

Indicator of Psychophysiology to Develop the Mental Skills to Qualify the World Junior Women's Basketball Championship Chell 2011.

Ahmed Salah El-Din Khalil

Department of Sport psychology, Faculty of Physical Education, Helwan University, Egypt.

Abstract

This study used experimental method due to its suitability for the study, and the measurements were way intrag, measurements pre and post variables, Was applied training program on mental skills, which included (relaxation - focus attention - self-confidence) and have also been dependence on indicators psychophysiology such as galvanic skin response (GSR) and heart rate (HR) and some measurements as Network focus attention and a measure of self-confidence Network focus of attention, which was designed by Harris in 1984, and a measure of self-confidence translation and codify Allawi 1998, Contained program applied to the junior women team on all the strategies which contribute development of so owned from female players mental skills associated with the level of performance positive self talk and different ways relaxation and attitudes related to mental status of the competition, which was done with the players as a team or individual player. The results of the study from the reality of measurements pre and post variables that the Egyptian team of junior basketball, has developed to have the skills, especially mental relaxation and thus control the emotions as well as the level of self-confidence, especially after the team championship for Africa 2010. Were recommendations, drawing on the psychological aspect and mental training with the national teams of each Egyptian teams to achieve many accomplishments and get tournaments.

Introduction:

Associated with the results in international tournaments, many of the variables that seeking to achieve many of the international teams, and works coaches to develop the technical skills of their players, which is believed to be the most important variables that affect the results' With the evolution in the field of sports and enter the sports psychology litmus development has become a great role to achieve the best results, and as the Egyptian team basketball junior women did not get by the African Women's Championship tournament 2010,

As many researchers in the field of sports psychology, scientists and pointed references to the impact of mental skills training, therefore stressed that contribute to the mental aspect from the contributions within the training content lead to the development level of athletic performance, especially competitive. According to psychologist Albert Bandura, performers' situational-specific confidence, or 'self-efficacy', is based on four primary sources of information, represented graphically. The first and most important factor is past performance accomplishments. What we have achieved in training and competition forms the basis of future expectations of success or failure. Repeated success naturally leads to positive expectations of further success, higher motivation and enhanced self-belief. Where sport psychology is concerned, it is often assumed that performers either have

what it takes or are – and forever will be – somewhat lacking in mental skills. I have spent a considerable amount of time in my occupation trying to convince both coaches and athletes that mental skills can be learned in much the same way as physical ones can – through systematic training Lee Crust 2005, Competition can bring out the best or the worst in athletes, and the psychological demands are especially high when individuals or teams are striving to achieve the same goals. When physical skills are evenly matched, it is often the competitor with the stronger mental approach, who can control his or her mind before and during events, who wins Lee Crust 2005, Finally, the current study contributes to the third step in which the learning processes and acquisition of expert performance is examined. A review of the literature (Williams & Grant, 1999) has indicated that perceptual-cognitive skill training is more likely to be effective than visual skill training in improving decision making. Perceptual-cognitive expertise is induced by the acquisition of sport-specific knowledge structures underlying skilled perception, much more so than the training of general physical characteristics of the visual system More recently became Psychophysiology taking tests and indicators that result from these measurements gave the results of its moral and strong connotations, and I've dealt with many references and research how important help of indicators associated with physiological measurements, with the current held constant, the voltage across electrodes is directly proportional to resistance

between electrodes. In analyzing the data, deviations from the baseline, the center line of the physiograph paper, were measured with a polar plan meter (Charvox 55-8205): The GSR response was defined as any curved area described by pin inflection from baseline level within stimulus presentation time limits (Patterson, 1977). limits (Patterson, 1977). This GSR technique, which has been widely used in anxiety and phobia research (Beam, 1955; Ohman, Eriksson & Olofsson, 1975), was considered to be a likely measure of withdrawal-related tension.

One study found that exercise reduced somatic anxiety, such as stomach tension and perspiration, but had less effect than meditation on cognitive anxiety reduction (Schwartz, Davidson, & Goleman, 1978). Davidson and Schwartz (1976) also surmised that running is primarily useful for reduction of somatic anxiety. Because of the incorporation of a mental task into this experiment, the decreased GSR score may suggest a reduction in cognitive anxiety as well.

This study aimed to identify the impact of the program components of mental skills (relaxation - the focus of attention - self-confidence) has been relying on the analogy of some physiological indices as an indicator for the development of those mental skills and this in conjunction with some other tests associated with the measurement paper and pencil , a measure to relax , network testing focus , and test the confidence and the units are associated with the program in place in tow phases (first phase which precedes the camp and including the results of three experimental games - and the final phase is calculated last three games in the tournament)

Method

This study used experimental method, one group in a way pre, post measurement, the appropriateness of the nature of this study. The study included a sample of intentional players junior women's basketball joined and selected from the Egyptian Federation of Basketball and The sample consisted of (12) girls for the player, the team component of the national team,

Measures

Data collection tools

First physiological measurements

Galvanic Skin Response (GSR) Measurement :

The GSR Temp 2X also includes a temperature sensor for monitoring heat levels in extremities. Stress also reduces blood flow to the hands, causing cooling. The GSR/Temp 2X home biofeedback system allows you to do "hand warming" biofeedback in addition to training with the

GSR2 monitor, temperature sensor, body sensors for hands-free use, dual-sensitivity meter, earphone. Uses a 9V battery (included), Ergonomically shaped for a most comfortable and natural grip, Provides tonal feedback through speaker or earphones ·The GSR Temp 2X has a dual-sensitivity analog meter for visual feedback

Heart rate / Rate (HR)

Was recorded heart rate three times and take the average of them before the performance is done by placing a finger on the neck to choose the best point to measure and record this measurement per minute, is this rate index on the ability of the player to control the emotional and the smaller the number and rate of strikes have positive indicator.

