A Study Examining Behavioral Factors Impacting Students Intention to Wear a Helmet Whilst Using a Motorcycle in Bangkok, Thailand

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ABSTRACT

Motorcycles are a common mode of transport across Asia, due to the convenience and efficiency in urban areas. In Thailand, 87% of people own a motorcycle, and 400 more motorcycles were registered every day in 2018 than in 2017. Despite the fact that wearing a helmet is required for both riders and passengers nationwide, it is still not widely practiced. Moreover, riding a motorcycle without a helmet increase the risk of death exponentially, particularly in young people who often choose to ride a motorcycle without a helmet. In this study, behavioral factors such as attitude, subjective norms, and perceived behavioral control are examined to identify the leading factors that impact students' intentions to use a helmet. This study includes the Theory of Planned Behavior (TPB) to predict behavioral intentions among students who use a motorcycle in Bangkok, Thailand. Cross-sectional data was collected via Google form from two universities in Bangkok using purposive convenience sampling techniques. The result indicated that all the hypotheses are supported and significant which means that students who ride or drive the motorcycle, they have higher intention and behavior towards wearing the helmet.

Keywords: Motorcycle helmet, Theory of Planned Behavior, Subjective Norms, Perceived Behavioral Control, Thailand

INTRODUCTION

Background of the study

The economies of developing Asian nations are expanding quickly, urbanization is accelerating, and lifestyles are changing. Because of this, the number of people who own privately driven vehicles is increasing quickly, which could soon result in significant changes to transportation infrastructure and human travel habits (Morichi, 2009). Throughout Asia, motorcycles are one of the most frequently used modes of transport since motorcycles are relatively cheap to own and operate and are more maneuverable in congested cities – commonly attributed across many Asian cities (Darido, 2010). In most cities across Asia, population growth is increasing faster than urban footprint growth, leading to immense strain on city infrastructures and transport networks and causing mass traffic disruptions (Deuskar, 2015). Motorcycles have become efficient for commuters to get from one place to another relatively quickly. Used primarily for transport, motorcycles are often modified to transport cargo and take the form of couriers, taxis, and emergency service vehicles.

Motorcycles are part of everyday life among ASEAN nations, as the total number of registered motorcycles in 2019 was 106 million in Indonesia, 62 million in Vietnam and 21 million in Thailand (Saenprasarn et al, 2021). In Thailand, 87% of households own at least one motorcycle; in a country with 70 million people, there is one motorcycle for every 3.5 people (ASEAN Now, 2022). In 2018 the rate of new motorcycle ownership was increasing at an astonishing 400 new motorcycles per day in Thailand (Achakulwisut, 2018), showing the true extent of how in demand these types of vehicles are.

The United Nations Economic Commission for Europe (UNECE) suggested that using a motorcycle without a helmet removes an additional layer of protection that could otherwise be the difference between life or death in the event of an accident. The United Nations Motorcycle Helmet study –showed that motorcycles were 26 times more likely to die than drivers or passengers of automobiles (UNECE, 2016). The UNECE study also mentions that wearing a helmet increases an individual's chances of survival by 42 per cent and helps prevent 69 per cent of common injuries caused by motorcycle crashes (UNECE, 2016). Medical experts believe that "the only effective approach in dealing with a head injury is prevention … not to let the injury occur in the first place." (Singer, 2016).

Even though the use of motorcycles is high in Thailand, research conducted in 2013 shows that helmet usage is still relatively low throughout the country, despite helmet use being compulsory for both riders and passengers according to the Helmet Act of 1994 (Jiwattanakulpaisarn et al., 2013). A recent survey found that nationwide helmet use rate was 43.7% in 2010; nevertheless, 97.2% of motorcycle users claimed to own helmets (Ackaah et al., 2013; Suriyawongpaisa et al., 2013). In general, when an individual does not wear a motorcycle helmet, it represents an unnecessary risk that the user exposes themselves to in an already dangerous environment. Usually, wearing an approved helmet while driving can cut your risk of death by 40% and serious injury by 70% (WHO, 2013; Liu et al., 2008; Abbas et al., 2012).

