

**UNIVERSITI TEKNOLOGI MARA**

**COMPARISON BETWEEN  
PROGRESSIVE MUSCLE  
RELAXATION AND GUIDED  
IMAGERY RELAXATION ON  
COMPETITIVE STATE ANXIETY  
AND PSYCHOPHYSIOLOGICAL  
PARAMETERS AMONG JUNIOR  
TENNIS PLAYERS DURING PRE-  
COMPETITION STAGE**

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Thesis submitted in fulfilment  
of the requirement for the degree of  
**Master of Science**

**Faculty of Sport Science and Recreation**

**April 2014**

## AUTHOR'S DECLARATION

I declare that the work of this thesis was carried out in accordance with the regulation of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis had not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

I, hereby, acknowledge that I have been supplied with the academic rules and Regulation for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

Relaxation technique is one of the basic skills to reduce the level of anxiety. There are many types of relaxation techniques. Each of them has a different effect on different players. Therefore, the aim of this study was to compare the effects of two relaxation methods “guided imagery relaxation with deep breathing (GIR)” and “progressive muscular relaxation with deep breathing (PMR)”, on somatic anxiety, cognitive anxiety, self-confidence, heart rate and breathing rate among 42 junior tennis players during pre-competition stage. Two different mental relaxation methods were conducted for a period of six weeks during training preparation for the competition. The participants, between the ages of 11 to 14 years old, were assigned randomly to three groups PMR (n=14), GIR (n=14) and control (n = 14). Pre and post-test was used to investigate the effect of the relaxation techniques during pre-competition stage. Competitive State Anxiety Inventory-2 for Children Questionnaire (CSAI-2C), and psychophysiological parameters including heart rate and breathing rate were recorded one hour prior to competition for each test. The data were analyzed using the paired t-test to compare between pre and post intervention, and the one-way analysis of variance (ANOVA) to compare among the three groups. Paired t-test showed there were significant differences between relaxation methods in both CSAI-2C and psychophysiological parameters, while ANOVA showed significant differences between the groups in self-confidence and heart rate. This study showed that the GIR were more effective than the PMR in reducing cognitive anxiety, increasing self-confidence and reducing the heart rate. This finding suggests that besides the normal physical training, coaches can include the guided imagery relaxation method as a daily mental training program to reduce competitive anxiety among the tennis players.

## ACKNOWLEDGMENT

In the name of Allah, the most merciful, the most gracious. All praise is due to Allah; we praise Him, seek His help, and ask for His forgiveness. I am thankful to Allah, who supplied me with the courage, the guidance, and the love to complete this research. Also, the ideal man of this world and the most respectful personality, Prophet Mohammed (Peace Be upon Him).

I would like to express my profound gratitude to my supervisor Mr. Mohamad Rahizam Abdul Rahim, the program coordinator of Sports Science and Recreation, for his constant guidance, support, motivation and untiring help. I have learnt a lot from his great knowledge and rich experience; he has always been kind to me. I will always remember his calm and relaxed nature.

I express my deepest gratitude to my co-supervisor Madam Norlizah Abdul Hamid the Deputy Dean Academic office for boosting my morale throughout the research. She has always been kind and supportive, she never hesitated to answer all my questions and give me all the help I have needed. She is a great person.

It is with immense gratitude that I acknowledge the support and help of my co-supervisor Tuan Haji. Abdul Aziz Zakaria, he has done his best from the first day, thanks to his guidance I have found my way, I cannot find words to express my appreciation.

I would like to express my greatest appreciation and gratitude to the statistician Dr. Maher D. Fuad for helping me to analysis the data for this study.

I express my deepest gratitude for all the coaches and excel tennis players who volunteer to this experimental study for giving me they help and appear all the respectful and their aid to me.

I wish to thank the members of our school research committee for their help in targeting a focus area, interpreting results, and providing beneficial feedback. Indeed, the Universiti Teknologi MARA was a great place to study. The climate, the atmosphere and the environment constitute one of the best. I will cherish the memories.

I owe a debt of gratitude to my late father; In fact, I owe him every success in my life. I can imagine how happy he would be if he was here but all I can do now is to pray for him , may Allah's mercy and forgiveness be upon him, may Allah grant him a place in heaven.

To my beloved mother, there is no words can express how much I am grateful to her, indeed I appreciate her patience, support and her prayers for me, finally, great thanks to my beloved sisters and all my friends who were always there for me.

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