RISK FACTORS OF ROAD TRAFFIC ACCIDENTS IN SRI LANKA

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DECLARATION

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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Abstract

Road Traffic Accidents (RTAs) are one of the most prominent public health problems as it is a leading cause of death by injury and all deaths globally. This study therefore intended determine the risk factors associated with RTAs in Sri Lanka (2005 - 2019) based on data driven decision making (DDDM) which would be useful for decision makers. The results were obtained using analysis of 2 - way frequency tables, logistic regression and factor analysis. The percentage of fatal accidents have increased from 6.1% (2005 - 2008) to 7.2% (2013 - 2019), while damage have been dropped from 44.1% to 35.5% during the same period. The percentage of grievous accidents have an increasing trend by rising from 14.1% (2005 - 2008) to 21.8% (2013 - 2019), while minor accidents have been dropped from 35.7% to 35.5% during the same period. It was found that all the attributes of road characteristics, time & environmental characteristics, vehicle characteristics and among all the attributes of human & accident characteristics (except gender) have significant association on severity of accident. The gender of the driver does not significantly influence on the severity of accident. The seven variables of causes of RTAs identified by the Sri Lanka Police can be classified into two factors namely (i) negligence of pedestrians and other external reasons and (ii) lack of attention of the driver. This was confirmed by the confirmatory factor analysis. The odds of happening fatal accidents in wet road surface 1.109 times higher than that it occurs in dry road surface. The odds of happening fatal accidents during night with improper street lighting is 1.518 times higher than that it occurs during daylight. The inferences derived from this study would be very useful for policy makers in order to minimize RTAs in Sri Lanka.

Keywords: *Key Causes, Risk Factors, Road Traffic Accidents, Severity of Accident*

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TABLE OF CONTENT

Declaration ii

Abstract iii

Acknowledgements iv

Table of Content v

List of Tables viii

List of Figures xi

List of Annexures xii

List of Abbreviations xiii

Chapter 01: Introduction 1

1.1. Background of the Study 1

1.2. RTAs in Sri Lanka 3

1.3. Risk Factors of RTAs 4

1.4. Present Situation of RTAs in Sri Lanka 7

1.5. Significance of the Study 9

1.6. Research Objectives 10

1.7. Outline of the Dissertation 10

Chapter 02: Literature Review 11

2.1. Burden of Diseases and Injuries 11

2.1.1. The Global Burden of Unintentional Injuries 12

2.2. Background of RTAs 16

2.3. Behaviour of RTAs in Sri Lanka 19

2.4. Factors Associated with RTAs 24

2.5. Modeling of Risk Factors Associated with RTAs 33

2.6. Summary of the Chapter Two 36

Chapter 03: Materials and Methods 37

3.1. Secondary Data 37

3.5. Statistical Analysis 39

3.5.1. Descriptive Statistics 39

3.5.2. Data Presentation Techniques 39

3.5.3. Correlation Analysis 39
3.5.4. Chi-Square Test Statistic 40
3.5.5. Factor Analysis (FA) 41
3.5.6. Extraction of Factors 44
3.5.7. Binary Logistic Regression Model 45
Chapter 04: Characteristics of the Road Traffic Accidents (RTAs) in Sri Lanka 50
4.1. Annual Trend in RTAs and Comparison among Three Scenarios 50
4.2. Vulnerable Road Users 53
4.3. RTAs by Types of Vehicles 54
4.3.1. Fatal and Grievous Accidents by Types of Vehicles 57
4.4. RTAs by Days of Week 58
4.5. RTAs by Time of the Day 61
4.6. Summary of Chapter Four 63
Chapter 05: Identifying Key Factors of Road Traffic Accidents (RTAs) 64
5.1. Descriptive Statistics of the Initial Variables 64
5.2. Diagnostic Tests for Explanatory Factor Analysis (EFA) 65
5.3. Eigen Analysis for Correlation Matrix Analysis 66
5.4. Results of 2 - Factor Model after Rotation 67
5.4.1. Under PCF Method 67
5.4.2. Under PAF Method 70
5.4.3. Under MLF Method 71
5.4.4. Summary of the 2 - Factor Model 74
5.2.6. Factor Score Coefficient 74
5.3. Confirmatory Factor Analysis (CFA) 76
5.3. Summary of the Chapter Five 79
Chapter 06: Identification of Risk Factors on Road Traffic Accidents (RTAs) 80
6.1. Description of Variables Used 80
6.2. Association between Road Characteristics and Severity of Accident 82
6.2.1. Types of Road Surface 82
6.2.2. Types of Light Condition 82
6.2.3. Types of Location 83