Some research has been conducted on helmet use as it pertains to motorcycle riders, showing that the lack of awareness of helmet law enforcement was a contributing factor influencing the use of helmets in Thailand (Jiwattanakulpaisarn et al., 2013; German et al., 2019). In a study, Kumphong et al, (2017) claimed that young adults between 17 – 29 contributed to the most high-risk group and therefore were most in need of targeted preventative measures.

Purpose of the study

In Thailand, the usage of a helmet is still not always observed among motorcycle riders, with passengers having a more pronounced lack of compliance. In this regard, the main purpose of this study is to explore and understand the behavioral factors of wearing a helmet whilst using a motorcycle among university students in Bangkok. The study will use the Theory of Planned Behavior (TPB) model to gain an insight to understand how behavioral intentions are positively related to specific variables such as behavioral beliefs, subjective norms, and perceived behavioral control.

Objective of the study

The main objective of the study is

1. To understand the behavior among the young students to wear helmet during riding the motorcycle by using the theory of planned behavior
2. To explore whether inductive norms and deductive norms have any influence on behavioral intention among the young students to wear helmet or not.

LITERATURE REVIEW

The Theory of Planned Behavior

The Theory of Planned Behavior (TPB) was theorized by Icek Ajzen (1991) as an extension to the Theory of Reasoned Action (TRA) which was first developed by Martin Fishbein and Icek Ajzen (1975). TPB is a theory that is used to explain the link between beliefs and behavior. For the TPB, individual intention to perform a given behavior is also the central factor and the individual's intention to carry out a specific behavior is the main component of the TPB (Ajzen, 1991). In addition, the theory also uses attitude and subjective norms as the attributes of behavioral intention, however, the third characteristic known as perceived behavioral control characterized the fundamental distinction between the two theories (Godin, 1996). According to the TPB, an individual's intentions are directly influenced by the three factors of attitude, subjective norms, and perceived behavioral control.

In addition, Ajzen (1991) identified three kinds of salient beliefs, each related to one of the TPB constructs; behavioral beliefs are related to attituded towards the behavior, normative beliefs are related to subjective norms, and control beliefs are related to perceptions of behavioral control (Greaves, & Stride, 2013). Subjective norms are whether most people approve or disapprove of a certain type of behavior, for the benefit of this study, subjective norms will be split into injunctive and descriptive norms to gain a more specific perspective on subjective norms within the model.

Attitude

The first attributes from the Theory of Planned Behavior model is attitude. Attitude is used to describe the individual's personal attitude towards the behavior (Ajzen, 1991). Godin (1996) mentioned that an attitude reflects how they feel about engaging in a particular behavior, whether positively or negatively (Godin, 1996). Furthermore, attitude is the overall perspective of the behavior that is determined by underlying saliant beliefs (Conner & Armitage, 1998). According to Ajzen, we learn to create positive attitudes towards behaviors we believe to produce mainly positive outcomes and form unfavorable attitudes towards behaviors we believe to produce undesirable outcomes (Ajzen, 2015).

Subjective Norms

The second attributes of the Theory of Planned Behavior is known as subjective norms. Wong (2019) argued that subjective norms are perceptions reflecting perceived social pressure from important others to perform a behavior. In general, subjective norm is whether peers or people of importance to you agree or disagree with engaging in a certain behavior or not (Ajzen, 2015). Additionally, subjective norms show people's expectations of how their reference groups will see them if they engage in a particular conduct (Al-Swidi et al, 2014). Subjective norms are significantly related to attitude towards a behavior due to the social pressure associated with subjective norms (Shrimp and Kavas, 1984, Chang, 1998). Furthermore, Ajzen (2000) claimed

that subjective norms is further explained to include the more traditionally measured injunctive component and descriptive component. Ajzen (2000) further explained injunctive component as whether someone feels their social network approves of them to engage in the behavior and a descriptive component as for instance, whether one's social network performs the behavior.

Perceived Behavioral Control

The third attribute is known as perceived behavioral control and is significant to the theory (Ajzen, 1991). In general, behavioral control is an individuals perceived ability to perform a behavior (Wong, 2019). According to Ajzen (1991), perceived behavioral control is the degree to which a person assesses their level of control over a behavior). In other words, the easier a behavior is to accomplish, the more likely a person is to intend to engage in it (Ajzen, 1991). In addition, Ajzen (1991) argued that people are likely to perceive a high degree of perceived behavioral control if they believe they have access to the required resources and that there are possibilities (or no barriers) for them to engage in the behavior.

