ATRANS
ASIAN TRANSPORTATION RESEARCH SOCIETY

THE POTENTIAL DEVELOPMENT OF LEADER STUDENTS FOR TRAFFIC ACCIDENT PREVENTION IN FACULTY OF PUBLIC HEALTH , KHON KAEN UNIVERSITY, THAILAND.

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ABSTRACT

The Potential Development of Leader Students for Traffic Accident Prevention in Faculty of Public Health, Khon Kaen University, Thailand.

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Abstract

This is particiapatory action research aimed to assess the effectiveness of traffic accident prevention program by applying self efficacy theory and AIC technique and Hiyari hatto to modify the behavior of traffic accident prevention in leader students and leader student exyent to general students further.. The participants were leader students and general student in Faculty of public health as well as other faculty who study at faculty of public health in the year 2016. The students leader received traffic accident prevention program consisted of lectures with PPT, VDO, Vinyl poster and discussions with AIC technique and Hiyari hatto. The duration of the program was 16 weeks. Data were collected before and after implementation by interviewing. Comparing difference of mean within groups were analyzed using paired t-tests. Content analysis for qualitative data.

The results showed that, The mean scores of traffic accident prevention knowledge, self efficacy, expect out come and practice for traffic accident prevention after received a traffic accident prevention program were significantly higher than before (P-$value$<0.05).

The results of this study, showed that the traffic accident prevention program affected to students for knowledge, perceived self efficacy, perceived expect out come , and practice.

It should extent traffic accident prevent program to the other universities.

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CHAPTER 1 INTRODUCTION

1.Rationale and Background

According to the World Health Organization, road traffic injuries caused an estimated 1.24 million deaths worldwide in the year 2010, slightly down from 1.26 million in 2000. That is one person is killed every 25 seconds. Only 28 countries, representing 449 million people (7% of the world's population), have adequate laws that address all five risk factors (speed, drink–driving, helmets, seat-belts and child restraints). It also reported that Thailand had the highest fatalities rate in ASEAN and ranked the third in the world (38.1deaths/100,000 populations).In addition, about 23 and 33 percent of deaths occur among motorcyclists worldwide and among motorcyclists in ASEAN countries respectively. According to Thailand, young people between 15-24 years of age had the highest fatality rate accounting for 32.70 deaths/100,000 populations (The National Statistics Office, 2014, p. 2).

Traffic accidents are a serious problem in Thailand in every province. This leads to public health, economic and social problems. The number of people are killed on road traffic accident each year approximately to 13,000 while the number of injured could be as 1 million, more than 90% of traffic accident found in developing countries. (WHO,2010), Southeast Asia would be predicted most serious of traffic accident problem in the year 2020.

Although the government try to motivate and campaign for decreasing this outstanding problem but it still high risk . Traffic accident is the 3rd cause of dead in each group age of Thailand. The statistics of mortality in the year 2003-2009 was subsequently decline 22.26, 22.02, 20.23, 20.27, 19.85, 18.30 and 16.89 per 100,000 and most cause is motorcyclist. (Royal Thai Police , 2010)
Khon Kaen University is the big university locate in the Northeast of Thailand, Number of student are increasing every year until the year 2014 has 39,164 students. New students is 9,085 persons, 74.5 % was undergraduate students and 25.5 % was post graduate students. Almost students use motorcycle for transportation for daily life, some students is new riding, these major cause of traffic accident.
Reported from university health center found that accident in Khonkaen university in the year 2014 were 665 cases , cause from traffic accident was 320 case and other 345 cases. Some students not use helmet while ride motorcycle, traffic accident occur in the university much more than outside 2.7 time. Some students get severe and death.

Faculty of Public Health Khon Kaen University has 980 students 3 bachelor degree students and 10 curriculums of post graduate. Although the university try to campaign every and focus on traffic accident prevention but student still get traffic accident and lack of a awareness for safety.

Therefore researches would like to conduct the potential development of leader students for traffic accident prevention in faculty of Public Health, Khon Kaen University for decreasing traffic accident prevention and be good model for traffic accident prevention in the university.

2. Research Question

What is the potential development of leader students on traffic accident prevention.?

3.Research Objectives

1.Determine traffic accident situation among leader students and students.

2. Potential development of leader students on traffic accident prevention.

3. leader students implemented on traffic accident prevention among students.

4.Compare Knowledge, attitude and behavior on traffic accident prevention activities among students between before and after implementation..

5. Create model for traffic accident prevention conduction among students in University.

Research Useful.

1. Know situation of traffic accident among students in faculty of Public Health, KKU.
2. Leader students are increasing knowledge and attitude for traffic accident .
3. After implementation students set the program for increasing traffic accident prevention activities.
4. After implementation students gain more Knowledge, attitude and practice

Expect Outcome

1.Understand the context of traffic accident prevention among students.

2.Guideline for decreasing traffic accident among students.

3. Model of traffic accident prevention among students.

Operational definition

Leader students define as student who are member of student club.

General student define as student who study in faculty of public health, not management position among students.

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Research
Report
2016

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CHAPTER 2
LITERATURE REVIEW

2.1 Road traffic accident situation.

Road traffic accident is an increasing to the major causes of global population injuries and deaths,   and has been as a majority global health problem. Estimated almost 1.2 million killed on road crashes while the number injured were high as 50 million (WHO, 2004). The majority deaths are currently among vulnerable road users such as pedestrians, cyclists and motorcyclists. Every day almost 16,000 die from all type of injuries around the world, is the main cause of death among 1-40 year-olds (WHO, 2001), about 25% of all deaths from injuries (Peden et al, 2002), and 90% of global population disability-adjusted life years lost due to crashes, over 50% of deaths occurred among young adults in the age between 5-44 years and the second leading cause of deaths in age between 15-29 worldwide (WHO, 2002). Majority about 90% of problem occurred in low and middle income countries, only 10% occurred in developed or high income countries (WHO, 2002). In economics lost, the cost of road crash injuries is estimated about 1% of GNP in low income countries, about 1.5% in middle-income countries and about 2% of GNP in high-income countries (Jacobs et al, 2000).That due to global health problem which all global regions should be interesting and tackle.

The advances knowledge for solving road traffic accident problem started after WHO's world health report on road safety issued over 40 years ago that induced to the major change in perception, understanding and practice of road injury prevention and shift paradigms among traffic professionals around the world (WHO, 2004). The followed section shift as changed in new knowledge and perception in road traffic accident can

predictability and preventability because when professionals look about crashes, they must be looking about associated causes of crashes, focused on individual level, vehicles and environment. These tropics need good data and scientific approach on epidemiology of crashes and data of evident bases support on causal risk analysis. Road traffic safety has been assumed to be responsibility by all of sectors of social, look on road traffic safety as a social equity issue, human error, and vulnerability in sub-groups of social population. Initially, the transport systems developed in high income countries or developed countries can transfer these succeeded technologies to developing countries. All part of the world have increased on motorization, there need to improve the safety of traffic system and need to quality interventions to reduce the risk of road crashes. The keys performance includes in the sections of enhances policy makers, decisions makers, safety professional and practitioners recognizing on traffic accident is an urgent one, which will integrating in strategies, setting the same goals and looking for appropriate environment and social participation in holistic way. These contexts are challenged to road traffic accident solving problem, all of following should to be developed as: increased potential and capacity for policy making supported by research and quality intervention by private and public sector, national strategies plans or incorporating targets where data allowed, formation on good data support system for identifying problems and evaluating responses, collaboration across all sectors or stakeholders on road traffic accident problem taking, include public and private sectors and accountability, adequate resource and strong political drive.

Death rates of mortality from road traffic accident in Africa region had highest rate in 2002 at 28.3 per 100000 populations, followed as all of developing countries in Eastern Mediterranean region at 26.4 per 100,000, South East Asia region at 18.6 per 100,000. But in Western Pacific region lower than 18.5 per 100,000 and region of Americas lower than 16.2 per 100000, details in figure 1.

Figure 1 Table of Road traffic injury mortality rates (per 100000 population) WHO regions, 2000

Road traffic injury mortality rates (per 100000 population) in WHO regions, 2002

WHO region	Low-income and middle-income countries	High-income countries
African Region	28.3	—
Region of the Americas	16.2	14.8
South-East Asia Region	18.6	—
European Region	17.4	11.0
Eastern Mediterranean Region	26.4	19.0
Western Pacific Region	18.5	12.0

Source: WHO Global Burden of Disease project, 2002, Version 1 (see Statistical Annex).

In ASAEN Country Thailand is second highest severe while Malaysia is the first highest traffic accident prevention as Figure 2

Figure 2 Comparison of Traffic accident in ASEAN

Comparison of Traffic Accidents between Among ASEAN

	No. of Death	No. of Death	No. of Death
	'00,000 people	No. of Accident	No. of injured
Japan	7.0	0.009	0.008
Cambodia	6.4	0.219	0.130
Indonesia	5.9		0.636
Lao PDR	8.1	0.082	0.060
Malaysia	25.0	0.021	0.119
Myanmar	2.5	0.243	0.123
Philippines	0.9	0.070	0.237
Singapore	5.0	0.033	0.026
Thailand	22.9	0.138	0.178
Vietnam	14.0	0.570	0.555

Atsushi Fukuda,2006

The types of road traffic accident were mixed in each region. In low income and middle income countries were increased rapidly in motorization as the result of the proliferation of small and inexpensive motorcycles, the number of motorcycles and motorcyclists were high in these countries and often use for mainly of transport (Mohan, 2002). Road design and traffic management in these countries are generally poor and fail to provide adequate in such a mix of traffic, vulnerable road users such as older, children, pedestrians, cyclists and motorcyclists are vulnerability groups of road users in these countries, then two wheels vehicles have been a large proportion in road traffic collisions. Contrary, in high income or developed countries, the transport technologies advance. The road users increasingly have to share traffic space with four wheel vehicles, such as cars, buses and trucks.

The Global status report on road safety

The Global status report on road safety 2015, reflecting information from 180 countries, indicates that worldwide the total number of road traffic deaths has plateaued at 1.25 million per year, with the highest road traffic fatality rates in low-income countries. In the last three years, 17 countries have aligned at least one of their laws with best practice on seat-belts, drink–

driving, speed, motorcycle helmets or child restraints. While there has been progress towards improving road safety legislation and in making vehicles safer, the report shows that the pace of change is too slow. Urgent action is needed to achieve the ambitious target for road safety reflected in the newly adopted 2030 Agenda for Sustainable Development: halving the global number of deaths and injuries from road **traffic crashes by 2020. Made possible through funding from Bloomberg Philanthropies, this report is the third in the series, and provides a snapshot of the road safety situation globally, highlighting the gaps and the measures needed to best drive progress.**

 Figure 3 **The global number of deaths and injuries from road traffic crashes .**
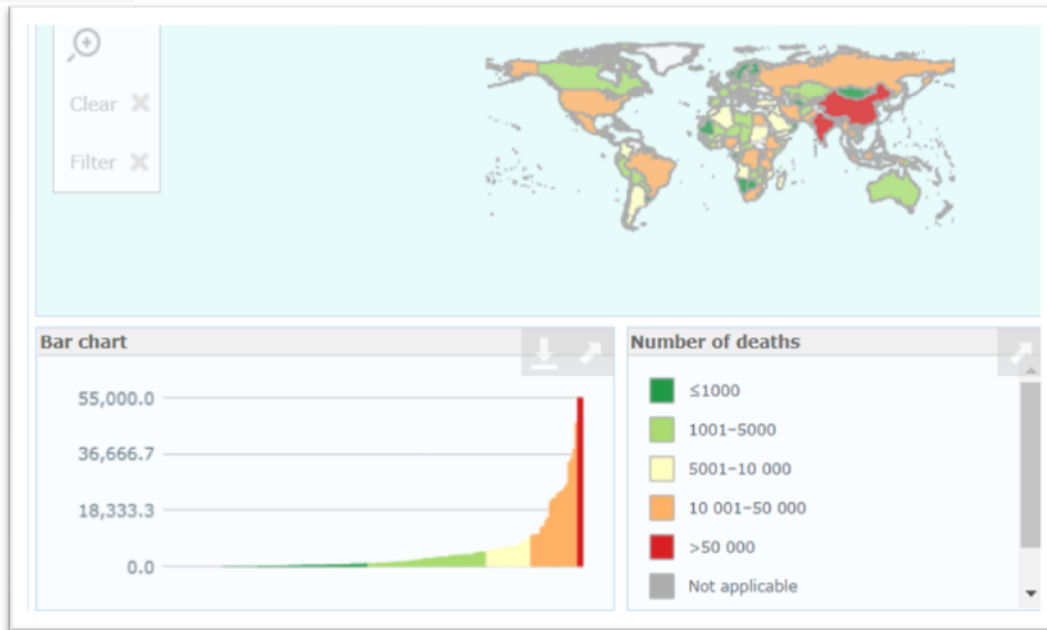
Source : **http://www.who.int/violence_injury_prevention/road** [1 Oct 2017]

2. The road traffic death rate by WHO region and income level

The road traffic death rate by WHO region and income level: In 2013, low- and middle-income countries had higher road traffic fatality rates per 100 000 population (24.1 and 18.4, respectively) compared to high-income countries (9.2). The African region had the highest road traffic fatality rate, at 26.6, while the European region had the lowest rate, at 9.3.

