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EFFECTS OF HYPNOTHERAPY ON ATTENTIONAL DEMANDS OF AMATEUR ATHLETES IN SOUTHWESTERN ZONE, NIGERIA

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ABSTRACT

Though there are extensive studies on the effectiveness of the application of clinical hypnosis in enhancing sport performance among elite athletes in the developed world. But attention has not been centered on the effectiveness of hypnotherapy on attentional demands of amateur athletes in Nigeria. This study examined the effects of hypnotherapy on attentional demands of amateur athletes in Southwestern Zone of Nigeria. The pretest-posttest experimental research design was adopted. The participants were 67 amateur athletes randomly assigned to experimental (n=33) and control groups (n=34). Hypnosis Mp3 package developed by Singer (2005) was the treatment package. Treatment lasted for eight weeks. Sport Specific Attentional Demand Measurement Scale (r=0.83) was used for data collection. Results revealed that, there was no significant interaction effect of treatment, type of sports and length of participation in sports on attentional demands. The researcher recommended that psychological tests should be conducted on the athletes periodically to determine their mental status in relation to psychic demands of competitions.

Keywords: *Amateur athletes, hypnotherapy, attentional demands.*

1. INTRODUCTION

Athletes need high level of attention and concentration to exhibit good performance. They need to hold attention away from worry, determine their thoughts and actions before and during major events for them to present outstanding performance. Therefore, to achieve desired goal of success, adequate preparation of athletes is of great importance as it is key to success. Sport being predominantly a visual activity, the ability to maintain alertness and focus attention on the most relevant visual aspects of the task is critical for success.

It has been postulated that excessive anxiety disrupts attentional functioning; investigation of this hypothesis has offered unequivocal support for the contention (Davis & Sime, 2005). According to Smyth (2001), the goal of any athlete is to perform his/her best on any competition day, although psychology would not make a great athlete on its own, but it contribute to assist the athlete to exhibit outstanding performance when it matters most. Different sports and activities place different attentional demands on athletes. Therefore, athletes must be able to shift to the appropriate type of concentration to match changing attentional demands to perform successfully (Nideffer, & Sagal, 2001).

Nideffer (1976) developed a model on the relationship between the various forms of attentional focus. This model proposed that attentional focus exists along a continuum which ranges from broad to narrow and specific to general. The model stressed that sports-specific

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demands on attentional focus of athletes vary considerably during decision making. A broad external focus centers externally on a variety of stimuli within the environment (e.g. a runner in the midst of the race attends to the actions of others around him/her and to the course to avoid getting boxed in or tripped). Such a focus requires the ability to integrate a variety of stimuli at the same time. A narrow external concentration occurs when the athlete focuses on one or two essential cues required in completing the task at hand (e.g. a soccer focusing on a particular angle to place the shot). A broad internal attentional focus strategy occurs, when an athlete analyzes the sport situation and considers different kinds of thoughts and feelings to develop the best course of action to meet the task demands (e.g. a volleyball player focusing on an opponent to prevent him/her from spiking the ball).

A narrow internal concentration is adopted when the athlete focuses on only one or two internal cues such as monitoring his/her heart rate and breathing to maintain pace throughout the race. However, it must be emphasized that attentional focus is not static; the reason is that it is possible to move from one type of focus to another (e.g. a runner assessing his/her surrounding competitors and then focuses on his/her own stride is an example of a transition from a broad external to narrow external focus). This view is supported by Ball (2002) who affirmed that athletes who are able to maintain attention to the task at hand do not experience high anxiety and arousal, two factors which lead to a short attentional span and hindered performance. Those who are not able to maintain their attention under pressure are at an increased risk as they may misjudge the actions of their opponents and misadjust cues.