Intentions

Intention is the fourth attribute of the Theory of planned behavior and is the function of the three determinants including attitude, subjective norms, and perceived behavioral control. According to Ajzen (1991), when all three functions are united, intentions serve as the motivating force behind a person's behavior. By the individual having the intention to perform a behavior it leads to the individual pursing that intention and completing the behavior based of their intentions (Ajzen, 1991).

Behavior

The last attribute of Theory of Planned Behavior is the actual behavior. Behavior is used to explain any form of human action and interaction that stems from a psychological decision the individual has made (Hamilton, 2022). The concept of planned behavior stated that a behaviors performance is a common consequence of intentions and perceived behavioral control. There are many factors that influence human behavior and Ajzen used TPB as a mechanism to predict future behavior (Conner, & Armitage, 1998). Ajzen even said, "explaining human behavior in all its complexity is a difficult task" (Ajzen, 1991). In the context of the TPB model, behavior is directly linked to intentions.

Injunctive Norms

In this study subjected norms will be split into injunctive norms and descriptive norms. In general, injunctive norms reflect perceptions of what relevant others approve or disapprove of and how these perceptions motivate an individual to perform that behavior themselves (Lee et al, 2007). Usually, injunctive norms is used to explain the conduct that important others deem to be acceptable or not (Matsunaga, 2008). Moreover, injunctive norms is relevant to this study as it will be used to explain the impact that an individual's social circle has on their use of a motorcycle helmet.

Descriptive Norms

The second part of subjective norms is descriptive norms which reflects whether the relevant people engage in the behavior or not (Lee et al, 2007). A key difference is that descriptive norms are perceptions of important people such as family and friends performing the behavior themselves and as an individual seeing those people doing so motivate that individual's perspective of the behavior (Louis, 2012). In general, descriptive norms is used to explain the conduct that important others actually engage in and is relevant to this study as it will be used to explain the impact on an individual when they see important others behaving a certain way (Matsunaga, 2008).

Proposed Hypotheses

Based on the conceptual framework of the Theory of Planned Behavior, the following hypothesis are proposed:

H1: Attitude is positively related to the intention of motorcycle helmet use.
H2: Injunctive norm is positively related to the intention of motorcycle helmet use.
H3: Descriptive norm is positively related to the intention of motorcycle helmet use.
H4: Perceived behavioral control is positively related to the intention of motorcycle helmet use.
H5: Intention variable is positively related to the motorcycle helmet use behavioral variable.
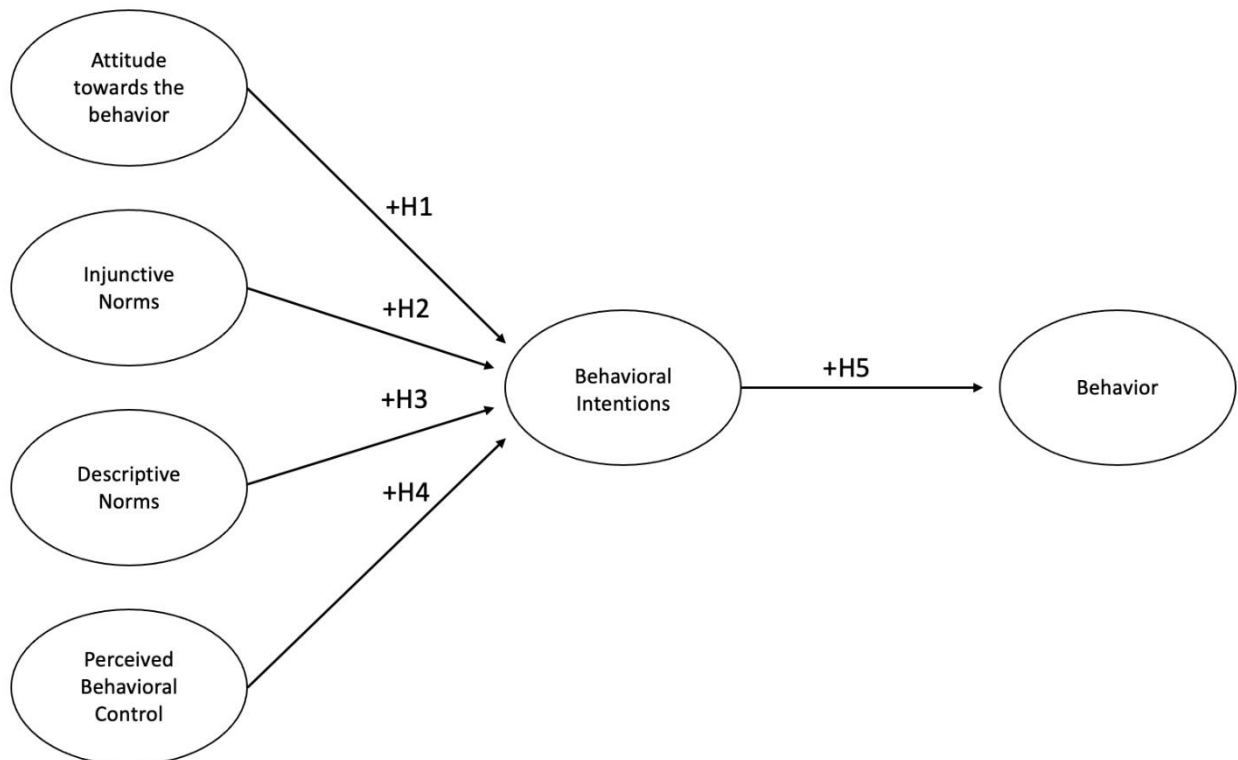
Proposed Conceptual Framework