Figure 4 **The road traffic death rate by WHO region and income level**
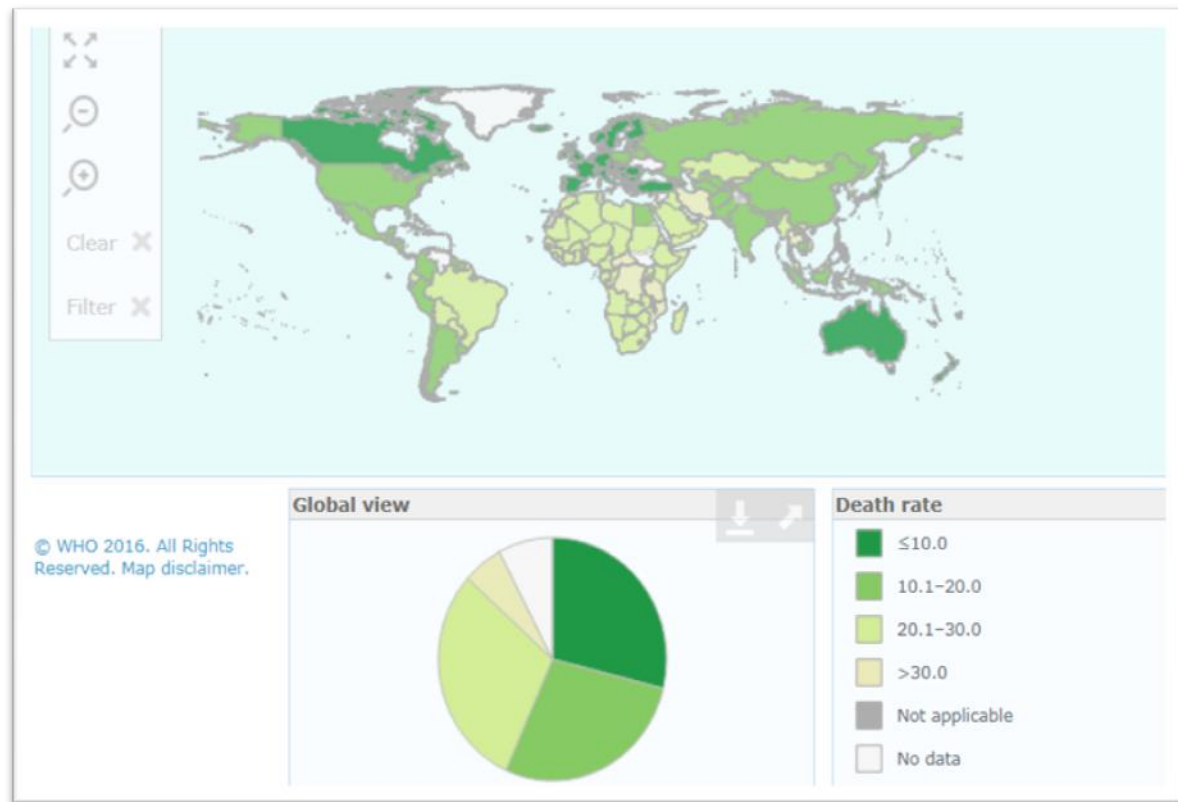
Source : http://www.who.int/gho/road_safety/en/ . [1 Oct 2017]

More than 1.2 million die and as many as 50 million are injured every year in Road Traffic Injuries (RTIs). The overwhelming majority of these deaths occur in low and middle-income countries (LMICs) and 40% in the four BRIC countries alone. Recent trends suggest this gap is increasing. In the past fifteen years, RTIs have increased by almost 80% in Asia and by 40% in Latin America and Africa. The opposite is true in high-income countries, however, where RTI rates have been on a path of steady decline over several decades.

Beyond the enormous personal suffering they cause, RTIs weaken economic growth, place a huge strain on health care systems, and challenge development objectives. Across LMICs, losses due to RTIs are estimated at USD 100 billion/year, a figure which incorporates immediate direct costs, such as hospital care admissions, and longer term human capital costs associated with RTI victims no longer being able to take part in economic production processes. At national level, this aggregate translates into losses

of 1-3% of GDP, a figure comparable to what LMICs receive in development assistance (world Bank,2013)

On 11 May 2011, the Decade of Action for Road Safety 2011-2020 was launched in more than 100 countries, with one goal: to prevent five million road traffic deaths globally by 2020. Moving from the Global Plan for the Decade to national action, many countries have taken measures towards improving road safety, either by developing national plans for the Decade; introducing new laws; or increasing enforcement of existing legislation, among other concrete actions. The recent UN General Assembly resolution on global road safety sponsored by more than 80 countries gives further impetus to the Decade by calling on countries to implement road safety activities in each of the five pillars of the Global Plan. (world Bank,2013)

2.3 Traffic Accident situation in Thailand

Thailand Second in the World (behind Libya) for Number of Road Accident Deaths http://www.thaiwebsites.com/caraccidents.asp [19 August 2017]

These are the countries with the most road traffic deaths

Estimated road traffic deaths, per 100,000 population. 2015

Country	Deaths per 100,000
Libya	73.4
Thailand	36.2
Malawi	35
Liberia	33.7
DR of the Congo	33.2
Tanzania	32.9
Central African Republic	32.4
Iran	32.1
Rwanda	32.1
Mozambique	31.6
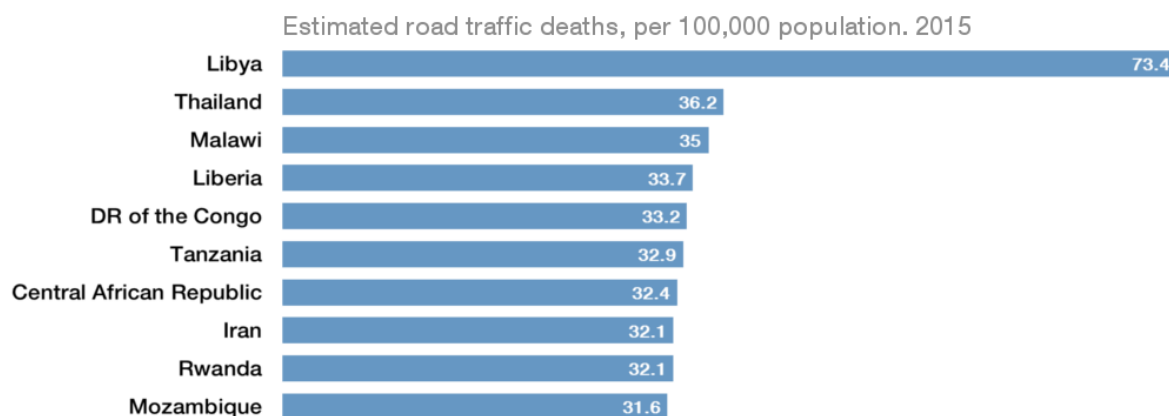
Source: World Health Organisation

Figure 5 Countries with the most road traffic deaths.

The WHO states that according to the Bureau of Policy and Strategy, Office of Permanent Secretary, Ministry of Public Health of Thailand, there were 14,059 traffic fatalities on the road in Thailand, in 2012 (latest available data). We were not able to find a direct report of these data on the website of the Ministry of Public Health.

Interesting is the number of deaths when categorized by type of road user. The amount of drivers (and passengers) killed on motorcycles (including 3-wheelers, we assume tuktuks) is simply stagering. For a large part, these road users are from the low-income category of people, and one dares to suggest that this is part of the reason not more is done to improve road safety in

Thailand. Not shown on this graph : There are about as much accidents in Bangkok as in the rest of Thailand combined. However, the number of deaths and injuries is much lower.

The WHO estimates the number of road traffic deaths in 2013 at 24,237 persons, or a Rate per 100,000 population for 36.2
According to this estimate, Thailand in 2013 ranks SECOND in the WORLD, after Libya, which is in the midst of what can be at least called 'civil unrest'. Though based on data from 3 years ago, this statistic is now invariably mentioned in any article in local newspapers, related to the traffic deaths issue. The number of deaths may be an estimation, but we never noticed it challenged by Thai authorities.

Traffic accident in Thailand > 30
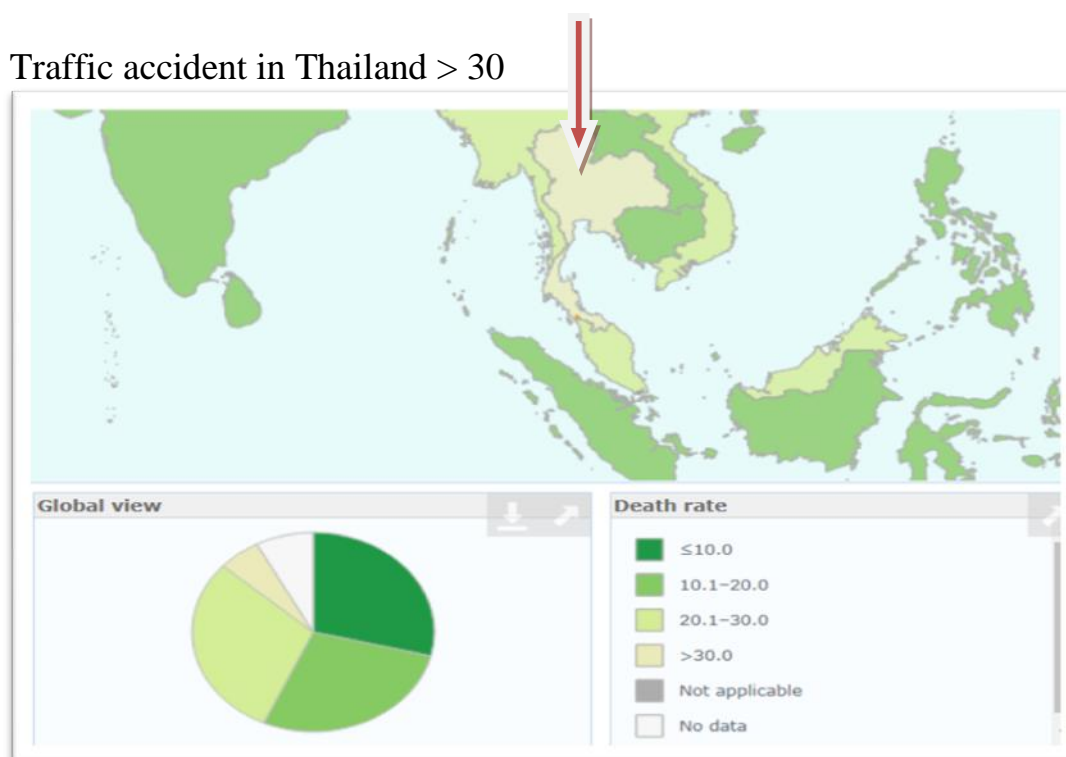
Figure 6 **Traffic accident in Thailand**
Source : http://www.who.int/gho/road_safety/mortality/ [29 September 2017]

DEATHS BY ROAD USER CATEGORY

Other (2%)
Drivers/passengers buses (<1%)
Drivers/passengers heavy trucks (2%)
Pedestrians (8%)
Cyclists (2%)
Drivers 4-wheeled cars and light vehicles (6%)
Passengers 4-wheeled cars and light vehicles (7%)
Riders motorized 2- or 3-wheelers (73%)
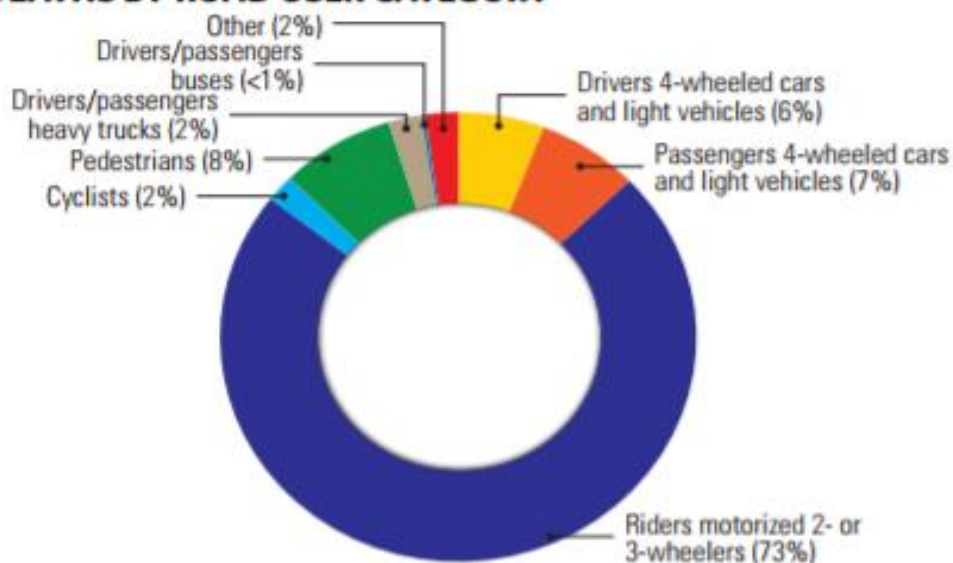
Source: Injury Surveillance System (data from 2012).