According to Ipinmoroti and Ajayi (2001), in any sport task, many cues are available to the athlete, some are necessary for quality performance; others are irrelevant and can damage performance. The ability to selectively attend to the appropriate stimuli is critical in most athletic situations. The psychological factors involved in athletic performance have long been of interest to athletes, coaches, sport psychologists and sports scientists. Empirical studies have largely focused on individual psychological factors and their influence on performance which includes confidence, motivation, attention, visualization, and psychosomatic skills (Gucciardi, Gordon, & Dimmock, 2009). Similarly, some studies indicated that the use of mental skills such as goal setting, imagery, relaxation, and self-talk are important areas in the field of sport psychology (Vealey, 2007; Williams, & Harris, 2001). Cox (2002) noted that few areas of sport psychology that are as important to the overall athletic performance are concentration and attention. Furthermore, Cox (2002) affirmed that the ability not to react or be disturbed by distractions is achieved when athletes learn how to control their thoughts and appropriately focus their attention.

Psychological preparation is an integral part of the total preparation of athletes and the coaches for any high-level competition. According to Salokun & Ogunbenro (2006), athletic performance has been conceptualized as a product of aptitude (natural ability or endowment) and the strength of an acquired skill. It means that an individual's level of performance is influenced by the combination of innate ability and what has been gained through learning and training. In essence, an athlete's psychological disposition is vital to his/her level of skill acquisition.

Hypnosis as a therapeutic technique has been historically investigated and debated for many years. For most lay people the term hypnosis connotes an altered state or trance state of consciousness (Hughes, 1999). Hypnosis involves a shift of attention from one task and deliberately implanting it in another. Manning (2004) further affirmed that hypnosis can be used to integrate desired changes or rehearse success or win until it becomes part of the athlete's reality. Posthypnotic cues can be used to rapidly trigger a state of calm, confidence or energy whenever needed.

Hypnotherapy Mp3 package has been successfully used on athletes to bring their mind into their game for peak performance. It has also been used on elite athletes in the United

States to bring about accelerated healing of sports injuries and in advanced sports pain management to help increase athletes pain threshold, ultimately reducing the need for medication (Singer, 2005). Elite athletes have also been shown to use mental/psychological skills and strategies in practice and training sessions, not just for competition (Taylor, Gould, & Rolo, 2008).

Young and upcoming athletes by their nature often experience tension prior to competitions due to their low level of exposure, history of previous negative experiences regarding the outcome of competitions and expectations placed on them by coaches, teammates and family members. These invariably may worsen the already heightened condition that is capable of leading them to experience attentional disruptions if left unattended to.

Given the peculiarity of the age and level of exposure of amateur athletes, it is desirable to examine this construct among this population of athletes in order to develop strategies that will assist them in managing attentional demands of competition. When athletes are faced with competitive situations, doubts about the result are apt to surface, thus causing anxiety that may lead to attentional disruptions. It is therefore pertinent that a study of this nature should be carried out to expose athletes to effective and modern psychological training package that could help them to adopt appropriate type of concentration to match changing attentional demands in order to perform successfully. This study therefore examined the applicability of hypnotherapy to boost attention skills of amateur athletes in Southwestern zone of Nigeria. Southwestern zone is one of the six (6) geopolitical zones in Nigeria comprising Ekiti, Lagos, Ogun, Ondo, Osun and Oyo States. The Southwest is one of the prominent sporting zones in Nigeria.

2. METHODS AND MATERIALS

2.1 Research Design

The pretest-posttest experimental research design was adopted for this study. Participants were assigned randomly into two groups of experimental and control. Both were exposed to pretest, the experimental group exposed to treatment (Tx) and both took posttest based on the dependent variables. The experimental group was exposed to Hypnotherapy Training while the control group was exposed to placebo treatment (Seminar on Sports Nutrition). This design is represented by a factorial matrix in Table 1.

Table 1: 2 x 2 x 3 Factorial matrix

Participants (2 groups)	Experimental (E) Control (C)
Type of Sport (2 levels)	Individual sport (Athletics and Tennis) Team sport (Soccer and Volleyball)
Length of participation in Sport (3 levels)	Short Medium Long

The matrix table shows that the participants were divided into two groups of experimental and control; there are two moderating variables of type sport and length of participation in sport. Type of sports is at two levels: individual sport (Athletics and Tennis) and team sport (Volleyball and Soccer). Length of participation in sport is measured at three levels: short, medium and long.