Figure 1: Proposed Conceptual Model

RESEARCH METHODOLOGY

Research Design

To explore the relationship of the variables in the conceptual framework, an online survey was conducted which was able to collect quantitative data that would better help to examine the recommended hypotheses. According to Kumphong et al., (2017), an online survey is a useful tool for gathering a lot of data about human behavior when doing a study like this one. An empirical study was conducted to explore the relationship between the attitude towards the behavior, injunctive and descriptive norms, perceived behavioral control and intentions among young people's decision to wear a helmet whilst riding a motorcycle in Bangkok, Thailand.

The questions used for the online survey were taken from the literature review, where related research studies were analyzed. The questionnaire comprised of the following components: Independent Variables i.e., Attitude towards the behavior, injunctive norms, descriptive norms, perceived behavioral control and behavioral intention. On the other hand, the student's behavioral decision to wear a helmet was the dependent variable. Demographic variables were also included in the survey questionnaire to identify the gender, age, nationality, education level, job status, and the university of the participants. Additional questionnaire was included to gain further information such as whether the participants were riders or passengers, whether they owned a helmet, owned a license or whether they had been involved in an accident whilst riding a motorcycle.

The data will be analyzed to determine whether the proposed hypotheses are supported and to recommend a solution to the serious issue surrounding helmet compliance in Thailand. As the researcher is a young motorcycle user in Thailand that created the motivation for this study. Further study is recommended on the issue, with a broader scale of research needed to look in-depth into other factors such as cultural, economic and enforcement of laws.

Sample and Participants

An online survey was conducted across two universities in Bangkok, Thailand. Both Thai and International students were approached on campus, and they were asked to complete an online survey. Any student who regularly use a motorcycle in Bangkok, Thailand was considered eligible for the study. As the study is examining a certain population, purposive convenient sampling was used, therefore older participants and young children were excluded. Approximately 200 QR code handouts where distributed with 60 participants completing the online survey.

Scale Measurement

The scale used in this study was adopted from previous literature. Attitude was measured with five items which was adopted from Kumphong et al in 2017 to measure attitudes towards helmet use in Khon Kaen City. Injunctive norms, descriptive norms and behavioral intention were measured with three items which was used by Kumphong et al in 2017. Perceived behavioral control and behavior were measured with three items which was adopted by Taylor & Todd in 1995.

All the items used in this questionnaire were measured with a 5point Likert-Scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). To measure opinions or behaviors of respondents' Likert-scale is widely used as a method to gauge the extent to which someone agrees or disagrees with a statement. Demographic questions covered gender, age, nationality, educational background, job status of the student.