Source: :http://www.who.int/violence_injury_prevention/road_safety_status/2015/[2Sept2017]

Figure 7 Death by road user categorize

Figure 8   Trends in reported road traffic deaths

TRENDS IN REPORTED ROAD TRAFFIC DEATHS
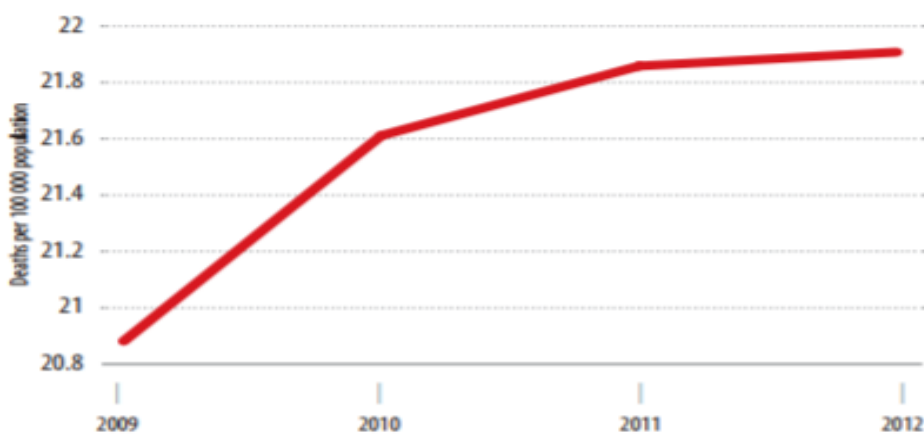
Deaths per 100 000 population

22
21.8
21.6
21.4
21.2
21
20.8

2009   2010   2011   2012

Legislative review conducted by WHO. Vehicle safety data from UNECE WP29. Other data collected by

Source: Bureau of Policy and Strategy, Office of Permanent Secretary, Ministry of Public Health.

Source: :http://www.who.int/violence_injury_prevention/road_safety_status/2015/[2Sept2017]

The Seven Days around New Year
http://www.thaiwebsites.com/caraccidents.asp [19 August 2017]

There are two periods each year when the local media concentrate their attention towards the number of casualties on the road. They are the

'Western' New Year, and the Thai New Year (Songkran). These constitute prolonged holidays. The government always makes sure people get at least 5 days off, so they can visit their relatives (in the provinces). Since many years, daily statistics are published in the newspapers taking stock of the number of accidents and the number of deaths on the road.

This interest by the local press, coincites each time with the government in charge issuing various orders, and making promises that 'this time things will be different', and the number of deaths will be lower than in the previous year. Sometimes, it looks like this promise is fulfilled, but then again, wishful thinking is prevalent, and improvements one year, are followed by disappointment the next.

New Year Road Deaths
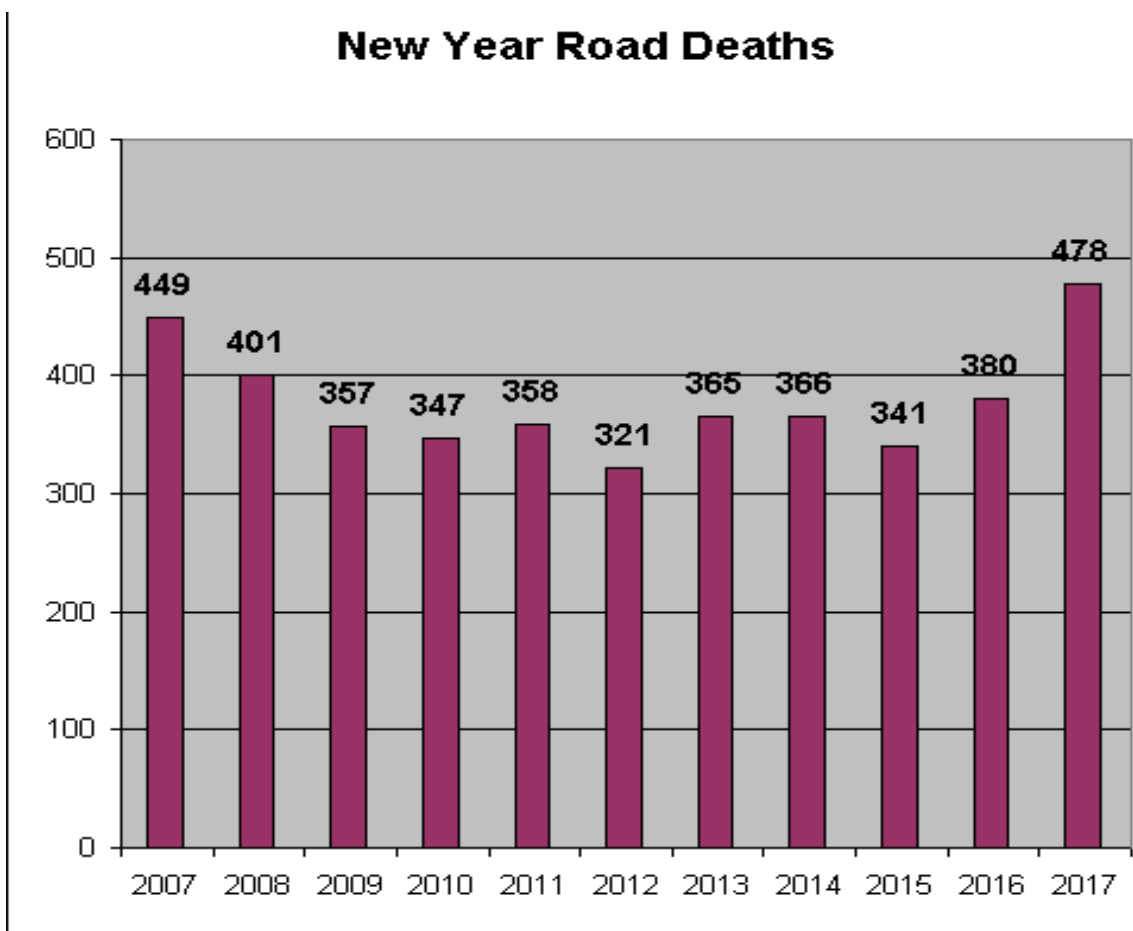
Figure 9   New Year road death in Thailand

Source : http://www.thaiwebsites.com/caraccidents.asp [19 August 2017]

In the period from December 29, 2016 to January 4, 2017 : 478 people got killed by accidents on the roads of Thailand. 4,128 injuries were sustained and 3,919 reported road accidents occurred. This is the highest number of deaths since 2006. From the graph below it looks like there was some improvement between 2009 and 2015, but this year was a bit of wake-up call.

In one horrendous accident between a van and a truck 25 people were killed. [so now the government plans to take vans off the road]

4. Traffic accident in Youth.

Why are young road users at high risk? For people of any age, there are many risk factors that increase their likelihood of sustaining road traffic injuries (1). A number of these risks are elevated among young road users, including among pedestrians, and drivers and passengers of both cars and motorcycles.

The factors influencing the risk fall into a number of categories: those influencing exposure to risk – such as a mixture of high-speed motorized traffic with vulnerable road users, or the lack of integration of a road's function with decisions about speed limits; those influencing crash involvement – such as high speed, use of alcohol before road use, being a young male, and defects in road design; Every year, hundreds of thousands of families have to cope with the emotional, practical and financial consequences of bereavement or caring for family members who are disabled for life.

Those influencing crash severity – such as the use of excessive speed, and whether or not seat-belts or helmets are used; those influencing the post crash outcomes after a crash – such as the time taken by rescuers to reach a crash, and the availability of prehospital and hospital care. Understanding the risks faced by young road users is important in order to plan appropriate programmes to reduce road traffic deaths and injuries among this age group. Most of the interventions that reduce the risk of road traffic injuries among the general population will also reduce the occurrence among youth. In addition, experience from high-income countries shows that sustained efforts to implement appropriate interventions targeted specifically at children and young adults can lead to great success in reducing the numbers of deaths and injuries among this population group.

Car Accident Prevention in youth.

Although crash risk for teens is high, crashes are preventable. There are many things youth can do for car accident prevention. Stay safe behind the wheel by gaining driving skills with a parent or other trusted adult. Avoid risky behaviors, such as not buckling up or driving with many friends around. Youth can prevent car crashes by practicing safe driving behaviors.

Distractions

While talking or texting on a cell phone or driving youth's friends around are tempting, they're dangerous distractions because they take youth focus off the road. Only use a cell phone in the car in case of an emergency. Even then, be sure to pull over to make a call or text . For the first year of driving, do not carry peer passengers. After youths 've gained enough experience behind the wheel, talk to youths' parents about driving youth's

friends. And then <u>talk to youth's friends</u> about how they can help reduce distractions when they are in the car.

Speeding

Always follow the posted speed limit. It's in place to help you stay in control of the car. Going any faster is hazardous, especially for new drivers. Speed limits are set based on ideal conditions. So if youth are driving at night, in bad weather, or in high traffic volume, youth 'll likely need to drive below the speed limit. If youth are learning to drive, speed management is crucial to master in a variety of environments. Watch these videos for tips on learning this skill:

Driving At Night

All drivers need to slow down and be more cautious at night. But experienced drivers are able to anticipate and avoid hazards more quickly than new drivers. With practice and time, youth will become a better nighttime driver. Until then, be sure to log plenty of practice hours with an adult before driving alone, and then stick to familiar driving routes before venturing out on unfamiliar roads. Watch this video for tips on driving at night:

Seat Belt Use

Make sure you buckle up every time you get into the car, as a driver and a passenger. Crashes can happen any time, anywhere. Whether youth are going around the corner or practice driving on the highway, the seat belt should always be on. The same for the passengers.

The best way to protect themselves behind the wheel? Gain experience. Understand that restrictions set by parents and Graduated Driver Licensing (GDL) laws in state are designed to get youth the experience, need to be a safe driver. Following these rules, logging supervised miles on the road, and staying in control of your car and your passengers will help prevent you from crashing.

How big is the problem?

In 2015, 2,333 teens in the United States ages 16–19 were killed and 221,313 were treated in emergency departments for injuries suffered in motor vehicle crashes in 2014.[1] That means that six teens ages 16–19 died every day from motor vehicle injuries. In 2013, young people ages 15-19 represented only 7% of the U.S. population. However, they accounted for 11% ($10 billion) of the total costs of motor vehicle injuries.[1]

4. Khon Kaen University is the big university locate in the Northeast of Thailand, Number of student are increasing every year until the year 2014 has 39,164 students. New students is 9,085 persons, 74.5 %

was undergraduate students and 25.5 % was post graduate students. Almost students use motorcycle for transportation for daily life, some students is new riding, these major cause of traffic accident.

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Faculty of Public Health Khon Kaen University has 980 students 3 bachelor degree students and 10 curriculums of post graduate .Although the university try to campaign every and focus on traffic accident prevention but student still get traffic accident and lack of awareness for safety.

5. AIC : *appreciation, influence and control*

AIC is a profoundly simple and elegant model of power. It helps us to look at ourselves, our organizations and our world in a profoundly new way.

It reveals the true sources of our power and how we can use them for the good of ourselves, others and the common good.

The 6 steps of AIC technique

1. A1 problem analysis(Bad dream)
2. A2 Goal setting (Good dream)
3. I1How to meet the goal. (Method)
4. I2 Priority setting of activities(Do by themselves, Cooperation, invite expert from outside)
5. C1. Volunteer for traffic accident prevention relevant their interest.
6. C2. Project conducting and implementation in

6. HIYARI HATTO

- HIYARI-HATTO means close calls, from Japanese language.
- Hiyari hatto expected to be born. Preventing the occurrence, near miss occurred, but did not get hurt . Narrowly situations disaster almost happened….. accident by using mapping consideration.
- Lead to plan for prevention accident further.

