In the context of Long Xuyen, since it is located in the Western South of Vietnam which has a tropical climate, the high temperature may discourage the locals to use active modes like bicycles.

4.1.4. Habit

One respondent, who is a former cyclist (aged 35) said one of the reasons that he continued to use a motorcycle was because it was his habit.

‘To be honest, from the day that I began to ride a motorcycle until now, I’m lazy to use a bicycle...’

When researcher asked ‘You mean it’s like riding a motorcycle has formed a habit which is when you ride it, you already feel satisfied and therefore you don’t think about riding a bicycle anymore? You think it is a habit?’, he agreed ‘Yes, it’s a habit.’

This is an interesting and important finding because the influence of habit factors on people’s choice of cycling was under-studied in the literature (Heinen et al., 2010). In this research, it could be noted that habit, to some extent, did influence one’s travel behavior and choice, particularly in the way that a person uses a travel mode frequently and feels satisfied with it, such as a motorcycle, his or her use of the travel mode could become an unconscious action since he or she does not consider or seek for other alternative travel modes, including a bicycle.

5. CONCLUSIONS AND IMPLICATIONS

Most of the results found in this research support previous studies. Interestingly, habit, the factor which was found to have a vague impact on cycling decisions in literature, also appeared in a respondent’s decision towards cycling. However, it is important to note that in the studied area, there were other factors (i.e the mobility that bicycle provides) influencing cycling intention. Another point is that different contexts could lead to different interpretations. Safety, for example, while it was found negatively affected people’s cycling decisions in previous studies, in this research, it was one factor that encourage respondents to ride bicycles. Thus, this study again emphasizes the importance of contexts while studying cycling behavior.

The theory of planned behavior used in this qualitative research provides an appropriate

analytical framework that was crucial for describing the links between the three elements: attitudes, subjective norms and perceived behavioral control, and respondents' cycling decision. However, it could be noted that although most factors influencing cycling behavior in this research could be explained using TPB, another factor such as habit was found outside the framework. This recommends that future studies on cycling choices should consider habit as a contributory factor besides the common three of TPB.

The findings of this research provide some implications to policymakers in Long Xuyen. Traffic education and training or bike promotion and public awareness campaigns could have positive measures effect on people's cycling choice. Since recognizing health environmental, mobility benefits encourage respondents to ride bicycle, dissemination, and campaigns about cycling benefits could help more people think about using bicycle. In addition, traffic education and training could help to increase traffic awareness that improves the cycling condition in Long Xuyen. Programs to encourage biking in cities together with public awareness programs are also important in

changing views towards the low status of cyclists. More importantly, these measures may be also crucial in enabling people to question the habit of using motorbikes, leading to the reconsideration of another travel mode such as bicycles. Regarding the issue of travel distance, planners in Long Xuyen should consider changes related to locally built environment aspects such as urban densities and land use because high urban densities and mixed-use of land supported cyclists in terms of shortening their journey distances.

Despite the potential contribution of this exploratory study for future research in cycling behavior, it has several limitations. The sample size was relatively small; therefore, the results may miss other factors that influence cycling decisions. Additionally, the small sample size made it impossible to identify the link between socio-economic and demographic factors (e.g age, gender, income) and cycling choice while these factors may also have an influence on bicycle use. Another limitation related to the nature of qualitative research, which can shed light on a range of attitudes that are present amongst the population, but less on how these attitudes are distributed within the population.

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