

**UNIVERSITI TEKNOLOGI MARA**

**PHYSICAL RISK FACTOR AND  
MUSCULOSKELETAL DISORDERS SYMPTOMS  
AMONG EMPLOYEE AT AUTOMOTIVE  
INDUSTRY**

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## Declaration by Student

Project entitled "Physical Risk Factor and Musculoskeletal Disorders Symptoms among Employee at Automotive Industry" is a presentation of my original research work. Wherever contribution of others are involved, every effort is made to indicate this clearly, with due references to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Miss Farah Ayuni Bt Shafie as Project Supervisor and Mr. Abd. Rahim Bin Dal as Co-supervisor. It has been submitted to the Faculty of Health Science in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons)

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## TABLE OF CONTENTS

<b>Title page</b>			
<b>Declaration</b>			
<b>Acknowledgement</b>	ii		
<b>Table of contents</b>	iii		
<b>List of tables</b>	vi		
<b>List of figures</b>	vii		
<b>List appendices</b>	viii		
<b>List of abbreviation</b>	ix		
<b>Abstract</b>	x		
<b>Abstrak</b>	xi		
<b>CHAPTER ONE: INTRODUCTION</b>			
1.1	Background Information	1	
1.2	Problem Statement	2	
1.3	Study Justification	4	
1.4	Study Objectives	5	
	1.4.1	General Objective	5
	1.4.2	Specific Objectives	5
1.5	Study Hypothesis	6	
1.6	Conceptual Framework	7	
1.7	Conceptual And Operational Definitions	9	
	1.7.1	Conceptual Definitions	9
	1.7.2	Operational Definitions	9

## Abstract

### Physical Risk Factor and Musculoskeletal Disorders Symptoms among Employee at Automotive Industry

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**Background:** A musculoskeletal disorder is a disease that will affect the muscles, tendons, ligaments, joints, peripheral nerves, and supporting blood vessels. **Methodology:** The study was conducted in an automotive manufacturing industry (MODENAS SDN BHD) located at Gurun, Kedah Darul Aman. The study location is in the final assembly section which is installed with the component of automotive. The study design of this study is cross-sectional study. Sampling data collection was using Modified Nordic Muscular-Skeletal-Disorder Questionnaire, oral interview, Body Parts Symptoms Survey (BPSS), photograph and video, observation and Rapid Upper Limb Assessment (RULA). **Results:** The study was found that most of the workers exposed group get MSDs symptom at upper back 20(66.7%), followed by lower back 19(63.3%), low leg 18 (60%), and ankle 17(56.7%). While in control group are shoulder 19(63.3%), neck 18(60%), wrist 15(50%), and lower back 15(50%). For BPSS result, the exposed workers are extremely uncomfortable at upper back, lower back, knees and ankle or feet. In control group workers, they are very uncomfortable at neck. Most of the physical risk factor among exposed group is prolonged standing 24(80%) followed by bending 19(63.3%) and over weight lifting 16(53.3%). While in control group, most of the physical risk factor is awkward postures 27(90%) followed by bending 7(23.3%) and over reaching 7(23.3%). Most of workers in assembly line (exposed) are getting score 5 in RULA assessment, followed by score 4, 3, 6 and 7. It shows that the persons are working in a poor posture with a risk of injury from their work posture. It needs to be investigated and changed in the near future to prevent an injury and the MSDs symptoms among workers. **Conclusion:** In conclusion, the physical risk factor in the work environments can lead to symptoms of MSDs. There is a high prevalence symptom of MSDs in assembly workers. With the current conditions in the automotive industry, it must be some changes in work organisation to improvements safety and health especially in ergonomic problem.

*Keywords: MSDs, RULA, BPSS, Low Back Pain*