7.Self Efficacy

Self Efficacy defined as a person's beliefs in their abilities and how those beliefs can influence the events in their lives (Bandura, 1994). The confidence one has in his or her skills is derived from how he perceives himself and how he measures his abilities from various sources of information.
Self-efficacy can be measured on two scales: self-efficacy magnitude and self-efficacy strength (Bandura, 1996).

Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1977, 1986, 1997).

Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment.

These cognitive self-evaluations influence all manner of human experience, including the goals for which people strive, the amount of

energy expended toward goal achievement, and likelihood of attaining particular levels of behavioral performance

8. Previous Study

Tuenjai Fukuda, Chamroon Tangpaisalkit, Tetsuhiro Ishizaka, Tusanee Sinlapabutra, Atsushi Fukuda (2005) Study empirical study on identifying potential black spots through public participation approach: a case study of Bangkok :

Road traffic accidents are the tragic artificial disease which more than thousands of people injured and dead each year. The Thai government has alert and implemented 5-E strategy to tackle the problems. However, owing to the inaccurate road accident statistics and the inefficient data collection method on causation and collision particularly, on potential and existing black spots, these are major obstacles to improve road safety. This paper investigates the possibility to introduce Hiyari-Hatto method to identify and collect data on existing and potential black spot locations. 200 local peoples who live in Soi Chokchai 4 and Soi Ladprao 39 communities in Bangkok were participated in the interview survey. The findings indicated Hiyari-Hatto method is a significant alternative method for public participatory enhancement to develop black spot database nationwide.

This study confirms the adoption of Hiyari-Hatto concept with the use of cognitive map together with public participation approach is a significant alternative to identify the potential black spot locations. This is applicable to use as a fundamental step to develop the system to gather the information nationwide. These methods can contribute significantly to the policy implication in finding effective measures to prevent the traffic accidents prior to its occurrence which can save human lives and economy in long run.

Due to time limitation, this study could not perform the results on the Website. Therefore, the next step of the study will be demonstrating the results in a manner of tabular and graphical presentations on the Website so that this will allow public and transport research institutes as well as other concerned agencies to view the results anytime. Note that the development of mapping system on potential and existing black spot locations using GIS application will be taken into account and will be uploading on the website as well. Therefore, the homepage of "Hiyari-Hatto" or potential accident or potential black spot needs to be developed for the next step of the study.

Tuenjai Fukuda, Atsushi Fukuda, Makoto Okamura, Atit Tippichai Application of Hiyari-Hatto concept to Thai communities for public participatory enhancement on hazardous spot identification: a case study of Udon Thani city

This paper presents an application of Japanese Hiyari-Hatto approach aiming to identify the potential road traffic accident locations in Thailand

where traffic accident is a serious epidemic issue. The Hiyari-Hatto approach was first introduced to Thailand in 2005 by IATSS scholars and was applied to Udon Thani City in Northeastern Thailand as a pilot case. The study team organized three series workshops for data collection processes. The Government officers were first target to disseminate the concept and methodology of Hiyari-Hatto approach. Secondly, community leaders were gathered to make understanding of the Hiyari-Hatto map creation process. Thirdly, the workshop was organized in the community hall to scope down the area of potential traffic accidents within the community boundary and vicinity areas. Finally, the Hiyari-Hatto map which shows locations of traffic accident risk within community was developed. The developed Hiyari-Hatto maps were posted at the public areas such as community hall, police station and schools to raise local community awareness utilizing GIS application for hazardous spots management. In addition, the differences of Hiyari-Hatto and existing traffic accident locations are also discussed.

Atsushi Fukuda, Tuenjai Fukuda, Makoto Okamura, Atit Tippichai. Introduction of the : a complement to hazardous spot identification

This paper introduces a principal of Hiyari-Hatto approach, invented by IATSS scholars, Japan aiming to explore an alternative method for road traffic accident and potential road traffic accident locations data collection through road users' perception and experiences towards the risk of traffic accident occurrence at roadway locations and its traffic condition on road network. There are two types of hazardous road locations: a black spot (i.e., actual spots with high traffic accident rates) and a potential accident location (i.e., none or with low traffic accident rates). The black spots can be determined by collecting traffic accident data directly from its occurred spots or from police and hospital records and could be improved if their traffic accident rates are higher than an acceptable level. Such approach is known well as a post-accident prevention, while the Hiyari-Hatto concept is an aggressive approach to seek for the potential accident locations which could be caused traffic accidents to potentially happen. This paper clarifies the Hiyari-Hatto concept towards the identification of existing traffic accident and potential traffic accident locations. The application of Hiyari-Hatto concept to developing countries where traffic accident is a critical problem such as Thailand is also addressed in comparison with Japan. The study can be concluded that the Hiyari-Hatto approach can be a complement to hazardous road locations identification. This approach can fulfill needs of road safety issues.
The paper draws a conclusion as follow: This paper introduces the Hiyari-Hatto method as an alternative to road traffic accident data collection. Hiyari-Hatto method has been wide lyused in the whole nation of Japan for raising traffic safety awareness and for collecting road traffic accident data in the communities. Hiyari Hatto method had been adopted in Thailand just recently and may only be known in some certain
areas like Udonthani and Khon Kaen Cities.

Tuenjai Fukuda,   Atsushi Fukuda,   Makoto Okamura, Atit

Tippichai, Application of application of Hiyari-Hatto concept to Thai communities for public participatory enhancement on hazardous spot identification: a case study of Udon Thani city

This paper presents an application of Japanese Hiyari-Hatto approach aiming to identify the potential road traffic accident locations in Thailand where traffic accident is a serious epidemic issue. The Hiyari-Hatto approach was first introduced to Thailand in 2005 by IATSS scholars and was applied to Udon Thani City in Northeastern Thailand as a pilot case. The study team organized three series workshops for data collection processes. The Government officers were first target to disseminate the concept and methodology of Hiyari-Hatto approach. Secondly, community leaders were gathered to make understanding of the Hiyari-Hatto map creation process. Thirdly, the workshop was organized in the community hall to scope down the area of potential traffic accidents within the community boundary and vicinity areas. Finally, the Hiyari-Hatto map which shows locations of traffic accident risk within community was developed. The developed Hiyari-Hatto maps were posted at the public areas such as community hall, police station and schools to raise local community awareness utilizing GIS application for hazardous spots management. In addition, the differences of Hiyari-Hatto and existing traffic accident locations are also discussed.

Chulaporn Sota chusot, Rujira Duandsong, Pornthip Kumpor, Amornrat Pookarbkaow, Pongsak Pookarbkaow, (2006) study The Potential Development of Self Reliance and Social network Constructional Community beside Highway for traffic Accident Prevention

This research is participatory research was conducted to study 1). Traffic accident prevention guideline, 2) Potential development of Sub-district administration organization 3) Implementation for Traffic accident prevention. Participants were 64 subdistrict administrations organization members and head of villages and health volunteers at Hua na kum sub-district administration organization, yangtalad district, Kalasin province, Northeast of Thailand. Data were collected using questionnaire for quantitative data, and guideline questionnaire for qualitative data. Including using AIEC technique for situation study and planning including implementation. Data analyzed by SPSS program for quantitative data and content analysis for qualitative data

The results shown that firstly sub-district administration organization no traffic accident prevention, no net working. After implementation there were various activities for traffic accident prevention potential development of sub-district administration organization such as local broad casting, handbook distribution, traffic rule respect ,helmet use campaign, limit speed, no drink no drive. The Important activities among net working were meeting, discussion, including work together, increasing self of belonging as well as gather responsibility and contain fiscal year. Knowledge, intention and practice for traffic accident prevention were high level.

Luchemos Por La Vida, and   María Cristina Isoba, (2007) study why traffic as a system is an important conceptual contribution to road safety teaching?

Everybody who goes out on the street, regardless of their destination, shares the common activity of being moving from one place to another. Each one depends on others to fulfill his or her goal. Individual conduct conditions and influences other people, and vice versa. Each road user is responsible for a part of traffic.

Despite the fact that the safety of this system also depends on other elements that are part of it: clear and effective rules; adequate maintenance of the road and good signs; and on the vehicles that run within it, it is people, road users (pedestrians and drivers) who, a teach moment and each place,, finally give shape to and define traffic characteristics with their behavior.

The purpose of this paper is to introduce a new contents in the subject of road safety education in schools: To develop a systematic concept of traffic, as explicit, basic and introductory contents, and as the main subject around which different approaches to teachings on safety and road safety will revolve, in order for these educational processes to be successful and result in safe and responsible **attitudes and behaviors on the part of students, in their behavior on the road** and the role they play in the creation of a healthier social and living environment.

Kim Pagna, Matthew Ericson and Seang Monith (2007) study road traffic accidents and Cambodian university students: a case study in Phnom Penh municipality.

In early 2006, the Coalition for Road Safety (CRY) undertook a survey of five hundred Phnom Penh university students to ascertain their road safety attitudes and behaviour. At the time the survey was planned, it was recognised that more than ninety per cent of road traffic injuries (RTIs) were caused by human factors, particularly excessive speed, drink driving and not obeying traffic rules, with people aged between 15 and 24 being overly represented in RTI data. The survey of Phnom Penh university students was essentially undertaken because of the students' over-representation in RTI data. This survey was the first research to be conducted on the topic of road safety amongst Cambodia's students.

The terms of reference included generating recommendations and strategies on how to effectively reduce road accidents amongst the students. This paper reports the survey results and concludes with how these results were used to inform road safety policies. The results of this survey have found their way into practice by a variety of stakeholders' strategies and programs which have been informed by the survey results. While the results confirmed some perceptions and challenged others, they have been most useful in informing project planning amongst stakeholders.

Mariela Hernᴜndez-Sᴜnchez, Francisco Valdᵒs-Lazo, and Ren Garcᵒa Roche, MSc Preparation of specialists from different community sectors related to road traffic injuries prevention. Cuba, 2004-2006.

Road traffic injuries constitute a worldwide health problem because they are an important cause of mortality, morbidity, sequels, human suffering, years of potential life lost and economic costs. In Cuba, road traffic injuries comprise the fifth cause of general mortality and the first of mortality from 1 to 34 years of age. It is precisely the need to increase the

preparation of specialists from different community sectors and disciplines that pave the way to this work, because their appropriate preparation is an important support to increase the knowledge in other people for preventing injuries. The intervention study was carried out with 155 specialists from different community sectors and disciplines (health, education, jurists, mass organizations, traffic police and others), through 6 regional courses for the different provinces in the country. The knowledge that the participants had on road traffic injuries and the activities they had prepared to prevent them in the communities were measured with an initial questionnaire designed to this purpose. After that, a training plan was imparted and at the end, knowledge was measured again to observe its variation. The indicators were percentages, average and standard deviation. The participants referred that for road traffic injuries prevention they carried out bigger number of educational activities during meetings with the community, followed by patient's consultations and home visits. At the beginning, 76,1 % of the participants considered themselves ready to prevent road traffic injuries (78,6 % among medical doctors, 83,7 among nurses and 58,6 % among other professions). However,

Lulu Rodriguez(2002) Few topics in transportation are of greater significance, now and in the future, than making today's roads safe for those who use them. This study aims to assist the formulation of policy by examining the empirical evidence currently vailable on the ability of several forms of communication efforts and activities to increase knowledge about and affect attitudes and behavior toward highway safety practices. The objective of this effort is to provide a comparative synthesis of what works and what does not in highway safety campaigns across a large number of topical areas that have a mass media component. This was accomplished by conducting an extensive literature review to determine the current state of knowledge concerning what works and what has significant potential for wide use in future highway safety campaigns. An analytic framework for investigating highway safety campaigns was created. The framework includes (1) the types of media components, (2) the types of collaborations, (3) the context in which the campaign is intended to have impact, (4) the structure or procedural steps into which campaigns are organized, (5) the principles for what works in a campaign, and (6) the desired impact of a campaign on its target audience. The report reveals 25 characteristics of successful communication campaigns, strategies that stand a chance of achieving changes in knowledge, attitude, and behavior. The actual impact of mass communication remains unproven because of a perceived lag in the development of adequate evaluation techniques. Education by itself has not generally resulted in significant changes in the behaviors targeted, but education of the public and advocacy groups has often helped enact necessary legislation, transmit knowledge about the provisions and penalties of laws in ways that increase their deterrent effect, and generate public support for law enforcement programs. Even in such cases, however, when enforcement is inconsistent, public compliance frequently decreases with time. Approaches to traffic safety that emphasize the need for long-term

individual- and community-based measures are found to be especially crucial for addressing complex problems like drinking and driving that are determined by a myriad of lifestyle and psychosocial factors.