Data Collection

To collect data, an online survey was conducted where participants were asked to complete an online questionnaire. The survey questions were carried out in English and Thai as the participants chose for the survey include Thai nationals and non-nationals, therefore the questions need to be accessible to all. When participants were approached, they were asked if they had used a motorcycle in Bangkok before as it would be relevant to the questions. Cross-sectional data were collected via an online questionnaire through Google Form during the months of August and September 2022. The online survey was administered via a QR code printed on a small handout, which was handed to each participant so that they could complete the survey at their earlier convenience. To ensure complete confidentiality no personal data like names and email address were collected and all participants were advised that they can withdraw from the research survey at any point. Primary data was collected from students across the two university campuses in Bangkok (Chulalongkorn University and Siam University). Moreover, no financial incentives were given to any participants during the survey.

Operationalization of the variables

In the study, there were six independent variables such as attitude, injunctive norms, descriptive norms, perceived behavioral control, behavioral intention and one dependent variable which was behavior. After the data was collected, Exploratory Factor Analysis (EFA) was carried out to identify the validity of the variables using SPSS, this was then followed by Reliability testing each variable. To authenticate the internal consistency, Cronbach's alpha coefficient was analyzed. The hypotheses were tested by computing the regression analysis.

Data Analysis Technique

The data was analyzed using Statistical Package for the Social Science (SPSS) version 25. The responses were imported and saved in the (.sav) format for SPSS calculation. The mean comparison was carried out using SPSS between demographic information and comparison of the helmet use behavior. The data was also analyzed using Pearson's bivariate correlation to find the relationship between the independent and dependent variables. The regression analysis was conducted to test the proposed hypotheses and know how much the model explains from the data.

DATA ANALYSIS

Demographic Information

The respondents (n=60) who participated in the study were a mixed group of students and young people from various nationalities. Among the respondents, there were 24 (40%) male and 36 (60%) female students. The mean age of the respondents was 21.05 years with the standard deviation (SD) of 2.977, with the range of the group between 17 – 29 years. Among

the respondents, there were 25 (41.7%) of respondents were Thai nationals whilst 35 (58.3%) were non-Thai. In addition, most of the respondents were having bachelor's degree 55 (91.7%) , with just 4 (6.7%) were having high school degree and 1 (1.7%) respondent was having master's degree . Among the participants 58 (96.7%) were students, with 1 (1.7%) part time and 1 (1.7%) full time employment. In addition, the respondents were from Siam University 48 (80%), with 11 (18.3%) from Chulalongkorn University and 1 (1.7%) from Burapha University. Furthermore, 37 (61.7%) of respondents were identified as a motorcycle rider whereas 23 (38.3%) identified as a motorcycle passenger. There were 28 (46.7%) of respondents who owned a motorcycle helmet, whereas 32 (53.3%) who did not own a motorcycle helmet. A similar story for motorcycle license ownership as only 35 (58.3%) owned a license with 25 (41.7%) did not have their motorcycle license. The participants who had been in a motorcycle accident was 43 (71.7%) whilst 17 (28.3%) had not been in a motorcycle accident.

Table-1 Demographic characteristics, Motorcycle characteristics

Aspects	Statistics
Gender	Male: 24 (40%)
	Female: 36 (60%)
Age (in years)	Mean: 21.05 Standard Deviation: 2.977
Nationality	Thai: 25 (41.7%)
	Non-Thai: 35 (58.3%)
Education Level	High school: 4 (6.7%)
	Bachelor's degree: 55 (91.7)
	Master's degree: 1 (1.7%)
Employment Status	Student: 58 (96.7%)
	Part time: 1 (1.7%)
	Full time: 1 (1.7%)
University Attended	Siam University: 48 (80%)
	Chulalongkorn University: 11 (18.3%)
	Burapha University: 1 (1.7%)
Which group represents you best?	Motorcycle Rider: 37 (61.7%)
	Motorcycle Passenger: 23 (38.3%)
Do you own a motorcycle helmet?	Yes: 28 (46.7%)
	No: 32 (53.3%)
Do you own a motorcycle license?	Yes: 35 (58.3%)
	No: 25 (41.7%)
Have you been involved in a motorcycle accident?	Yes: 43 (71.7%)
	No: 17 (28.3%)

Analysis of the survey

The results collected from the survey were compiled and analyzed, step by step the results were documents, and all the sub-factors were duly accounted for.

