



CHAPTER III

RESEARCH METHODOLOGY

1. Research Design

A Cross Sectional Study design with self-administered questionnaire was used for the study.

2. Study Site and Time

The data collection was carried out in seven high schools namely Chanthabuli , Phiavath , Sikhottabong, Sisattanak , Saysettha , Thatluang and Vientiane high school . These high schools are located in the urban area of Vientiane Municipality Laos and they are the high school which have many motorcyclists' students .The survey was conducted over a period of two weeks (20 March to 5 April 2003). The detailed time fame is presented in Appendix B.

3. Study Population

The study population were the senior high school students who drive a motorcycle in Vientiane Municipality, Lao PDR.

4. Sampling and Sample Size

Seven high schools were selected by simple random sampling from the 13 high schools in Vientiane Municipality. The total 375-sample size was calculated using following scheme:

$$n = \frac{Z^2 P Q N}{Z^2 P Q + N d^2}$$

$$Z^2 P Q + N d^2$$

n = Sample size

Z= Confidential interval 95% = 1.96

p = The proportion in the population or the true population 50%= 0.5

q = 1-p = 0.5

d = The precision or difference 5% = 0.05

N= Population of senior high school students in Vientiane Municipality 14887 students

$$n = \frac{Z^2 P Q N}{Z^2 P Q + N d^2}$$

$$Z^2 P Q + N d^2$$

$$= \frac{(1.96)^2 (0.5) (0.5) (14887)}{(1.96)^2 (0.5) (0.5) + (14887) (0.05)^2}$$

$$(1.96)^2 (0.5) (0.5) + (14887) (0.05)^2$$

$$= 374.496 \approx 375$$

The detail of sampling method is as below:

Population: Total Students from 13 high schools in Vientiane Municipality

Study Population: Senior High School Students Grade 4-6 in Vientiane Municipality

Simple Random Sampling 7 schools from 13 schools

Systematic Random Sampling 394 students

	Chanthabuli	Phiavath	Sikhottabong	Sisattanak	Saysetha	Thatluang	Vientiane
Grade 4	21	18	10	15	9	5	48
Grade 5	17	14	7	19	6	14	30
Grade 6	34	16	47	13	15	10	26

5. Inclusion Criteria:

Inclusion criteria for the sample study were as follows:

1. Senior high school students who were motorcyclists studying in 7 selected high schools, Vientiane municipality, Lao PDR,
2. Students who were willing to provide information.

6. Research Instruments

Data were collected by self-administered structured questionnaire that comprised of 4 parts.

1. Socio-demography of senior high school motorcyclist: there were 5 questions to measure socio-demographic variables including school , grade gender , age and income
2. Driving behavior of senior high school motorcyclists: to assess driving behavior, there were 4 questions asked about driving experience such as start driving year, driving license, and helmet use and 21 statements to measure driving style variable, overtaking in the restricted zone , reckless driving behavior, stop at non stop area and violate traffic signal.
3. Drinking experience of senior high school motorcyclists: to explore the drinking experience, 9 questions were asked about alcohol beverages consuming, the kind of alcohol, frequency of drinking, quantity of alcohol beverage in one occasion, the company, occasions, place of drink and driving after drinking.
4. History of road traffic accident of high school motorcyclist. There were 4 questions were asked about road traffic accident including accidents' occurrence, frequency of accidents and the severity of injury due to road traffic accidents.

7. Variables and Measurement

Table 3 Variables and level of measurement

Variable	Level of measurement
Gender	Nominal
School	Nominal
Driving license possessing	Nominal
Alcohol beverage	Nominal
Type of alcohol	Nominal
Drinking occasion	Nominal
Drinking company	Nominal
Drinking location	Nominal
Motorcycle accident	Nominal
Type of injuries	Nominal
Grade	Ordinal
Driving license time	Ordinal
Overtaking	Ordinal
Reckless	Ordinal
Violating	Ordinal
Stop at non stop area	Ordinal
Driving after drinking	Ordinal
Helmet use	Ordinal
Frequency of drinking	Ordinal
Quantity of drink at one occasion	Ordinal
Frequency of accident	Ordinal
Age	Ratio
Family income	Ratio
Own income	Ratio

8. Reliability and Validity

A questionnaire pre-testing was done with 30 high school students who drove a motorcycle from Phone Xay high school ,Vientiane Municipality , before the real survey was carried out, to improve further the questionnaire by reacting with the respondents, and familiarizing with the whole process of questioning and receiving the comments from the sample population. And also to ensure the reliability of the instrument. Cornbach's alpha method was used to measure reliability (internal consistency).

Four driving styles of respondents , composed 21 item, was calculated by SPSS for window version 10 as a result as follow.

Reliability Coefficients = 22 items

Alpha =. 7576

Standardize item Alpha=. 7893

The alpha coefficients tested for driving style for 30 high school students was significant (.7) and prove to be consistent. Only minor changes had to be made in the language part to simplify the questions more.

9. Data Collection

The data collection was approved by high school directors and head of Vientiane Municipality Educational Department after submitting an official letter from Dean of the Faculty of Medical Sciences, National University of Laos. After sampling from the students' lists of each selected high school, the list of selected students were sent to their directors. The subjects were asked into one class and fill the questionnaire form out that distributed by research's team. Then questionnaire forms were handed back the same day.

10. Data Analysis

The computer software SPSS for Windows was used to analyze this data. Simple descriptive statistics such as frequency, mean, average, percentage, standard deviation the distribution of variables and chi-square were used to analyze the association between variables.

11. Ethical Consideration

All the participants had a right to accept or reject to be a subject in this study. All the activities were carried out after getting a verbal consent from the participants.

Confidentiality of data was maintained.

12. Expectations

The research will have the following usefulness:

- a) This study will be a resource to understand the drinking and driving and road traffic accident among the senior high school students in Vientiane municipality.
- b) This study will be helpful for planning health promotion on controlling road traffic accidents.
- c) It will be helpful in gaining some skills and developing experiences on the application of research tools for this author.

13. Limitations

There were some limitations of this study, as follows:

- a) The data collection coincided with the academic examination of the students in the school.
- b) A possible limitation could be social desirability bias and memory bias among respondents.
- c) Due to the culture belief, some of the children are not aware and they are not in a position to tell the income of the family.