UNIVERSITI MALAYSIA PAHANG

DECLARATION OF THESIS AND COPYRIGHT

Author’s full name : Nadiah Bt Hudoh @ Ramli
Date of birth : 28th May 1993
Title : Qualitative Research Into Motivations and Barriers to Cycling In UMP Campus
Academic Session : 2015/2016

I declare that this thesis is classified as:

☐ CONFIDENTIAL (Contains confidential information under the Official Secret Act 1972)*
☐ RESTRICTED (Contains restricted information as specified by the organization where research was done)*
☐ OPEN ACCESS I agree that my thesis to be published as online open access (Full text)

I acknowledge that Universiti Malaysia Pahang reserve the right as follows:

1. The Thesis is the Property of University Malaysia Pahang
2. The Library of University Malaysia Pahang has the right to make copies for the purpose of research only.
3. The Library has the right to make copies of the thesis for academic exchange.

Certified By:

__________________________________________  ____________________________
(Student’s Signature)  (Signature of Supervisor)

930528-02-5144  DR PARAMESWARY A/P SUNDARA
New IC / Passport Number  Name of Supervisor
Date: 15/6/2016  Date: 15/6/2016
QUALITATIVE RESEARCH INTO MOTIVATIONS AND BARRIERS TO CYCLING IN UMP CAMPUS

NADIAH BT HUDOH @ RAMLI

Thesis submitted in fulfillment of the requirements
For the award of the degree of
Bachelor of Engineering (Hons) Civil Engineering

Faculty Civil Engineering and Earth Resources
UNIVERSITI MALAYSIA PAHANG

JUNE 2016
SUPERVISOR DECLARATION

“We hereby declare that we have read this thesis and in our opinion this thesis is sufficient in terms of scope and quality for the award of the Bachelor of Engineering (Hons) Civil Engineering.”

Signature : ………………………………………………………………………

Name of supervisor : DR PARAMESWARY A/P SUNDARA

Date : 15th June 2016

Signature : ………………………………………………………………………

Name of supervisor : DR SULISTYO ARINTONO

Date : 15th June 2016
STUDENT DECLARATION

I hereby declare that the work in this project report is my own except for quotations and summaries which have been duly acknowledge. The project report has not been accepted for any degree and is not concurrently submitted for award of other degree.

Signature : ..........................
Name : NADIAH BT HUDOH @ RAMLI
ID Number : AA12127
Date : 15th June 2016
TABLE OF CONTENT

SUPERVISOR’S DECLARATION i
STUDENT’S DECLARATION ii
ACKNOWLEDGEMENTS iii
ABSTRACT iv
ABSTRAK v
TABLE OF CONTENTS vi
LIST OF TABLES ix
LIST OF FIGURES x
LIST OF ABBREVIATIONS xi

CHAPTER 1 INTRODUCTION

1.1 Introduction 1
1.2 Background of Study 2
1.3 Problem Statement 2
1.4 Objectives of the Study 3
1.5 Scope of Study 3
1.6 Significant of Study 3

CHAPTER 2 LITERATURE REVIEW

2.1 Definition of transportation 4
2.2 The classification of transportation systems 6
2.3 Classification of public transportation 7
2.4 Bicycle 9
   2.4.1 Uses of bicycles 9
   2.4.2 Different bicycle for different situations 10
       2.4.2.1 Utility bicycle 10
       2.4.2.2 Hybrid bicycle 11
2.4.2.3  Mountain bicycle  

2.5  Advantages of cycling  

2.6  Barriers to cycling  

2.7  Effective efforts to increase cycling  
   2.7.1  On-road bicycle lanes  
   2.7.2  Bicycle parking  
   2.7.3  Education and training  
   2.7.4  Shower facilities  
   2.7.5  Bicycle Racks on Public Transit  
   2.7.6  Safety in numbers  
   2.7.7  Bicycle-friendly Universities  

CHAPTER 3  RESEARCH METHODOLOGY  

3.1  Introduction  

3.2  Research Design  
   3.2.1  Desktop Study  
   3.2.2  Data Collection  
   3.2.3  Data Analysis  

CHAPTER 4  RESULTS AND DISCUSSION  

4.1  Introduction  

4.2  Questionnaire Distribution  

4.3  Respondent’s Profile  
   4.3.1  Gender  
   4.3.2  Age  
   4.3.3  Level of education  
   4.3.4  Residential place  
   4.3.5  Mode of transportation
4.4 Reasons for cycling
   4.4.1 To commute to the place of study 29
   4.4.2 Recreation / Exercise 30
   4.4.3 Social interaction 32