Second psychological measurements

Muscle Tension Levels Chart:

This scale was originally developed by, "Nideffer" (1985).The Arabic version of the scale was translated and prepared by "M.Alawi"(1991), It aims to identify the degree of the Muscle Tension Levels, Chose three groups of muscles, the first face and neck and jaws, Second shoulder muscles, chest and head and The third leg and thigh. Muscles Chart consists of ten segmentation divided three dimensions, completely relaxed (1-2), the average relaxation (3-4-5-6-7-8), high tension (9-10). The class will be calculated on the total degree of muscle groups in the scale.

Grid Concentration Test:

This scale was originally developed by, "Harris" (1984).The Arabic version of the scale was translated and prepared by "M.Alawi"(1991), Consisting of a network of 100 randomly distributed in the number of Square, The duration of the experiment one minute in which the player selects a number of figures From an unknown number and the number of figures is calculated to reflect on the outcome of the athlete.

Self – confidence Scale:

Designed measure trait of self-confidence by Rubin Vale and the Arabising scale Allawi and put it his image Arabic (1987) and consists scale from 13 phrase is the response it on a scale from 1-9 and means of which, trait self-confidence in sports ranging total score of the scale of 13 degrees to 117 degrees, the low-level (60-82) and moderate (83-99) and higher (100-117).

Performance the tournament measurements:

Was dependence on the results of the matches meet the team in the run-up to the camp, was calculated three matches experimental to become a measure before to

determine the level of performance of the team, and has also been taking the last three matches as a measure the dimensions of the results of the team, which got the team Egyptian Women U-18 African Championship and crowned a hero in this competition

The suggested Applied scales:

Standards were applied to the sample in contrasting two times, before and after the program was the duration of the program for three months at a rate of four sessions per week, with a total 45 training session began in April and ended in the month of June in 2010, and with the end of the tournament.

The researcher used statistics, Paired –samples T Test, means, Std.Deviation as statistical methods in this research.

Results

Present the results of this study with the relevant statistical outcomes.

Procedure

Use the experimental method in a way one group in a way the two measurements pre and post, sample experiment of (12) for the player, junior under 18 years of age enrolled in the list of the Egyptian Federation for basketball and has been disposed of two female athletes before the start of the experiment, Was measurements before in the period from March 1 to 12, 2010 and was also after the measurements in the period from August 8 to 12, 2010 and for the team after the Egyptian National Women's Championship under 18 years old, after getting the Egyptian team junior women under 18 African Championship for the first time in the history of Egypt, as well as have been applied before and after measurements, which included psychological and physiological measurements and the results of the matches

Table 1

the differences between the two measurements pre and post variables physiological junior women players Egyptian national team U-18 Basketball

variables	Measurement before N=12	Measurement after N=12	T	Sig.
	Mean (SD)	Mean (SD)		
Heart rate / minute	71.61 (2.55)	68 (5.48)	6.426	0.016*
Temperature recorded	27.16 (1.80)	22.31 (1.61)	20.41	0.001*
GSR (0.5) short wave	2.58 (0.51)	1.16 (0.38)	7.34	0.013*
GSR (1.0) complete wave	2.83 (0.39)	1.41 (0.51)	9.53	0.036*

* Significant Differences between tow ratios at 95% Confidence

Value (T) Tabulated at the level (0.05) = (2.20)

Table indicates to the presence of significant differences at 0.05 level for each of the physiological variables, which

confirms the impact of the program on the development and improvement of the indicators of physiological responses

Table 2.

The differences between the two measurements pre and post variables mental skills and performance tournament junior women players Egyptian national team U-18 Basketball

variables	Measurement before N=12	Measurement after N=12	T	Sig.
	Mean (SD)	Mean (SD)		
focus attention	6.32 (2.40)	10.89 (1.37)	4.252	0.047*
relaxation	35.00(14.04)	16.83 (2.94)	4.36	0.027*
self-confidence	10.74 (2.28)	14.28 (1.07)	12.650	0.001*
Result of performance the tournament	68.49 (13.39)	72.06 (11.48)	13.56	0.013*

* Significant Differences between tow ratios at 95% Confidence

Value (T) Tabulated at the level (0.05) = (2.20)

Table indicates to the presence of significant differences at 0.05 level for each of the mental skills (focus attention - relaxation - self-confidence) variables, which confirms the impact of the program on the development and improvement of the indicators of physiological responses, It also confirmed the previous findings and clarity high level of performance and development of the African championship in 2010, and to achieve the best Result is that the performance of Egypt for the first time in its history, get that championship, and was crowned junior women Egyptology Basketball under-18 champion of Africa 2010.