6.3. Association between Time, Environmental Characteristics and Severity of Accident....83
6.3.1. Types of Sector....83
6.3.2. Type of Day....84
6.3.3. Day of Week....84
6.3.4. Type of Weather....85
6.4. Association between Vehicle Characteristics and Severity of Accident....85
6.4.1. Type of Vehicle....85
6.4.2. Type of Vehicle Ownership....86
6.4.3. Type of Vehicle Age....86
6.5. Association between Human, Accident Characteristics and Severity of Accident....87
6.5.1. Type of Alcohol Test....87
6.5.2. Validity of License....88
6.5.3. Type of Driver Age....88
6.5.4. Gender of Driver....89
6.5.5. Type of Key Factors....89
6.6. Determine the Risk Factors Associated with RTAs....90
6.4. Summary of Chapter Six....94
Chapter 07: Conclusions, Recommendations and Suggestions....95
7.1. Conclusions....95
7.2. Recommendations....96
7.3. Suggestions....97
References....99
Annexures....107

LIST OF TABLES

Table 1. 1: Causes of RTAs 8

Table 2.1: Percentage of Unintentional Injury Deaths by WHO Regions 13

Table 2.2: Global Injury DALYs (per 100,000) and Rate Ratios (in parentheses) by WHO Region 14

Table 2.3: DALYs for the 10 Leading Causes of the Global Burden of Disease ... 15

Table 2.4: Population and Road Density of Southeast Asian Region Countries 18

Table 2.5: Summary of Previous Research done in Different Countries 24

Table 2.6: Summary of Previous Research done in Sri Lanka 28

Table 4.1: Basic Statistics of Each Scenarios by Types of Accidents 51

Table 4.2: Died Road Users in Each Scenarios 53

Table 4.3: Correlation Coefficient between Automobile Population and Number of Accidents in Each Types of Vehicles (2005 - 2019) 55

Table 4.4: Basic Statistics of Each Scenarios by Types of Vehicles 56

Table 4.5: Days of Week and Type of Accident 58

Table 4.6: Days of Week and Type of Accident in Scenario I 59

Table 4.7: Days of Week and Type of Accident in Scenario II 60

Table 4.8: Days of Week and Type of Accident in Scenario III 60

Table 4.9: Time of the Day and Types of Accident 61

Table 4.10: Time of the Day and Types of Accident in Scenario I 61

Table 4.11: Time of the Day and Types of Accident in Scenario II 62

Table 4.12: Time of the Day and Types of Accident in Scenario III 62

Table 5.1: Basic statistics of the RTAs (per year) among the seven categories during 2005 - 2019 64

Table 5.2: Results of KMO and Bartlett's test 65

Table 5.3: Results of the AD test for Normality 66

Table 5.4: Total Variance Explained (Correlation Matrix Analysis) 66

Table 5.5: Factor Loadings of 2 - Factor Model (PCF and Varimax) 67
Table 5.6: Factor Loadings of 2 - Factor Model (PCF and Quartimax) 67
Table 5.7: Factor Loadings of 2 - Factor Model (PCF and Equamax) 68
Table 5.8: Factor Loadings of 2 - Factor Model Covariance Analysis (PCF and Varimax).....69
Table 5.9: Factor Loadings of 2 - Factor Model Covariance Analysis (PCF and Quartimax).....69
Table 5.10: Factor Loadings of 2 - Factor Model Covariance Analysis (PCF and Equamax).....69
Table 5.11: Factor Loadings of 2 - Factor Model (PAF and Varimax) 70
Table 5.12: Factor Loadings of 2 - Factor Model (PAF and Quartimax) 70
Table 5.13: Factor Loadings of 2 - Factor Model (PAF and Equamax) 71
Table 5.14: Results of the Significance Test 71
Table 5.15: Total Variance Explained in MLF.....72
Table 5.16: Factor Loadings of the 2 - Factor Model (MLF and Varimax) 72
Table 5.17: Factor Loadings of the 2 - Factor Model (MLF and Quartimax) 73
Table 5.18: Factor Loadings of the 2 - Factor Model (MLF and Equamax) 73
Table 5.19: Summary of the 2 - Factor Model.....74
Table 5.20: Factor Score Coefficient of Selected Factors from Varimax (PCF).....75
Table 5.21: Model Chi-Square Statistics 77
Table 5.22: Standardized Residual Covariances.....77
Table 5.23: Modification Indices.....78
Table 5.24: Model Chi-Square Statistics (Finalized Model) 79
Table 5.25: Model Fit Summary of Finalized Model 79