Correlation Analysis

Bivariate correlation was calculated between attitude, injunctive norms, descriptive norms, perceived behavioral control, behavioral intention, and behavioral action. From the correlation analysis, it was noticed that attitude (r=0.693, p=0.000), injunctive norms (r=0.493, p=0.000) and descriptive norms (r=0.589, p=0.000) were positively correlated with behavioral intention. In addition, perceived behavioral control (r=0.686, p=0.000) was positively correlated with behavioral intention. It was further noted that behavioral intention was positively correlated

with behavioral action (r=0.738, p=0.000). From the table below it was identified that all the correlations were significant at 0.000 level (Two-tailed). Table 2 exhibits correlations among all the variables.

Table-2 Pearson's Correlations of the variables

Correlations

		ATT	IN	DN	PBC	BI	BEH
ATT	Pearson Correlation	1	.589**	.437**	.584**	.693**	.709**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	60	60	60	60	60	60
IN	Pearson Correlation	.589**	1	.356**	.442**	.494**	.613**
	Sig. (2-tailed)	.000		.005	.000	.000	.000
	N	60	60	60	60	60	60
DN	Pearson Correlation	.437**	.356**	1	.446**	.589**	.521**
	Sig. (2-tailed)	.000	.005		.000	.000	.000
	N	60	60	60	60	60	60
PBC	Pearson Correlation	.584**	.442**	.446**	1	.686**	.600**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	60	60	60	60	60	60
BI	Pearson Correlation	.693**	.494**	.589**	.686**	1	.738**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	60	60	60	60	60	60
BEH	Pearson Correlation	.709**	.613**	.521**	.600**	.738**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	60	60	60	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

Exploratory Factor Analysis

The result of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO and Bartlett's Test) identified that behavioral intention had the highest factor loading with 0.743 (p=.000) and descriptive norms had the lowest factor loading with 0.592 (p=.000). Table _ shows the factor loading of all the variables. The factor loading of attitude was 0.713 (p=.000), injunctive norms was 0.718 (p=.000), perceived behavioral control was 0.679 (p=.000) and behavioral action was 0.694 (p=.000). Table 3 exhibits the KMO test of all the variables.

Reliability test was conducted to understand the consistency of the variable. The result of reliability test found all the variables at a moderate level. The reliability coefficient (Cronbach's Alpha) was Attitude = 0.697, injunctive norms = 0.885, descriptive norms = 0.702, perceived behavioral control = 0.826, behavioral intention = 0.905 and behavioral action = 0.789. Table 3 exhibits the Cronbach's Alpha of the variables.

Table-3 KMO and Bartlett's Test and Cronbach Alpha of the variables

Variables	KMO*	ALPHA	Sig
Attitudes	.713	0.697	.000
Injunctive norms	.718	0.885	.000
Descriptive norms	.592	0.702	.000

Perceived behavioral control	.679	0.826	.000
Behavioral intention	.743	0.905	.000
Behavioral action	.694	0.789	.000

Linear Regression Analysis

Simple regression analysis was computed to understand the linear relationship among the variables. The coefficient beta figure for each variable was collected after computing attitude, injunctive norms, descriptive norms, and perceived behavioral control with behavioral intentions. Behavioral intentions were then computed with the actual behavior of young motorcycle users in Bangkok. From the regression analysis it was noticed that there is a positive relationship between attitude and behavioral intention ($\beta = 0.693$, *p value = .000*) with the R square of 0.480 (i.e., attitude explains around 48% of intention to use a helmet). This support the hypothesis 1 which is statistically significant. In addition, both injunctive and descriptive norms were positively related to behavioral intentions, with injunctive norms ($\beta = 0.494$, *p value = .000*) with the R square of 0.244 (i.e., injunctive norms explain around 24% of intentions to use a helmet). For descriptive norms ($\beta = 0.589$, *p value = .000*) with R square of 0.347 (i.e., descriptive norms explain around 35% of intentions to use a helmet). Both H2 and H3 and are significantly supported. The results further showed a positive relationship between perceived behavioral control and behavioral intention ($\beta = 0.686$, *p value = .000*) with R square of 0.471 (i.e., perceived behavioral control explains around 47% of young people's intentions to use a motorcycle helmet) that statistically supports H4. Lastly, there was a positive relationship between behavioral intention and actual behavior was observed ($\beta = 0.738$, p value .000) with R square of 0.544 (i.e., behavioral intention explains about 54% of actual behavior of motorcycle helmets) that statistically supports H5.

