

ثانياً: ملخص البحث باللغة الإنجليزية

Summary

A Study for partial fulfillment for the degree of PH.D
in physical education.

Titled : ' **Electro-encephalograph as indicator for
improving performance level of triple jump by
using mental training** '

Prepared by:

Researcher / Mohamed Anber Mohamed Belal

Supervised by

Prof. Dr. Mohamed El Araby Sham` on

Prof. Dr. Lilya El Momosly Naguib .

*** Problem and Significance of the Study:**

It is Known that having best sport levels, is attained by developing and improving the various abilities, skills, characteristics and traits of the player in a manner that increases his abilities to the planned goals. Not also do we concern physical and skilful preparation, but also we must extend our concern to psychological and mental preparation.

The importance of mental abilities and skills in many sports. Psychologists concern how these abilities are necessary for players in different positions especially during competition. As El Araby referred (1996) we have to concern mental preparation to improve the special competitive performance.

In the light of the current orientation of sports psychology, Psychophysiological orientation becomes One of the most important measures on which we depend to measure brain activity by devices.

Mental training represents the principal part of preparing the player to competitions and introduces cognitive means and procedures that provide players the suitable ways to control and modify behavior to have the best sports performance.

Triple jump competition is considered one of track & field athletics that has improved significantly in the last recent years. It is noted that there is a large difference Between the Egyptian record international and Olympic records.

There are about (50) study which concerned using self. Report way by paper – and – pencil tests to recognize the effect of mental training for improving the performance level and mental skills level such as relaxation, imagination and concentrating attention.

- So, this study is, to recognize the effects of mental training by objective measurement, in the light of relation between psychology and physiology and in the limits of concerning Psychophysiological orientation which try to support the findings of research objectively by using instruments of physiological measurements as electroencephalogram (EEG).

*** Research Aims:**

Recognizing on:

1 - The electro activity of Brain for waves " Alpha, Low Beta, High Beta " for the sample of study.

2 - The Effect of using Mental Training on Developing some mental skills " Relaxation, Mental Imagery, Concentration " for the sample of study.

3 - The Effect of using Mental Training on Developing the level triple jump performance for the sample of study.

*** Research Hypotheses**

- 1 - There `re statistical functional differences between the averages of pre – and post – measurements in the electric activity of Brain for waves “ Alpha, Low Beta High Beta ” for the sample of study.
- 2 - There `re statistical functional differences between the averages of pre – and post – measurements in Some mental Skills “ Relaxation , Mental Imagery , Concentration ” for the sample of study.
- 3 - There `re statistical functional differences between the averages of pre – and post – measurements in the level triple jump performance for the sample of study.

*** Plan & procedures of the study:**

*** Study method:**

Experimental method by using is applied for one group.

*** Study sample:**

Selecting sample vertically this sample was (4) players of El Menoufiah University.

*** Study tools:**

- Tools of psychological & mental measures.
- Tools of physiological measures.
- Tools of performance level measures.
- Suggested Mental Training program.

*** Suggested program:**

A program would be determined (12) weeks (3) training units, each is (25) Minutes.

*** Statistical Analysis:**

In the light of the Research's objective, its hypotheses and its sample size, statistical analysis were made according to the barometric method as follows:

- The Arithmetic Mean.
- The Standard Deviation.
- T. Test.
- Correlation coefficient.
- The Percentage of development.

*** Recommendations:**

- Importance of incorporation between mental training and skill training in try to achieve the best results.
- It is necessary to integrate the mental training programs into physical training program.
- Conducting similar researches on other competitions in track and field and on different samples.
- To get help from the psycho worker with the physical teams especially the members of elects because this group of players needs a psycho worker with trainers to treat the pschoyological stress on them.



Helwan University
Faculty of Physical Education - Cairo
Department of Sport Psychology

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Prepared by
Mohamed Anber Mohamed Belal
Assistant Lecturer in
Faculty of physical Education
El Menoufiah University

Submitted in partial Fulfillment of the Requirements
For the degree of Ph. D. in Physical Education

Supervisors

Dr. Mohamed El Arabi sham'on
Anemptying Prof. and head dept of
sport psychology
Faculty of physical Education
Helwan University

Dr. Lilya El Mosoly naguib
Prof. and head dept of Neurology
Faculty of Meolicine for girls
Al Azhar University

Cairo
2000 -1421