Jack Stuster (2004) this report presents the results of a study conducted for the National Highway Traffic Safety Administration (NHTSA) to assess the effects of two programs that were implemented to reduce the incidence of aggressive driving. The programs were conducted by the Marion County Traffic Safety Partnership (a consortium of agencies in the vicinity of Indianapolis, Indiana), and The Tucson, Arizona, Police Department. The programs each received grants of $200,000 from NHTSA to support the special enforcement and public information and education (PI&E) components. Program managers were required, as conditions of the grant, to 1) focus their enforcement efforts on key aggressive driving infractions in carefully-selected zones within their communities; 2) develop and implement PI&E campaigns to publicize the special enforcement efforts; and, 3) provide the data and other information necessary to prepare this evaluation. The programs shared additional features, but program managers were encouraged to consider innovative approaches to both special enforcement and publicity. Samples of vehicle speed, collected unobtrusively in the special enforcement zones, and crash incidence served as the primary measures of program effect. Average speeds slightly in Marion County and at a greater rate in Tucson. The total number of crashes in the Marion County special enforcement zones increased by 32 percent, compared to the same six-month period one year earlier; the number of those crashes with primary collision factors (PCFs) associated with aggressive driving increased by 41 percent. That is, the total number of crashes increased, but the crashes with aggressive driving PCFs increased at a greater rate. The change in proportion of crashes with the target PCFs provides a better measure than crash frequency because it eliminates the effects of changes in traffic volume and other factors that might have contributed to the overall increase in crash incidence. In this regard, the Marion County zones xperienced a six percent increase in the proportion of all crashes with aggressive driving PCFs, despite the extensive publicity and special enforcement efforts. The number of crashes in Tucson's special enforcement zones increased by ten percent, but the number of crashes with aggressive driving PCFs increased by less than one percent. More important, the proportion of all crashes with target PCFs decreased by eight percent. That is, crash incidence increased overall in Tucson's zones, but the proportion of those crashes with aggressive driving PCFs declined. Study results suggest that limited resources might be better spent on officer labor than on publicity, and that focusing enforcement responsibility on a small team assigned full-time to the special enforcement patrols might be more effective than sharing the responsibility among a large number of officers as occasional overtime duty..

Jesper Mertner, Section (2007) road safety auditing also on existing roads- an efficient tool for preventing accidents?

Every avoided accident killed or injured person counts in the effort to increase road safety. Many accidents happen at locations spread across the road network and it may therefore be difficult to identify particular dangerous location through traditional black spot analyses. Road safety auditing (RSA) has proven itself as an effective tool to prevent road accidents on new and reconstructed roads. The paper will present how road safety auditing/assessment of existing roads is also an important and cost-effective approach to improve road safety. This is suggested as an additional "stage 6" to the normal 5 stages in the road safety auditing system. A registration tool for such "stage 6 audits" developed by COWI for a pocket PC (PDA), where the GPS technology is combined with digital maps, will be presented as well. The paper will briefly present the background for introducing RSA, the different phases of design where RSA may be used and in particular how RSA may be used on existing roads in a new "stage 6". Typical examples will be presented showing the type of problems and improvements typically suggested by a road safety auditor. The paper will also provide examples of expected impacts of road safety auditing. Finally, suggestions on how RSA in general can be used under different circumstances to improve road safety will be provided.

Salim Mahmud Chowdhury, Aminur Rahman , Saidur Rahman Mashreky and AKM Fazlur Rahman (2007) involvement and impact of road traffic injuries among productive age groups (18-59 years) in Bangladesh: issue for priority setting

Introduction: Road traffic injuries are deadly, taking lives of over 1.18 million men, women and children around the world every year. In the developing countries of South-East Asian region road traffic injuries generally affects males in the productive age ranges from 15-44 years. Road traffic injuries affect individuals, families, communities and nations as a whole. Impact of road traffic injuries among productive age groups in Bangladesh is enormous. However, despite the extend of road traffic injuries, road safety has been neglected relative to other health concern. Objectives: To estimate the magnitude and impact of road traffic accidents in Bangladesh among productive age groups over 18 years of age. Methodology: A population-based household survey was conducted between January and December 2003 in Bangladesh. Multistage Cluster Sampling was used to choose a nationally representative sample of 171,366 households of the country comprising of a total surveyed 421,629 population of 18-59 years. Data collected from the households on death or morbidity in the year preceding the survey. Then the causes of deaths and morbidities were determined using verbal autopsy and verbal diagnosis forms respectively. Results: Road traffic injury was the leading cause of injury mortality as well as morbidity. It comprises 37.6% and 24.6% of total injury mortality and morbidity respectively. Most of the victim was the main income earner (57%) of the family and 15% family undergone major economic problem permanently due to injury. Conclusion: The result of the

study could be use for priority setting and developing appropriate prevention strategies.

Hawabibi Laher , Lu-Anne Swart , Mohamed Seedat   And Safy Mendes Novelo the identification of " At-Risk" groups for transport relates fatalities across four South African cities

South Africa's road traffic death rate of 11.7 per 100 000 per 100 million kilometres travelled is the fifth highest in the world. The paper accordingly attempted to identify 'at-risk' groups for transport related fatalities (2001-2004) across four South African cities, namely Johannesburg; Cape Town; Durban and Pretoria, cities where the National Injury Mortality Surveillance System (NIMSS) has full coverage. Using NIMSS data these at risk groups were analysed for sex, race, age, elevated blood alcohol levels, day of the week and time of day. Age standardised rates were also calculated for traffic-fatalities across the cities. Consistent with studies conducted elsewhere (Harruf, Averry and Alter-Pandy,1998)our results indicated that pedestrians were the group most'at-risk'(45.94%),followedby unspecified, drivers, passengers, motorcyclists/bicyclists and train commuters. In most instances fatalities peaked over weekends across all road user types. Malesparticularly Black African males were at greater risk than females. With the exception of motorcyclists where 20-29 year olds were at the greatest risk, the 30-39 age group was most at risk across all road user types. Elevated blood alcohol levels were also noted for males between the ages of 30-39 across all road user types. Our results concur with international traffic fatality trends in that they point to the particular vulnerability of pedestrians and indicate the need for integrated road safety programming. Safety measures need to give particular consideration to the traffic fatality-alcohol abuse nexus.

Only 46,4 % passed the initial test (52,8 % among medical doctors, 40,5 % among nurses and 34,4 % among other professions). After the training plan, the amount of people who passed the final test increased to 94,8 %. The training plan was profitable because the knowledge on road traffic injuries prevention in specialists from different community sectors and disciplines was highly and rapidly increased, in order to spread the acquired knowledge in their action areas.

Esther Malini (2007) pedestrian safety requires planning priority

Pedestrians are the largest category of road users in urban areas, especially in developing countries. Currently, their involvement in road traffic crashes is high. While pedestrian safety is a complex subject with no easy solution, the broad approach to a safe situation would be to avoid conflict between pedestrians and vehicles on the road. Facilities meant for pedestrian movement should be planned to achieve the above objective within reasonable cost but without unacceptable inconvenience to all the parties concerned. Pedestrian safety is no accident: it can only materialize when traffic planning is conditioned by suitable priority accorded to the specific needs of the pedestrian.

Ccile Coquelet, Pierre-Alain Hoyau, and Sylvain Lassarre (2007) mobility, attitudes, risk and behavior of young drivers

In order to understand better young drivers's mobility, attitudes, risk and behaviour, a multiaims panel sample, called MARC (Mobility, Attitudes, Risk and Behaviour, Comportement in French) has been performed in 2003. For this purpose, a questionnaire has been built to combine 3 road risk approaches: sociological, psychological and economical. Collected data analysis in 3 waves of survey, with an interval of one year and with 3051 young drivers for the first wave, 2085 for the second and 1212 for the last wave, will enable the study of behaviour and road risk evolutions, according to the driving training channels and the driving license duration.

Mohamad GhazaliMasuri.(2012).study   Children, Youth and Road

Environment:

  Road Traffic Accident. Found that   Driving is a complex process which involves eye-hand-foot coordination. Futile to coordinate shall contribute to road traffic accidents (RTA). Young people are usually representing the highest number of the accident cases. Three common ergonomics principle were examined in this study: human-machine-environment. Issues such as land use, vehicle design and the importance of law enforcement are briefly discussed. Further research is needed to improve driver's behavior and responds in driving activities. Strict enforcement on legislation and early education on road safety were required. It is also suggested that, developing country to refer to model used in develop country as their references.

10. Conceptual frame work

| Leader student

General students | → | Processing
1.Problem situation (AIC)
2.Planning by using self efficacy .
3. Potential development for leader students
4.Implementation in general students for traffic accident prevention. 5.Evaluation | → | 1. knowledge of traffic accident Prevention
2. Self efficacy of traffic accident Prevention
3.Expect outcome of traffic accident Prevention
4. Practice of traffic accident Prevention. |

CHAPTER 3 METHODOLOGY

The research aimed to study the potential development of leader students for traffic accident prevention in Faculty of Public Health,
 Khon Kaen University, Thailand. In this chapter will present including, the research design and methodology, the details as follow:

3.1 The research design

This research designed by participatory **action research**, the researcher will use complex methodology, both of quantitative and qualitative study. The research is separated in three phases, consists of Phase I for Preparation phase**,** and Phase II was Implementation by develop the potential of leader students for traffic accident prevention and the third phase was evaluation as following.

Step1 Preparation phase

This phase, the researcher study situation analysis of traffic accident prevention among leader students in Faculty of Public Health, Khon Kaen University, Thailand.

3.1.1 Study design

The study designed in this phase was descriptive **study** design,. In this phase will be study both quantitative method by questionnaire and qualitative method by AIC (Appreciate Influence Control)and Hiyari - Hatto.

3.2 Steps of research

Step 1 Preparation phase
 1. Approach to administer faculty of Public Health
2. Situation analysis real problem study and planning   for traffic accident prevention problem of leader students by using AIC   technique (Appreciate Influence Control)
3.Research tools conduction for data collection both for qualitative and quantitative data.
4. Media and technique for traffic accident prevention are available.

3.3 Population and samples 168 Leader students and 180 students in Faculty of Public Health, Khon Kaen University, Thailand.

Step 2 Implementation phase

1. Training for traffic accident prevention among Leader students. for Highly potential on traffic accident prevention by using AIC technique and hiyari hatto including solve problem related with the context .
2. Leader students take action for development their classmate for traffic accident prevention on variety activities depend on discussion among their group and situation .
3. Traffic accident prevention activities are implemented

Step 3 Evaluation phase
1.Data collection by interview both qualitative and quantitative data for post test.
2. Contest of traffic accident prevention intervention among all of leader students and giving award for the winner.
3.Data analysis for pre and post test comparison.
4. Summarize and full paper complete

3.4 Setting study area

Faculty of Public Health, Khon Kaen University, Khon kaen Province, Thailand.
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Figure Study setting areas. Khon kaen University.

Khon Kaen University, province
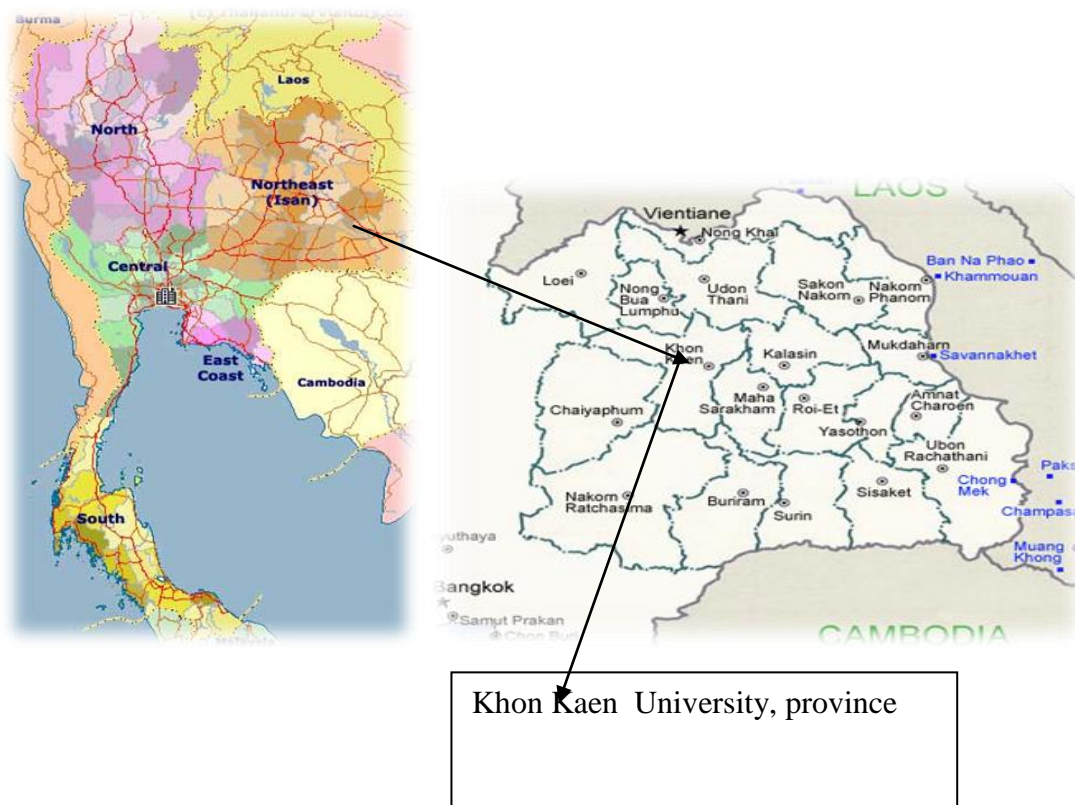
3.5 Data collection

(3.3.1) Instruments

The variables of this study will collect by structural questionnaires which answer the aims of the study by literatures reviews. The questionnaires consist of 5 sections such as personal data, traffic accident prevention knowledge, self efficacy on traffic accidents prevention, expect outcome and practice of traffic accident prevention.