Table 4: Results of Hypothesis testing

| Hypotheses		Result
H1	Attitude is positively related to the intention of motorcycle helmet use	Supported
H2	Injunctive norm is positively related to the intention of motorcycle helmet use	Supported
H3	Descriptive norm is positively related to the intention of motorcycle helmet use	Supported
H4	Perceived behavioral control is positively related to the intention of motorcycle helmet use	Supported
H5	Intention variable is positively related to the motorcycle helmet use behavioral variable	Supported
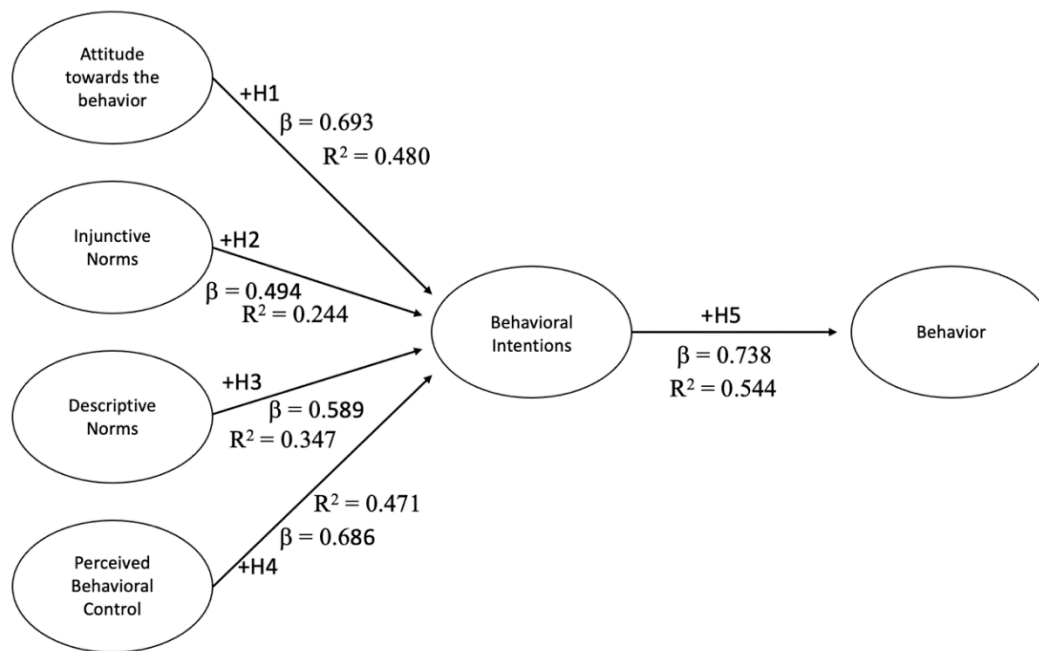
Figure 2: Research Model with regression analysis

Discussion

The purpose of this study was to examine the behavior of young people who regularly use a motorcycle in Bangkok, and how certain factors impact their decision to use a helmet or not in the context of the Theory of Planned Behavior (TPB). The study also looked at factors such as subjective norms or perceived behavioral control and how they impacted behavioral intentions.

Attitude and behavioral intention were found to be positively associated which is supported by another study (Matsunaga, 2008). In general, young people form some of their attitudes through experiences and when young people start to use a motorcycle, they begin to develop their own attitudes towards them, regardless of if they are right or wrong. Some of these attitudes are based on aspects like convenience, cost, and appearance. For example, a young person might form an attitude towards helmets based on the way helmets make them look, and therefore that impacts their decision to use a helmet in the future.

The subjective norm variables: injunctive and descriptive norms and the behavioral intention were all found to be positively associated which is supported by a similar study (Kumphong et al, 2017). Overall, it is clear how much influence we receive from those around us, friends and family; influences that impact the way we behave. If a parent has a belief about a certain behavior, a child is then more likely to act in accordance with their parents' belief. It is even more apparent when it comes to a life and death decision such as wearing a helmet or wearing a seatbelt when driving, we are more likely to follow the perspective of those we care about.

