

UNIVERSITI TEKNOLOGI MARA

**EFFECTS OF PERIODIZED SMALL SIDED GAMES
ON PHYSICAL FITNESS PERFORMANCE AMONG
MALE YOUNG FOOTBALL PLAYERS**

By

MUHAMMAD FARIQ BIN ABD RAHMAN

**Research Project Report submitted in partial fulfilment of the
requirements for the Degree of
Bachelor of Sports Science (Hons.)**

Faculty of Sports Science and Recreation

January 2015

ACKNOWLEDGEMENTS

Assalamualaikum W.B.T, here I'am so grateful to Allah S.W.T because of His permission I can finish up my research study after many challenges I have faced along this period to make the study done. Without Allah S.W.T permission I am sure cannot stand as Universiti Teknologi MARA degree student. I realize something in my study, we must learn to patiently, hard working, give full commitment to every task given and keep praying for best result.

Mr. Abd Rahman Bin Norzi and Mrs. Siti Aisah Binti Irin are a valuable person behind me who is constantly giving me spirits also as my inspiration to give my best in everything I am doing in my life. Their hopes make me brave to any other obstacles in front of me. I believe in my potential to become one of the best students in this field because this is my passion. I would like to gratefully acknowledge the endless support and assistance from my supervisor and mentor Mr. Mohd Zulkhairi Bin Mohd. Azam. He always opens in term to give an opinion and another idea to me done my research effectively, and then smooth the way to finish up my study. I am appreciating because he can spend time even busy to help me until everything become a success.

Special thanks to all of my 20 subjects from Sekolah Sukan Seri Titiwangsa, Kuala Lumpur, especially to their coaches for their cooperation and willingness to participate in this study. Lastly, I hope to get better results in my degree and become a useful person that fully applied our sports science to sports all over Malaysia.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	i
TABLE OF CONTENT	ii
DECLARATION FORM	v
LIST OF FIGURES	vi
LIST OF TABLES	vii
ABSTRACT	viii
CHAPTER	
1	INTRODUCTION
1.1	Background of the Study 1
1.2	Statement of Problems 5
1.3	Research Objective 6
1.4	Hypothesis of the Study 7
1.5	Operational of Terms 8
1.6	Limitation of the Study 9
1.7	Delimitation of the Study 9
1.8	Assumptions of the Study 10
1.9	Significance of the Study 10
2	LITERATURE REVIEW
2.1	Introduction 12
2.2	Football 12
2.3	Movement Analysis of Football 13
2.4	Science of Football 16
2.4.1	Player and Positional Requirements 16
2.4.1.1	Defender 16
2.4.1.2	Midfielder 17
2.4.1.3	Forwards 18
2.4.1.4	Goalkeeper 19
2.4.2	Aerobic Energy Requirements 20
2.4.2.1	Aerobic Power Assessment 22

2.4.3	Anaerobic Energy Requirements	23
2.4.3.1	Speed Requirement	24
2.4.3.2	Anaerobic Power Assessment	25
2.5	Intermittent Training For Aerobic And Anaerobic Performance	26
2.5.1	Time Limitation	27
2.5.2	Small Sided Games in Football	28
2.5.2.1	Determining Intensity Small Sided Games	29
2.5.2.2	Factors Influencing Small Sided Games Intensity	30
2.5.2.3	Previous Studies about Small Sided Games	34
2.6	Summary	37

3

METHODOLOGY

3.1	Study Design	38
3.2	Study Timeline	38
3.3	Sample Strategies and Recruitment Technique	39
3.3.1	Selection Criteria	39
3.3.2	Exclusion Criteria	39
3.3.3	Selection of Study Site	40
3.4	Recruitment Process	40
3.5	Current Training Load	41
3.6	Selected Field Tests	42
3.6.1	Anthropometric Data	42
3.6.2	Physiological Data	42
3.6.2.1	20 meter Multi-stage Shuttle Run Test	43
3.6.2.2	30 meter Maximal Sprint Test	44
3.7	Intervention	45
3.7.1	Experimental Group	45
3.7.1.1	Training Session	46
3.7.2	Control Group	48
3.8	Statistical Analysis	49
3.8.1	Parametric Testing	49
3.8.2	Non-parametric Testing	49
3.9	Data Collection Flow Chart	50

4

FINDINGS

4.1	Introduction	51
4.2	Classification of Statistics	51
4.3	T-Test	52
4.4	Descriptive of Subjects	52
4.5	Assessing Normality	53
4.5.1	Assessing Normality for Small Sided Games Group (Pre test 30 meter Sprint)	54
4.5.2	Assessing Normality for Small Sided Games Group (Post test 30 meter Sprint)	55

ABSTRACT

The aim of this study was to investigate the effects of periodized Small Sided Games training programs on physical fitness performance (Aerobic Performance and Maximal Sprint Performance) in young football players. 20 males, young football players (age; 14 ± 0.4 years, weight; 51.42 ± 5.6 kg and height; 163 ± 5.3 cm) from a Titiwangsa Sports School Kuala Lumpur were randomly selected and assigned into two groups which is a small sided game group (SSGG) and control group (CG). Both groups were completed training in twice per week for a period of four week training program. The SSGG performed 7 different small sided game sessions (4 vs. 4) of which games lasted for a 4 minutes duration for the selected numbers of games (ranged from 4 to 10) increasing over the intervention period with add 2 minutes active recovery. Meanwhile CG completed 7 sessions based on coach training programs with same progression overload in SSGG. For measuring the above physiological variables, 20 meters Shuttle Run Test and 30 meter Sprint Test was used, respectively. Data analysis of Paired t-test and Independent t-test was used and the level of significance in all statistical analyses was set at $p \leq 0.05$. The result showed that 4-week training small sided games group displayed significantly improved in Aerobic Performance ($p \leq 0.00$) and Maximal Sprint Performance ($p \leq 0.00$). Besides, CG also showed significantly increased in Maximal Sprint Performance ($p \leq 0.03$). Meanwhile, there is no significant improved in Aerobic Performance ($p \leq 0.054$). Moreover, result also displayed a significant difference between SSGG and CG in Aerobic Performance ($p \leq 0.03$) and Maximal Sprint Performance ($p \leq 0.05$). In short, the present study demonstrates that implementing a periodized of small sided games training intervention during 4-week in-season competition is capable of improving physical fitness performance and greatly applicative in young football players.

Keywords: football, small sided games, aerobic capacity, sprint performance