Discussion:

See from the reality the results shown in previous tables and get Egypt to the African Championship in 2010 that skills training, mental and psychological, especially when applied to the program psychologist certified and holds degrees qualify for it, and the reality of dependence on programs and scientific journals Modern was the contents of the program commensurate with the age and maturity and characteristics psychological for the team, according to the circumstances atmosphere the camp setting that prepares the conditions to play a psychologist, The results of the variables that have been experimenting with the whole for the benefit of measurements a posteriori and in particular the skill of self-confidence, as was the physiological indicators have indications of significant, as the training program on the relaxation in all its forms (breathing - sequential – self relaxation), in addition to developing the ability of the players to respond to the contents of the program mental where it is used (revelation – self talk – mental imagery - concentration attention), Moreover in response to the skill of the players self-confidence, since the inaugural tournament in history that will be recorded in the name of the team that this was the strongest motive, the program also included several guidelines to isolate from the atmosphere, Came at the beginning of the positive indicators for the previous tables reduce the heart rate per minute when junior women players under 18, where it averages the rates decreased from 71.61 to 68.00 per minute, and it confirms the excellence of players in the junior women the ability to control emotional refers to this rate the ability to control

anxiety and stress. The results were related to physiological side, all of which have significant implications, where decreased averages and standard deviations for the benefit of a posteriori measurements and clarified all of Heart rate / minute, Temperature recorded, GSR (0.5) short wave, GSR (1.0) complete wave, This is confirmed by numerous research and scientific references recent, that the relationship between the full-wave device galvanic skin responsive GSR, and the level associated with the ability to relaxation and the subsequent effect of alpha wave brain, and thus the indicator decreased and the development of those variables is the greatest evidence has implications moral and which confirms the arrival of junior women players for the best possible level of ability to control the emotional and mental and physical relaxation.

Overall, an evaluation of experimental participants' performance throughout the study showed that all individuals clearly improved their performance in their events and that performance changes were due to introduction of mental skills training package. A positive relationship clearly existed between mental skills training and basket ball performance. (i.e. as mental skills training was introduced, athletes performance improved).

Conclusions:

- Training, mental skills and psychological parallel with the tactical skills and physical impact of his great achievements in the development and performance especially competitive
- Of greater to be training on the development of psychological and mental skills through educational sports psychologist and qualified to work with sports teams and will have a significant impact with high level teams and national teams.
- The use of physiological indicators in evaluating and modifying programs mental and psychological, with athletes working to increase the impact and clarity of the results, and effectively reduces the effort and time in the program implementation and therefore was needed on the organizations and institutions to establish centers of Psychophysiology.

References:

1. Alawy, M, H.,(1991). Sport psychology, Dar El Maaref for Publishing, Cairo.
2. Alawy, M , & Salah's A (2008); Mental Toughness Questionnaire design in Arabic Environment, Published research, the scientific journal, Faculty of Physical Education, Helwan University Cairo.
3. Brunt's.R Marty H, Laurent R, Jack, S & Amy C.R (1989) : Effects Of Three Types Of Thought Content Instruction On Skiing Performance. The Official Journal Of The

- International Society Of Sport Psychology, V (3), N(3) September.
4. C. Collet, G. Delhomme, A. Dittmar, H. Rada, E. Vernet-Maury: Autonomic nervous system responses as performance indicators among volleyball players, *European Journal of Applied Physiology and Occupational Physiology* May 1999, Volume 80, Issue 1, pp 41-51
 5. David Collins, Graham Powell (1990) : An Electroencephalographic study of Hemispheric Processing Patterns During karate Performance, *JOURNAL OF SPORT & EXERCISE PSYCHOLOGY*, 12,223-234
 6. George E.Lawton (1998): Electroencephalography and Mental states Associated with Elite performance, *JOURNAL OF SPORT & EXERCISE PSYCHOLOGY*, 20, 35-53.
 7. Packianathan Chelladurai Terry R. Haggerty, Peter R. Baxter (1989) Decision Style Choices of University Basketball Coaches and Players, *JOURNAL OF SPORT & EXERCISE PSYCHOLOGY*, 1989, 11, 201-215
 8. Joan O'Brien (2001) : Biofeedback And Applied Psychology, Professionals In Biofeedback And Stress Management, EEG Biofeedback. American Board of Sport Psychology.
 9. Roland A. Carlstedt: Critical Moments During Competition: A Mind-Body Model of Sport Performance When It Counts the Most, Psychology Press, 07/28/2004 - 280 pages
 10. Salah's A (2002). Electrical activity of the brain functions of the activities of the strategic thinking to develop the level of performance and reduce the pressure in athletes. PhD. Faculty of Physical Education. Helwan University Cairo.
 11. http://www.fibaafrica.com/index.php?option=com_content&view=category&layout=blog&id=32&Itemid=355&lang=fr