(3.3.2) Standardize properties of questionnaires

(a) Content validity; the content validity will check by sending questionnaires to unless than 3 road traffic accident experts to consideration in content validity, suggestion, and recommendation, after that the researcher will improve as followed suggestions for correctly and completely.   .

(3.3.3) Data collection method

(a) Coordinating with head of student club and head of class of students, and then   interviews and qualitative data collection by using AIC and Hiyari Hatto.

(b) Data; will collect by researchers team, the initially processes by explaining the study purposes, research procedure, and opening opportunity for asking questions.

(c) The researcher team establishes a relationship with participants by introduction themselves, explaining about the study as following

(1) To protect the human rights of an individual participant, each participants were asked for consent and received an explanation about the purposes of the study, assurance to confident in anonymous, benefits, risks, future implications of the future research and could be right to withdraw from the study at every time, the time for completing the questionnaire about 30 minutes for each asked participant.

(2) After the participants agree to participate in this study, the research team asks the participants to sign in a consent form, then the researcher assistants interview by face-to-face on the structured questionnaire.

(g) After completing data collection, the research assistants' check all items in the questionnaire completely, if not, the participants will be asked to fulfill again.

(h) Checking a completely of questionnaires, compile and analysis the data by the author.

(3.3.4) Data management and analysis

Quantitative data

The data will be recorded into the computer by using SPSS program. The analyses will be taken place in order, starting from descriptive statistic for percentage, standard deviation, and arithmetic mean and different significant by pair t-test.

Qualitative data using content analysis.

Phase 2: The potential development among students leader is conducted for traffic accident prevention. **The potential Development Program** for raising traffic accident prevention program depends on problem study and need assessment in phase 1 such as

- Implementation is depending on problems solving that finding for vision or action plan from AIC of all student leader.
- Planning by apply self efficacy theory
- Hiyarii hatto - Media conduct (Vinyl Permanent Poster)
- Training - Discussion - Public relation
- Participatory approach - activities for traffic accident prevention which involving their car and road using as well as traffic law respect.

After students leader are attended the program for potential development by AIC and hiyari hatto program for traffic accident prevention then they must implementation for traffic accident prevention among their friends further to meet their problem and context as following.

1. Training for traffic accident prevention among Leader students.

1. for Highly potential on traffic accident prevention by using AIC technique and hiyari hatto including solve problem related with the context .
2. 7. Leader students take action for development their classmate for traffic accident prevention on variety activities depend on discussion among their group and situation .

3. Traffic accident prevention Hand book distribution.

4. Article competition for traffic accident prevention.

5.Campaign for traffic Accident prevention by using board long time.

6. Integrated traffic accident prevention in the classes.

Phase 3: Evaluation phase by using questionnaire to compare pre and post test among leaders student and general student in faculty of public Health, Khon Kaen University.

Step 3 Evaluation
1.Data collection by interview both qualitative and quantitative data for post test.
2. Contest of traffic accident prevention intervention among all of leader students and giving award for the winner.
3.Data analysis for pre and post test comparison.
4. Summarize and full paper complete
    3.7) Data analysis

Quantitative data.

The data will be recorded into the computer base on double data entry procedure by researcher's assistants using program SPSS Program.　　The analyses was taken place in order, starting from descriptive statistic for percentage, standard deviation, and arithmetic mean and different significant by students' t-test between two groups.

Qualitative data.

Qualitative data using content analysis   for categorizing and theme.

CHAPTER 4
RESULT

The results of this study were base on the response of 168 leader students and 180 general students the result will be presented as follow.

 1. Demography characteristics of both leader students and general students
   1.1 Demography of characteristics of leader students   and   general students
   1.2 Knowledge ,self efficacy, expect outcome, practice of traffic accident prevention.
3. Result of AIC

1. Demography of characteristics of both leader students and general students
  The total sample size of leader students consists of 168 participants. Most were female (85.7%),16-20 years of age (83.9%), Father's occupation and Mother's occupation were other   (32.1% and 30.4%) education most bachelor degree level (87.5%) most major was occupational health (33.9%) , class most Third year (40.5%) Duration of ride motorcycle much more than 5 years (49.4%)   how to go to the university by using motorcycle (74.2%), Traffic accident Experience (56.0%), Traffic accident prevention training experience (60.1%)

   The total sample size of general students consists of 180   participants. Most   were female (79.4 %),16-20 years of age (84.8 %),   Father's occupation
And Mother's occupation were other (28.3 % and 28.3%) education most bachelor degree level (100.0%) most major was Chinese and art science (26.1%) , class most first   year (66.7%) Duration of ride motorcycle much more than 5 years (47.8%) how to go to the university by using motorcycle (76.1%), Traffic accident Experience (55.0%), Traffic accident prevention training experience (57.2%) Detail as table 1.

Table 1 Number and percentage of Leader student and general student

Characteristic Data	Leader student (n=168)		general student (n=180)	
	Number	percentage	Number	percentage
Sex				
Male	24	14.3	37	20.6
Feale	144	85.7	143	79.4
Age				
16 – 20 years	141	83.9	151	84.8
21 – 24 years	7	4.2	29	16.2
25 – 30 years	17	10.1	0	0.0
Much more than 30 years	3	1.8	0	0.0
Father's occupation				
Official governor	50	29.8	48	26.7
Lancer (Hire)	27	16.1	34	18.9
Commercial	30	17.9	33	18.3
Private section	7	4.2	17	9.4
Other	54	32.1	48	26.7
Mother's occupation				
Official governor	34	20.2	40	22.2
Lancer (Hire)	25	14.9	27	15.0
Commercial	49	29.2	47	26.1
Private section	9	5.4	15	8.3
Other	51	30.4	51	28.3
Education				
Bachelor	147	87.5	180	100.0
Master	21	12.5	0	0.0
Major				
Environment science	45	26.8	0	0.0

Table 1 Number and percentage of Leader student and general Group (Conti.)

Characteristic Data	Leader student (n=168)		general student (n=180)	
	Number	**percentage**		**Number**
Occupational Health	57	33.9	0	0.0
Duo	45	26.8	0	0.0
MPH. (H ed. and H.P)	21	12.5	0	0.0
Computer Education	0	0.0	35	19.4
Chinese Language	0	0.0	47	26.1
Art Science	0	0.0	47	26.1
Sciences	0	0.0	9	5.0
Business England	0	0.0	4	2.2
Medical Assoc. Science	0	0.0	22	12.2
Financial	0	0.0	3	1.7
Technology	0	0.0	2	1.1
Law	0	0.0	1	0.6
Economic	0	0.0	1	0.6
Technology and Information	0	0.0	9	5.0
Class (Bachelor degree)				
First year	0	0.0	120	66.7
Second year	79	47.0	29	16.1
Third year	68	40.5	13	7.2
Forth year	0	0.0	17	9.4
Fifth year	0	0.0	1	0.6
First year 1 (Master degree)	21	12.5	0	0.0
Duration of Ride Motorcycle				
Less than 1 year	20	11.9	34	18.9
1 – 2 year	32	19.0	18	10.0
3 – 4 year	33	19.6	42	23.3

Table 1 Number and Percentage of Characteristic data.(cont)

Characteristic Data	Leader student (n=168)		general student (n=180)	
	Number	Percentage	Number	Percentage
➢ 5 years	83	49.4	86	47.8
Traffic accident Experience				
No	74	44.0	81	45.0
Yes	94	56.0	99	55.0
Traffic accident prevention training60.1				
No	67	39.9	77	42.8
Yes	101	60.1	103	57.2
How to go to university				
Motorcycle	136	74.2	137	76.1
Private Car	22	22.6	6	3.3
Bus	1	1.6	0	0.0
Sutter bus	6	3.6	33	18.3
Bicycle	3	1.8	3	1.7
Walking	0	0.0	1	0.6

2. Traffic accident prevention knowledge level.

The level of knowledge in traffic accident prevention was categorized as low, moderate and high. The results showed that among Leader student 88.7 % of them high level of traffic accident prevention knowledge before implementation and increase to 100.0 %of high level. Whereas The level of knowledge in traffic accident prevention of general students 67.8 % had high level and increase to 91.7 of high level after implementation (Table 2)

Table 2 Number and Percentage of traffic accident prevention knowledge level.

Knowledge	Leader student (n=168)				general student (n=180)			
	Pre-Test		Post -Test		Pre-Test		Post -Test	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
High	149	88.7	168	100.0	122	67.8	165	91.7
Moderate	19	11.3	0	0.0	58	32.2	14	7.8
Low	0	0.0	0	0.0	0	0.0	0	0.0
Total	168	100.0	168	100.0	180	100.0	180	100.0
$\overline{X}$, SD	18.13 , 1.67		19.43 , 0.79		18.01 , 1.29		19.06 , 1.10	
Min, Max	12 , 20		17 , 20		14 , 20		14 , 20	

3. Compare traffic accident prevention knowledge score between Leader student and general student both pre-post test

 After implementation found that ,They had significantly difference between **traffic accident prevention knowledge** before and after both **Leader student and general student. (P<0.001)**
(Table 3)

Table 3 Compare traffic accident prevention knowledge score between Leader student and general student both pre-post test

Knowledge	n	$\bar{x}$	SD	Mean Difference	t	95%CI	p-value
Leader student							
Pre test	168	18.13	1.67	1.30	8.93	1.02 to 1.59	<0.001
Post test	168	19.43	0.79				
general student							
Pre test	180	18.01	1.29	1.04	7.99	0.79 to 1.30	<0.001
Post test	180	19.06	1.10				

4.Perceived of traffic accident prevention level.

The level **Perceived** self efficacy of traffic accident   prevention was categorized as low, moderate and high. The results showed that   among Leader student 82.7% of them high level of traffic accident   prevention **Perceived** self efficacy before implementation and increase to 98.2 %of high level. Whereas The level of   **Perceived** self efficacy in   traffic accident prevention of general students 81.9% had high level and increase to 88.6 % of high level after implementation (Table 4)

Table 4 Number and Percentage of perceived traffic accident prevention level.

perceived traffic accident prevention	Leader student (n=168)				general student (n=180)			
	Pre -Test		Post -Test		Pre -Test		Post -Test	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
High	139	82.7	165	98.2	147	81.9	160	88.6
Moderate	18	10.7	2	1.2	12	6.4	8	5.0
Low	11	6.5	1	0.6	21	11.7	12	6.4
Total	168	100.0	168	100.0	180	100.0	180	100.0
$\overline{\mathrm{X}}$, SD	30.98 , 2.73		31.98 , 1.95		29.74 , 3.84		31.55 , 2.27	
Min, Max	13 , 33		22 , 33		17 , 33		21 , 33	

After implementation found that ,They had significantly difference between perceived self efficacy **of traffic accident prevention** between before and after both Leader student and general student. (P<0.001) as Table 5

Table 5 Compare perceived self efficacy of traffic accident prevention score between Leader student and general student both pre-post test

perceived traffic accident prevention	n	$\overline{\mathrm{X}}$	SD	Mean Difference	t	95%CI	p-value
Leader student							
Pre test	168	30.98	2.73	1.01	3.99	0.51 to 1.50	<0.001
Post test	168	31.98	1.95				
general student							
Pre test	180	29.74	3.84	1.81	5.56	1.17 to 2.45	<0.001
Post test	180	31.55	2.27				

5.Percentage of perceived expect outcome of traffic accident prevention level.

