

UNIVERSITI TEKNOLOGI MARA

**MOTORCYCLE NOISE EXPOSURE AMONG
STUDENTS IN AN INSTITUTIONAL HIGHER
LEARNING**

DAVID JUD MARCUS JOSUE

**Project Submitted in fulfillment of the requirements
for the degree of**

**Bachelor in Environmental Health And
Safety (Hons.)
Faculty of Health Sciences**

JULY 2016

DECLARATION BY STUDENT

Project entitled “**Motorcycle noise exposure among students in an institutional higher learning**” is a presentation of my original work. Whenever contribution of others are involve every effort is made to indicate this clearly, with due references to the literature, and acknowledgement of collaborative project and discussion. This project was done under the guidance of Dr. Subramaniam Karuppanan as Project Supervisor. This project has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the awarding of Degree of Bachelor in Environment Health and Safety (Hons.).

Student’s Signature,



.....

(DAVID IUD MARCUS

JOSUE)

2012855398

930630-12-5221

Date: 25/07/2016.....

ACKNOWLEDGEMENT

I would first like to thank my thesis advisor Dr. Subramaniam Karuppannan of the Faculty of Health Sciences at University Teknologi MARA. The door to Dr. Subramaniam office was always open whenever I ran into a trouble spot or had a question about my research or writing. He consistently allowed this paper to be my own work, but steered me in the right the direction whenever he thought I needed it.

I would also like to thank the experts who were involved in the validation survey for this research project: Madam Anila Ali, Clinical Instructors and the laboratory assistants. Without their passionate participation and input, the validation survey could not have been successfully conducted.

Finally, I must express my very profound gratitude to my parents and my colleague for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them. Thank you.

TABLE OF CONTENT

LIST	PAGE
DECLARATION OF STUDENTS	i
DECLARATION BY SUPERVISOR	ii
ACKNOWLEDGEMENT	iii
LIST OF TABLES	vii
LIST OF FIGURE	viii
LIST OF PLATES	ix
LIST OF EQUATION	x
ABSTRACT	xi
CHAPTERS	
1. INTRODUCTION	
1.1 Introduction	1
1.2 Background Information	1
1.3 Problem statement	3
1.4 Study Objective	3
1.5 Limitation of the study	4
1.6 Significant of Study	4
1.7 Justification of Study	4
1.8 Hypotheses	4
1.9 Conceptual Framework	5
1.10 Conclusion	7
2. LITERATURE REVIEW	
2.1 Introduction	8
2.2 Motorcycle	8
2.3 Motorcycle Engine Mechanism	9
2.4 Motorcycle Accidents	11

ABSTRACT

Motorcycle noise exposure among students in an institutional higher learning

By

David Jud Marcus Josue (2012855398)

Each year, the number of registered motorcycle increased where at least 1% of them will involve in road accident. From the one 1%, at least a total number of 10,000 motorcyclist will be injured and killed every year. Helmet is proven to provide protection for motorcyclist (Chang et al., 2003). There has been little discussion on the consequences of wearing motorcycle helmet and the noise exposure. This study aim to identify the noise exposure among motorcyclist. The method used in this study is by placing the microphone personal dosimeter to the motorcyclist inside the helmet near to their ears and take a ride of their motorcycle while their noise exposure is recorded by the dosimeter. Besides, the motorcyclist hearing will also be test through the audiometric test. The personal noise exposure and motorcycle noise emission found to be significant between the compliance and non-compliance of the regulation with the p-value of 0.01 for personal noise exposure and p-value of 0.00 for motorcycle noise emission. There are no significant differences in the noise threshold at each frequency between expose group and control group. This shows that both the group has suffers from hearing loss. However, there is an association for the expose group to develop hearing loss once exposing to the noise with the p-value of 0.04 and the relative risk score 1.65 (>1). The current studies found that most of the permissible noise emission from the motorcycles is below the standard. As if the current reading is compare with the European Union (EU) standard, all of the noise from the motorcycle found to be exceeding the permissible limit with the reading of above 77 dB (A). Malaysian guidelines should be revising with the current situation as the guideline is not as better as the European guidelines so that the development of hearing loss among motorcyclist can be prevented. The mechanical of the motorcycle engine and current motorcycle helmet available should be revised with thẽ current issues.

Keyword: Motorcycle, noise exposure, hearing loss, association, relative risk