4.5 Barriers to cycle 33
   4.5.1 Safety issues 33
   4.5.2 Health / ability to ride issues 35
   4.5.3 Time issues 36
   4.5.4 Weather issues 37

4.6 Motivators to cycle 39
   4.6.1 Benefits of cycling 39
   4.6.2 Initiative that would influence to cycle 40

CHAPTER 5 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction 42
5.2 Conclusion 42
5.3 Recommendation 44
   5.3.1 Provide a bicycle lane 44
   5.3.2 Publicize and campaign on bicycle use in campus 45
   5.3.3 Organize interesting activities for cycling 45

REFERENCES 46

APPENDIX
A1 Questionnaire 49
**LIST OF TABLE**

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Gender by Residential Place Crosstabulation</td>
<td>26</td>
</tr>
<tr>
<td>4.2</td>
<td>Residential place by Mode of transportation to the place of study Crosstabulation</td>
<td>28</td>
</tr>
<tr>
<td>4.3</td>
<td>Gender by To commute to the place of study Crosstabulation</td>
<td>30</td>
</tr>
<tr>
<td>4.4</td>
<td>Gender by Recreation / exercise Crosstabulation</td>
<td>31</td>
</tr>
<tr>
<td>4.5</td>
<td>Gender by Social interaction Crosstabulation</td>
<td>33</td>
</tr>
<tr>
<td>4.6</td>
<td>Mean and rank of factor that related to the safety issues</td>
<td>34</td>
</tr>
<tr>
<td>4.7</td>
<td>Mean and rank of factor that related to the health / ability to ride issues</td>
<td>35</td>
</tr>
<tr>
<td>4.8</td>
<td>Mean and rank of factors related to time issues</td>
<td>36</td>
</tr>
<tr>
<td>4.9</td>
<td>Mean and rank of factors related to weather issues</td>
<td>38</td>
</tr>
<tr>
<td>4.10</td>
<td>Mean and rank related to the benefits of cycling</td>
<td>39</td>
</tr>
<tr>
<td>4.11</td>
<td>Mean and rank of initiative that would influence to cycle more</td>
<td>41</td>
</tr>
</tbody>
</table>
### LIST OF FIGURE

<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Typical Urban Transportation Modes (Hutchinson1974)</td>
<td>8</td>
</tr>
<tr>
<td>2.2</td>
<td>Utility bicycle</td>
<td>10</td>
</tr>
<tr>
<td>2.3</td>
<td>Hybrid bicycle</td>
<td>11</td>
</tr>
<tr>
<td>2.4</td>
<td>Mountain bicycle</td>
<td>12</td>
</tr>
<tr>
<td>3.1</td>
<td>The flow of research methodology process</td>
<td>21</td>
</tr>
<tr>
<td>4.1</td>
<td>Gender</td>
<td>23</td>
</tr>
<tr>
<td>4.2</td>
<td>Age</td>
<td>24</td>
</tr>
<tr>
<td>4.3</td>
<td>Level of education</td>
<td>25</td>
</tr>
<tr>
<td>4.4</td>
<td>Residential place by gender</td>
<td>26</td>
</tr>
<tr>
<td>4.5</td>
<td>Mode of transportation by residential place</td>
<td>27</td>
</tr>
<tr>
<td>4.6</td>
<td>Number of respondent take bicycle to commute to the place of study</td>
<td>29</td>
</tr>
<tr>
<td>4.7</td>
<td>Number of respondent take bicycle for recreation/ exercise</td>
<td>31</td>
</tr>
<tr>
<td>4.8</td>
<td>Number of respondent take bicycle for social interaction</td>
<td>32</td>
</tr>
<tr>
<td>4.9</td>
<td>Number of respondents for drivers not educated in safety for cyclist/ unaware of cyclist</td>
<td>34</td>
</tr>
<tr>
<td>4.10</td>
<td>Number of respondent for lazy/ tired/ no motivation</td>
<td>36</td>
</tr>
<tr>
<td>4.11</td>
<td>Number of respondent for takes more time than alternative commutes</td>
<td>37</td>
</tr>
<tr>
<td>4.12</td>
<td>Number of respondent for extreme hot</td>
<td>38</td>
</tr>
<tr>
<td>4.13</td>
<td>Number of respondents for reduce cost (save money on fuel, fares)</td>
<td>40</td>
</tr>
<tr>
<td>4.14</td>
<td>The number of respondent if there were interesting activities for cycling</td>
<td>41</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------</td>
<td></td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Science</td>
<td></td>
</tr>
<tr>
<td>UMP</td>
<td>University Malaysia Pahang</td>
<td></td>
</tr>
</tbody>
</table>