The level **Perceived expect outcome of traffic accident prevention** was categorized as low, moderate and high. The results showed that among Leader student 56.5 % of them high level of traffic accident prevention **Perceived** self efficacy before implementation and increase to 91.7 % of high level. Whereas The level of **Perceived expect outcome** in traffic accident prevention of general students 66.1% had high level and increase to 87.8 % of high level after implementation
(Table 6)

Table 6 Number and Percentage of perceived expect outcome of traffic accident prevention level.

perceived expect outcome	Leader student (n=168)				general student (n=180)			
	Pre -Test		Post -Test		Pre -Test		Post -Test	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
High	95	56.5	154	91.7	119	66.1	158	87.8
Moderate	73	43.5	14	8.3	61	33.9	10	5.8
Low	0	0.0	0	0.0	0	0.0	12	6.4
Total	168	100.0	168	100.0	180	100.0	180	100.0
$\overline{X}$, SD	25.24 , 2.51		26.76 , 0.66		24.51 , 2.55		26.42 , 1.25	
Min, Max	13 , 27		23 , 27		17 , 27		21 , 27	

After implementation found that ,They had significantly difference between perceived **expect outcome of traffic accident prevention** between before and after both Leader student and general student. (P<0.001) as Table 7

Table 7 Compare perceived expect outcome of traffic accident prevention score between Leader student and general student both pre-post test

perceived expect outcome	n	$\overline{X}$	SD	Mean Difference	t	95%CI	p-value
Leader student							
Pre **test**	168	25.24	2.51	1.52	7.86	1.14 to 1.91	<0.001
Post **test**	168	26.76	0.66				
general student							
Pre **test**	180	24.51	2.25	1.92	9.26	1.51 ถึง 2.33	<0.001
Post **test**	180	26.42	1.25				

Traffic accident prevention practice

The level of t**raffic accident prevention practice** was categorized as low, moderate and high. The results showed that among Leader student 59.5 % of them low level of traffic accident prevention **Perceived** self efficacy before implementation and increase to 66.7 % of high level. Whereas The

level of t**raffic accident prevention practice** of general students 63.3% had moderate level and increase to 65.0 % of high level after implementation (Table 6)

Table 8 Number and Percentage of traffic accident prevention practice level.

Practice Level	Leader student (n=168)				General student (n=180)			
	Pre -Test		Post -Test		Pre -Test		Post -Test	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
High	9	5.4	112	66.7	19	10.6	117	65.0
Moderate	59	35.1	30	17.9	114	63.3	47	26.1
Low	100	59.5	26	15.4	47	26.1	16	8.9
Total	168	100.0	168	100.0	180	100.0	180	100.0
$\overline{X}$, SD	24.60 , 2.64		27.49 , 1.88		25.12 , 2.67		27.22 , 2.00	
Min, Max	16 , 30		22 , 30		20 , 30		21 , 30	

After implementation found that ,They had significantly difference between **traffic accident prevention practice** between before and after both Leader student and general student. (P<0.001) especially increase from low to be high level in leader student and increase from moderate level to be high level in general students as Table 9

Table 9 Comparison of traffic accident prevention practice .

Practice	n	$\bar{X}$	SD	Mean Difference	t	95%CI	p-value
Leader student							
Pre **test**	168	24.60	2.64				
				2.89	10.78	2.36 to 3.42	<0.001
Post test	168	27.49	1.88				
general student							
Pre Test	180	25.12	2.67				
				2.10	8.34	1.60 to 2.59	<0.001
Post test	180	27.22	2.00				

10. The results of qualitative data by using AIC technique among leader students.

10.1.Traffic   problem in university
- Hurry in rush hour
- Not concern to traffic light
- Unsafe   road / slide, sand road
- breaking   traffic rules
- Drunk drive
- Do not concern   traffic   sign
- Use mobile phone during   drive
- Unkindly drive
- Motorcycle using beyond law

10.2. Guideline for traffic safety
- Traffic safety every year
- Switch on traffic light and always use helmet
- Strong   Intention
- Road   improving
- Safety belt
- Law / enforcement
- Helmet distribution
- License   training   for student

11. Model for traffic accident prevention among students in University : Lesson Learn.

1. Situation analysis among student by using AIC technique.
2 Created   traffic accident prevention program by participation of student under administrator permission.

3.Various activities for traffic accident prevention both in classroom and special event.

4. Modifying both Hiyari hatto and self efficacy theory for traffic accident prevention.

5. Monitoring, campaign, counseling, competition and motivation for implementation of traffic accident prevention regularity

CHAPTER 5
SUMMARY AND RECCOMMENDATION

The results of this study were base on the response of 168 leader students and 180 general students the result will be presented as follow.

1. Demography of characteristics of both leader students and general students

The total sample size of leader students consists of 168 participants. Most were female (85.7%),16-20 years of age (83.9%), Father's occupation and Mother's occupation were other (32.1% and 30.4%) education most bachelor degree level (87.5%) most major was occupational health (33.9%) , class most Third year (40.5%) Duration of ride motorcycle much more than 5 years (49.4%) how to go to the university by using motorcycle (74.2%), Traffic accident Experience (56.0%), Traffic accident prevention training experience (60.1%)

The total sample size of general students consists of 180 participants. Most were female (79.4 %),16-20 years of age (84.8 %), Father's occupation and Mother's occupation were other (28.3 % and 28.3%) education most bachelor degree level (100.0%) most major was Chinese and art science (26.1%) , class most first year (66.7%) Duration of ride motorcycle much more than 5 years (47.8%) how to go to the university by using motorcycle (76.1%), Traffic accident Experience (55.0%), Traffic accident prevention training experience (57.2%)

2. Traffic accident   prevention knowledge level.

The level of knowledge in traffic accident   prevention was categorized as low, moderate and high. The results showed that among Leader student 88.7 % of them high level of traffic accident   prevention knowledge before implementation and increase to 100.0 %of high level. Whereas The level of knowledge in traffic accident   prevention of general students 67.8 % had high level and increase to 91.7 of high level after implementation.

After implementation found that ,They had significantly difference between **traffic accident   prevention knowledge** before and after both **Leader student and general student. (P<0.001)**

3.Perceived of traffic accident prevention level.

The level **Perceived** self efficacy of traffic accident prevention was categorized as low, moderate and high. The results showed that   among Leader student 82.7% of them high level of traffic accident   prevention **Perceived** self efficacy before implementation and increase to 98.2 %of high level. Whereas The level of   **Perceived** self efficacy in   traffic accident prevention of general students 81.9% had high level and increase to 88.6 % of high level after implementation.

After implementation found that ,They had significantly difference between perceived self efficacy **of traffic accident   prevention** between before and after both Leader student and general student. (P<0.001)

4.Perceived expect outcome of traffic accident prevention level.

The level **Perceived expect outcome of traffic accident prevention** was categorized as low, moderate and high. The results showed that among Leader student 56.5 % of them high level of traffic accident   prevention **Perceived** self efficacy before implementation and increase to 91.7 % of high level. Whereas The level of   **Perceived expect outcome** in   traffic accident prevention of general students 66.1% had high level and increase to 87.8 % of high level after implementation

After implementation found that ,They had significantly difference between perceived **expect outcome of traffic accident   prevention** between before and after both Leader student and general student. (P<0.001)

5.T**raffic accident prevention practice**

The level of t**raffic accident prevention practice** was categorized as low, moderate and high. The results showed that among Leader student 59.5 % of them low level of traffic accident   prevention **Perceived** self efficacy before implementation and increase to 66.7 % of high level. Whereas The level of   t**raffic accident prevention practice** of general students 63.3% had moderate level and increase to 65.0 % of high level after implementation

After implementation found that ,They had significantly difference between **traffic accident prevention practice** between before and after both Leader student and general student. (P<0.001) especially increase from low to be high level in leader student and increase from moderate level to be high level in general students

6. The results of qualitative data by using AIC technique among leader students.
6.1.Traffic   problem in university
  · Hurry in rush hour

- Not concern to traffic light
- Unsafe   road / slide, sand road
- breaking   traffic rules
- Drunk drive
- Do not concern   traffic   sign
- Use mobile phone during   drive
- Unkindly drive
- Motorcycle using beyond law

6.2. **Guideline for traffic safety**
- **Traffic safety every year**
- **Switch on traffic light and always use helmet**
- **Strong   Intention**
- **Road   improving**
- **Safety belt**
- **Law / enforcement**
- **Helmet distribution**
- **License   training   for student**

**7. Model for traffic accident prevention among students in University :
Lesson Learn.**
   1. Situation analysis among student by using AIC technique.
   2 Created   traffic accident prevention program by participation of
   student under administrator permission.
   3.Various activities for traffic accident prevention both in classroom and
   special event.
   4. Modifying both Hiyari hatto and self efficacy theory for traffic
   accident prevention.
   5. Monitoring, campaign, counseling, competition and motivation for
   implementation of traffic accident prevention regularity

8.Recommendation for Application
8.1Recommendation for Application
   1. AIC technique (Appreciate   Influence Control) is very important and
   High impact for all students
   2.Motivation and regular   monitoring is very important to increases
   various activities
   3. Obtain traffic prevention in fiscal year plan of   student club
   4.Hiyari hatto are important to increase   risk spot in develop Near
   faculty
8.2Recommendation for further research
   1. Integrate traffic accident prevention into daily life by building
      safety culture are challenged.
   2. Hiyari hatto are important strategy to extent to. other faculty   for
      increasing concern for traffic accident prevention

3. What is the most important strategy for sustainable development of Leader group for traffic accident prevention.?

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APPENDIX

Questionnaire

การพัฒนาพฤติกรรมการป้องกันอุบัติภัยจากการจราจรของแกนนำในการขับขี่รถจักรยานยนต์

The Potential Development of Leader Students for Traffic Accident Prevention in Faculty of Public Health, Khon Kaen University, Thailand
[Risk riding Behavioral and Interventional Approaches among Young Motorcyclists in Cites of Thailand (Phase2)]

แบบสอบถามข้อมูลส่วนบุคคล

คำชี้แจง โปรดใส่เครื่องหมาย / ในช่องที่ตรงกับความจริง หรือเติมข้อความให้สมบูรณ์

_____

1. ชื่อ ....บ้านเลขที่....................ถนน.......................
อ............... จ.ขอนแก่น

2. เพศ ☐ ชาย ☐ หญิง

3. อายุ

☐ ต่ำกว่า 15 ปี ☐ 16 – 20 ปี ☐ 21 - 24 ปี 25 - 30 ปี

☐ อายุ มากกว่า 30 ปี

4. อาชีพบิดา /ตำแหน่ง
☐ ข้าราชการ
☐ รับจ้าง
☐ ค้าขาย
☐ พนักงานบริษัท/ห้างร้าน
☐ อื่นๆ (โปรดระบุ)..........................

5. อาชีพมารดา /ตำแหน่ง

☐ ข้าราชการ

☐ รับจ้าง

☐ ค้าขาย

☐ พนักงานบริษัท/ห้างร้าน

☐ อื่นๆ (โปรดระบุ)...........................

6. กำลังศึกษา

☐ ปริญญาตรี สาขา.......................................

☐ ชั้นปี...

☐ อื่นๆ (โปรดระบุ)...................

7. ท่านขับขี่จักรยานยนต์ นานเท่าใด

☐ น้อยกว่า 1 ปี

☐ 1-2 ปี

☐ 3-4 ปี

☐ 5 ปีขึ้นไป

8. เคยประสบอุบัติเหตุ จากรถจักรยานยนต์

☐ เคย คือ...

☐ ไม่เคย

9. ท่านเคยอบรมเพื่อป้องกันอุบัติภัยจราจร หรือไม่

☐ เคย คือ...

☐ ไม่เคย

10. ท่านใช้หลักในการป้องกันอุบัติภัยจากการจราจรอย่างไร

....

....

....