Perceived behavioral control and behavioral intention were found to be positively associated which is supported by another study (Wong, 2019). Perceived behavioral control is an interesting variable as it describes the degree to which personal control is included in the behavioral process. Generally, it is assumed that as motorcycle helmet use is mandated under

Thai Law (Jiwattanakulpaisarn et al, 2013) it could be argued that an individual has zero control on whether they must wear a helmet. The control is taken from them as it is mandatory under law, despite this, motorcycle users break the law by not wearing a helmet.

Behavioral intention and actual behavior were found to be positively associated which compares favorably to a similar study (Greaves et al, 2013). An individual's behavioral intention is usually followed up by the individual performing the behavior. As in most cases if a person intended to wear a motorcycle helmet, there would be very few instances where the intentions weren't pursuing or changed. In real terms, if an individual has an intention to wear a motorcycle, the possibility that they would change their mind is very slim. It could be said that intentions could be strong or weak, meaning if someone's intentions were strong, they would be more likely to pursue them, whereas if someone's intentions were weak, they would be more likely to change.

Limitations

As to be expected, there are some limitations with this study. The first limitation is based on the small sample size which was too small to achieve a definitive result. The small sample size also means the data cannot be generalized and used to explain helmet use for the whole of Bangkok. A second limitation with the study was the language barrier that was apparent in the data collection process. Language barriers impacted the researcher's ability to distribute questionnaires to potential participants. Thirdly, more Thai participants should have been used for the study as it would make the study more relatable to Thailand.
Future studies should include mixed method data collection to improve the data collection and increase the sample size. Additionally, external variables such as culture, education and law enforcement could be examined to explain helmet use in Thailand.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

With urbanization accelerating as fast as it is and many Asian nations witnessing a growth in both their economies and their populations, it is no surprise to see a boom in motorcycle usage across the region. The benefits of using a motorcycle in an urban area are clear to see; they provide convenience, efficiency and are cost effective, which makes them a reliable and popular choice for inner city folk. Riding a motorcycle however does pose some serious risks, that can outweigh their usefulness, in particular the health risks associated with these types of vehicles. The health risks are further exacerbated when operating a motorcycle without suitable head protection. Wearing a motorcycle helmet is a simple choice that could have a big impact on your life, in the case of an accident. It's difficult to identify the leading motivation to not wear a helmet, when they are so readily available, in different styles, sizes and shapes, and the fact that they are required by law. Still, there seems to be a growing number of individuals who choose not to, despite this, young people should be educated on the dangers of not wearing a helmet and should be taught the importance of road safety.

In this study, attitude towards motorcycle helmets was a good predictor to behavior and it can be said that the young people's attitudes impacted their behavior towards helmets. With social media being so prevalent in society, many parts of everyday life are documented in photos and videos, and it could be argued that with this increased exposure to real life tragedy, young

people are more aware of the benefits of helmet use. Young people will start to form their own attitudes based on what they view on social media.

Subjective norms, both injunctive and descriptive normed proved to be good indicators of helmet use behavior. Young people would start to learn from their family members at a young age and develop their own set of subjective norms to follow. If a parent tells their child to always wear a helmet on a motorcycle, the child will likely listen to the advice. Descriptive norms could work in the opposite direction; if a parent does not wear a motorcycle helmet, the child would likely replicate that behavior and not wear a helmet also.

PBC, which is one of the factors of the TPB model was positively associated with behavioral intentions which indicates that personal control or the ability to control one's actions can impact intentions of a behavior. When something is within your control, you can make choices that determine the outcome, in the case of helmet use, it is interesting as the control is set by the law, but still it is flaunted regularly.

Recommendation

The recommendations for future studies include: Collect more data from a larger demographical group in Thailand such as non-students, having a larger sample size would allow for the results to be used to generalize the population. Further studies could focus on wider factors such as culture and religion; examining what role culture and religion plays in helmet use. Another area of study could be the enforcement of traffic laws; examining how the laws could be enforced more effectively to reduce the number of non-compliant motorcyclists.

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