Table 6.1: Independent Variables 80
Table 6.2: Road Surface and Severity of Accident.....82
Table 6.3: Light Condition and Severity of Accident.....82
Table 6.4: Location Type and Severity of Accident.....83
Table 6.5: Sector and Severity of Accident 84
Table 6. 6: Type of Day and Severity of Accident 84
Table 6.7: Day of Week and Severity of Accident 85

Table 6.8: Weather and Severity of Accident 85
Table 6.9: Type of Vehicle and Severity of Accident 86
Table 6.10: Vehicle Ownership and Severity of Accident 86
Table 6.11: Vehicle Age and Severity of Accident 87
Table 6.12: Alcohol Test and Severity of Accident 87
Table 6.13: Validity of License and Severity of Accident 88
Table 6.14: Age of Driver and Severity of Accident 89
Table 6.15: Gender of Driver and Severity of Accident 89
Table 6.16: Key Factors and Severity of Accident 90
Table 6.17: Variables in the Equation 91
Table 6.18: Classification based on the Model (1) 91
Table 6.19: Model Summary 92

LIST OF FIGURES

Figure 2. 1: Leading Causes of Deaths All Ages 11
Figure 2. 2: Unintentional Injury Death Rate by WHO Regions 13
Figure 2. 3: Rate of Road Traffic Deaths by WHO Regions 16
Figure 2. 4: Rate of Road Traffic Deaths by Southeast Asian Region 17
Figure 2. 5: Total RTAs (2001 - 2019) 19
Figure 2. 6: Registration Process of an Accident 22
Figure 2. 7: RTAs by Types of Crashes (2005 - 2019) 23

Figure 3. 1: Variables of the Study 38

Figure 4. 1: RTAs in Sri Lanka (2005 - 2019) 50
Figure 4. 2: Contributing Percentage of Types of RTAs in each Scenarios 52
Figure 4. 3: Annual Trend in Fatal & Grievous RTAs in Sri Lanka (2005 - 2019) 52
Figure 4. 4: Automobile Population in Sri Lanka (30th November 2019) 54
Figure 4. 5: Fatal Accidents Involving Motorcycle, Car and Three-wheel (2005 - 2019) 57
Figure 4. 6: Grievous Accidents Involving Motorcycle, Car and Three-wheel (2005 - 2019) 58

Figure 5. 1: Standardized Parameter Estimates for 2 - Factor CFA Initial Model 76
Figure 5. 2: Standardized Parameter Estimates for 2 - Factor CFA Finalized Model 78

LIST OF ANNEXURES

Annexure 1: Deaths Cause Categories in World 107

Annexure 2: Trend in Health - Related SDG Indicators.....111

LIST OF ABBREVIATIONS

AGFI	-	Adjusted Goodness of Fit Index
AIC	-	Akaike Information Criterion
BIC	-	Bayesian Information Criterion
CAIC	-	Consistent Version of Akaike Information Criterion
CFA	-	Confirmatory Factor Analysis
CFI	-	Comparative Fit Index
DALYs	-	Disability-Adjusted Life Years
EFA	-	Explanatory Factor Analysis
GDP	-	Gross Domestic Product
GFI	-	Goodness of Fit Index
GNP	-	Gross National Product
IHME	-	Institute for Health Metrics and Evaluation
MLF	-	Maximum Likelihood Factoring
NFI	-	Normed Fit Index
NNFI	-	Non-normed Fit Index
OR	-	Odds Ratio
PAF	-	Principle Axis Factoring
PCF	-	Component Factoring
PGFI	-	Goodness of Fit Index
PNFI	-	Parsimonious Normal Fit Index
RMSEA	-	Root Mean Square Error of Approximation
RMSR	-	Root Mean Square Residual
RTAs	-	Road Traffic Accidents
SRMR	-	Standardized Root Mean Square Residual
VIFs	-	Variance Inflation Factors
WHO	-	World Health Organization