ตอนที่ 2
ความรู้เรื่องการป้องกันอุบัติภัยจากการจราจร
คำชี้แจง โปรดใส่เครื่องหมาย(✕)ทับข้อที่ถูกต้องเพียงข้อเดียว

สำหรับผู้วิจัย

1. สภาพรถมอเตอร์ไซค์ในข้อใดที่อาจจะทำให้เกิดอุบัติเหตุได้

      ก. ไม่มีกระจกมองหลังและไฟเลี้ยว

      ข. ไม่มีแตร

      ค. มีเสียงดังจากท่อไอเสีย

      ง. ไม่มีทะเบียน

2. ผู้ขับขี่รถมอเตอร์ไซค์สามารถลดความรุนแรงจากอุบัติภัยได้อย่างไร

      ก. ขับรถที่สภาพดี

      ข. ขับรถต้องใช้เบรกให้คล่อง

      ค. ขับรถต้องสวมหมวกนิรภัย

      ง. ขับรถบนถนนที่สภาพดี

3. ทำไมจึงไม่ควรรับประทานยาบ้าเมื่อขับรถ

      ก. ทำให้เกิดอาการง่วงนอน

      ข. ทำให้เกิดความหงุดหงิด

      ค. ทำให้เกิดอารมณ์เศร้าซึม

      ง. ทำให้จิตใจคึกคะนองขาดความระมัดระวัง

4. ผู้ขับขี่รถมอเตอร์ไซค์ข้อใดที่อาจจะเกิดอุบัติภัยได้น้อยที่สุด

      ก. สวมหมวกนิรภัยเมื่อขับขี่ทางไกล

      ข. พกใบขับขี่เสมอ

      ค. ขับรถเร็ว แต่สามารถหลบหนีตำรวจได้

      ง. มีสติเสมอในการขับขี่

5. . วัยที่เกิดอุบัติเหตุจากการจราจรได้บ่อยที่สุด

      ก. วัยเด็ก

      ข. วัยรุ่น

      ค. วัยผู้ใหญ่

ง. วัยชรา

6. ทำไมต้องสวมหมวกนิรภัยเวลาขับรถจักรยานยนต์

    ก. ป้องกันการเกิดอุบัติเหตุ

    ข. ป้องกันแสงแดดและความร้อน

    ค. ป้องกันลมและแมลงเข้าตา

    ง. ป้องกันอันตรายต่อสมอง ถ้าเกิดอุบัติเหตุ

7. ขอบทางสีอะไรที่จอดรถ**ได้นานๆ**

    ก. ขาว – แดง

    ข. ขาว – เหลือง

    ค. ขาว – ดำ

    ง. ได้ทุกข้อ

8. ขอบทางสีอะไรที่จอดรถ**ได้ชั่วคราว**

    ก. ขาว – แดง

    ข. ขาว – เหลือง

    ค. ขาว – ดำ

    ง. ได้ทุกข้อ

9. ขอบทางสีอะไรที่**ห้ามจอดรถ**

    ก. ขาว – แดง

    ข. ขาว – เหลือง

    ค. ขาว – ดำ

    ง. ได้ทุกข้อ

10. คนขับรถที่ปลอดภัยนั้น ต้องมีลักษณะอย่างไร

    ก. สุขภาพดี ขับรถดี มีน้ำใจ เคารพกฎจราจร

    ข. มีใบขับขี่ ขับรถถึงจุดหมายอย่างรวดเร็วและรีบร้อนเป็นสำคัญ

    ค. ขับรถได้ทนทานแม้จะง่วงนอนหรืออ่อนเพลีย

    ง. เคารพกฎจราจรเมื่อพบตำรวจ

11. เครื่องหมายห้ามแซงบนถนนมีลักษณะอย่างไร

    ก. เส้นปะสีเหลืองตามถนน

    ข. เส้นปะสีขาวตามถนน

ค. เส้นทึบสีเหลืองตามถนน

ง. เส้นทึบสีขาวตามถนน

12. ในเวลากลางคืนเพื่อความปลอดภัยในการข้ามถนนควรสวมเสื้อสีอะไร ☐

    ก. ดำ

    ข. ม่วง

    ค. เทา

    ง. ขาว

13. ในการเกิดอุบัติเหตุจราจร ทุกครั้งก่อให้เกิดความสูญเสียแก่ใครบ้าง ☐

    ก. ผู้ประสบอุบัติเหตุ

    ข. ครอบครัว

    ค. สังคมและประเทศชาติ

    ง. ถูกทุกข้อ

14. ขณะฝนตกผู้ขับขี่ควรปฏิบัติอย่างไร ☐

    ก. เปิดไฟหรี่

    ข. เปิดไฟหน้ารถ

    ค. เปิดไฟกระพริบด้านซ้ายตลอดเวลา

    ง. เปิดไฟกระพริบด้านขวาตลอดเวลา

15. ก่อนขับขี่รถบนถนนหลวง ควรปฏิบัติอย่างไร ☐

    ก. บรรลุนิติภาวะก่อน

    ข. ฝึกหัดขับขี่รถให้ชำนาญและมีใบขับขี่

    ค. มีใบขับขี่และพอขับรถได้

    ง. สามารถขับขี่รถได้โดยใช้มือข้างเดียว

16. รถจักรยานยนต์ที่จะทำให้มีความปลอดภัยสูง คือข้อใด ☐

    ก. มีเสียงท่อไอเสียดังเป็นพิเศษ

    ข. ถอดกระจกมองหลังออกให้รถเบา

    ค. ถอดไฟเลี้ยวออก

    ง. กำลังม้าหรือความเร็วต่ำ

17. ผู้ป่วยที่ได้รับอุบัติเหตุอย่างไรที่อาจทำให้เสียชีวิตได้ ☐

    ก. สมอง / กะโหลกศีรษะ   ค. แขน

ข. ขา   ง. หลัง

18. ผู้ป่วยอุบัติเหตุที่เป็นอัมพาต มักเกิดจากอะไร ☐

    ก. ศีรษะแตก

    ข. กระดูกสันหลังหัก

    ค. ขาหัก

    ง. หน้าตาได้รับการกระทบกระเทือน

19. การส่งต่อผู้ป่วยอุบัติเหตุไปโรงพยาบาลที่รวดเร็ว ควรโทรแจ้งหมายเลขใด ☐

    ก. 191

    ข. 1559

    ค. 1669

    ง. 1569

20. การขับขี่รถจักรยานยนต์ กฎหมายกำหนดไว้ไม่เกินเท่าใด ☐

    ก. ไม่เกิน 50 กม/ชม

    ข. ไม่เกิน 70 กม/ชม

    ค. ไม่เกิน 90 กม/ชม

    ง. ไม่เกิน 120 กม/ชม

ตอนที่ 3

การรับรู้ความสามารถในการป้องกันอุบัติภัยจากการจราจร

คำชี้แจง โปรดใส่เครื่องหมาย / ในช่องที่ตรงกับความรู้สึกของท่าน

ทัศนคติ	เห็นด้วย	ไม่เห็นด้วย	ไม่แน่ใจ	สำหรับผู้วิจัย
1. . ท่านรับรู้ว่าท่านสามารถหลีกเลี่ยงการดื่มสุราหากต้องขับขี่รถ				☐
2. . ท่านต้องตรวจเช็คสภาพรถเป็นประจำในการขับขี่				☐
3. . ท่านสามารถให้สัญญาณไฟหรือสัญญาณมือทุกครั้งเมื่อเลี้ยวรถ				☐
4. ท่านรับรู้ว่าสามารถหลีกเลี่ยงการขับขี่รถตัดหน้าคันอื่นได้				☐
5. ท่านสามารถจัดการให้ตนเองมีการสวมหมวกนิรภัยเสมอเมื่อขับขี่รถจักรยานยนต์				☐
6.ท่านรับรู้ว่า สามารถใช้สัญญาณไฟและสัญญาณแตรเสมอเมื่อมีการแซงรถคัน				☐
7. ท่านรับรู้ว่าตนเองสามารถหลีกเลี่ยงความประมาท ได้				☐
8.ท่านรับรู้ว่าท่านสามารถคาดเข็มขัดนิรภัย ได้เมื่อขับขี่				☐
9.ท่านรับรู้ว่าตนเองมีใบขับขี่ที่ได้มาจากการทดสอบการขับขี่ที่ได้มาตรฐาน				☐
10. ท่านรับรู้ว่าสามารถหลีกเลี่ยงการขับขี่เมื่อง่วงนอนอ่อนเพลีย เหนื่อยล้า				☐
11.ท่านรับรู้ว่าถ้าทุกคนใช้หลักพุทธศาสนา ในการขับขี่จะช่วยให้เกิดความปลอดภัยในการจราจร				

ตอนที่ 4 *การรับรู้ผลลัพธ์ของการป้องกันอุบัติภัยจากการจราจร*

การรับรู้ผลลัพธ์ของการป้องกันอุบัติภัยจากการจราจร	ใช่	ไม่ใช่	ไม่แน่ใจ	สำหรับผู้วิจัย
1. ท่านรับรู้ว่า การสวมหมวกนิรภัย เมื่อขับขี่ รถจักรยานยนต์ จะทำให้ เกิดความปลอดภัยสูง				☐
2. ท่านรับรู้ว่า ถ้าไม่ประมาทจะสามารถป้องกันอุบัติภัยจากการจราจร				☐
3. ท่านเห็นว่าการสวมหมวกนิรภัยทุกครั้งที่มีการขับขี่ รถจักรยานยนต์จะทำให้เกิดความปลอดภัยในการขับขี่ได้				☐
4. ท่านรับรู้ว่า การคาดเข็มขัดนิรภัยทำให้เกิดความปลอดภัย				☐
5. ท่านรับรู้ว่า การเคารพกฎจราจรเสมอจะก่อให้เกิดความปลอดภัยได				☐
6. ท่านรับรู้ว่า การเคารพกฎจราจรจะช่วยในการป้องกันอุบัติภัยจากการขับขี่ได้				☐
7. ท่านรับรู้ว่า ท่านการกรณรงค์ป้องกันอุบัติภัยจากการจราจรจะทำให้ทุกคนตระหนักถึงความปลอดภัยมากขึ้น				☐
8.ท่านรับรู้ว่าการใช้หลักฮิยิริฮัตโตะ จะช่วยให้รู้จุดเสี่ยงและสามารถป้องกันอุบัติภัยได้มากขึ้น				☐
9. ท่านรับรู้ว่า การลดความเร็วสูงในการขับรถจะช่วยให้เกิดความปลอดภัยได้มากขึ้น				☐

ตอนที่ 5 *การปฏิบัติตัวในการป้องกันอุบัติภัยจากการจราจร*

| การปฏิบัติตัวในการป้องกันอุบัติภัยจากการจราจร	ปฏิบัติ ประจำ	ปฏิบัติ บางครั้ง	ไม่เคย ปฏิบัติ	สำหรับ ผู้วิจัย
1. ท่านสวมหมวกนิรภัยเมื่อขับขี่รถจักรยานยนต์				☐
2. ท่านกระตุ้นเตือนเพื่อนในการป้องกันอุบัติภัยจาก การจราจรเสมอ				☐
3. ท่านร่วมสร้างมาตรการป้องกันอุบัติภัยจากการจราจรใน ชุมชน/สถาบันของท่าน				☐
4. ท่านตรวจเช็คสภาพรถทุกครั้งก่อนออกเดินทาง				☐
5. ท่านควบคุมการขับขี่ไม่ให้ขับรถเร็วเกินกฎหมายกำหนด				☐
6. ท่านเคารพกฎจราจร ถึงแม้ไม่มีตำรวจตรวจตรา				☐
7. ท่านขับขี่เมื่อมีอาการเมา				☐
8. ท่านใช้ความเร็วสูงในการขับรถเกินกฎหมายกำหนด				☐
9.ท่านขับขี่ แม้ว่าจะมีอาการง่วง อ่อนล้า				☐
10.ท่านใช้หลักพุทธศาสนาในการขอบขี่โดยมีความเมตตา เอื้ออาทรต่อกัน				☐

ขอขอบคุณค่ะ

รศ.ดร.จุฬาภรณ์ โสตะ

Leader student meeting

Hiyari Hatto Activities
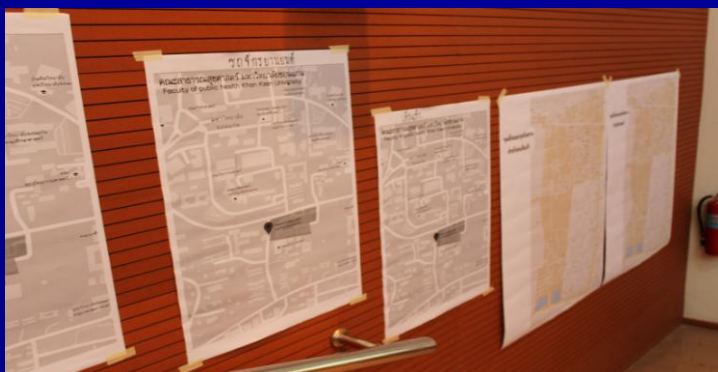
Hiyari Hatto

Baseline Characteristic of sample

THE POTENTIAL DEVELOPMENT OF LEADER STUDENTS FOR TRAFFIC ACCIDENT PREVENTION IN FACULTY OF PUBLIC HEALTH , KHON KAEN UNIVERSITY, THAILAND.

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