2.2 Participants

The population for this study comprised all Track and Field athletes, Soccer, Tennis and Volleyball players that represented Southwestern zone in the National Sports Festival. There were One hundred and thirteen athletes (113), Thirty-seven female (37) and Seventy-Six male (76) drawn across the Southwestern Geo-Political Zone of Nigeria.

The sample for this study comprised 67 amateur athletes drawn from four (4) sports, athletics (sprints and throwing events), soccer, volleyball and tennis as participants. The participants were screened using Mental Skills Profile developed by Friel (2005) to determine whether they could benefit from using Mental Skills Techniques, an athlete with a score of 60 and above was considered fit for the study.

Simple random sampling technique was used to assign participants into two groups of Experimental (E) and Control (C) to give them equal opportunity of being assigned to any of the two groups.

Table 2: **Sample of Participants**

Sport		Experimental	Control
I.	Athletics	08	08
II.	Soccer	11	11
III.	Tennis	04	05
IV.	Volleyball	10	10
Total		33	34

Grand Total 33+34 = 67

2.2.1 Inclusion Criteria

Those considered for the study have been taking part in the particular sport for not less than one year. The participants were also required to fill the informed consent form, appended their signature and returned same to the researcher. Participants that possess minimum qualification of Secondary School Certificate (SSCE) who are able to understand and interpret information pertaining to the study were considered. The participants that agreed that they will be available at specified dates and time agreed upon for the training were also considered for inclusion.

The standardized Mental Skills Profile developed by Friel (2005), was used for screening the participants for the study. The subscales of the instrument are motivation, confidence, thought habits and focus. The 30-items instrument is allotted a summated weight of 1= Never, 2= Rarely, 3= Sometimes, 4= Frequently and 5= Usually.

2.3 Procedure

The hypnotherapy training for experimental group took place at the Lekan Salami Sports complex, Ibadan, Nigeria while the control group had their training which is seminar on sport nutrition at the Ibadan Recreation Club, Nigeria.

The Sports Specific Attentional Demand Measurement Scale (SSADMS) was administered on the participants that met the inclusion criteria. There are three sections, A, B and C. Section A elicited information on demographic data of the respondents. Section B was designed on a modified Four-point Likert rating scale of Rarely (R), Sometimes (S), Usually (U) and Always (A). Section C was designed on a modified Four-point response scale of Strongly Agree (SA), Agree (A), Strongly Disagree (SD) and Disagree (D).

The items were selected from Test of Performance Strategies (TOPS) developed by Thomas, Murphy and Hardy, (1999). The TOPS is a 64-item self-report instrument designed to measure the psychological skills and strategies used by athletes in competition and practice.

This inventory has been used to examine the relationships between psychological skills and issues such as top performance, competitive anxiety, emotional control, attention control, imagery and relaxation (Thomas et al. 1999). To ascertain the validity of the instrument the researcher presented draft copies of the instrument to experts in the field of Sports Psychology and psychometrics from the department of Psychology, University of Ibadan, Nigeria for comments and suggestions. A test run of the Hypnosis MP3 package was also conducted.
Test re-test reliability method was adopted to obtain the reliability of the instrument. The test administration was conducted in an interval of two weeks. The researcher with the help of six (6) trained research assistants embarked on trial-runs to ensure that the instruments are error-free. 30 participants, University athletes were used to test-run the instruments in order to ensure the reliability. Cronbach Alpha was used to determine the reliability of the instrument. A reliability coefficient of 0.74 was obtained for field test; the reliability coefficient obtained for the actual study is 0.83.

2.3.1 Required Equipment: DVD player (LG), Hp Laptop, Wireless microphone and Speaker (Akai).

2.3.2 Training Package

Hypnosis MP3 audio VCD package developed by Singer (2005) was used as the training package for this study. The package focused on three areas: Introduction to core sports performance, Breathing and Visualization and Emotional balance.

2.3.3 Training and Data Collection

Pre-tests were administered on both groups, thereafter the experimental group was exposed to the Hypnosis MP3 package by going through focus drills, breathing, visualization and relaxation skills while the control was given a placebo (Seminar on Sports Nutrition).

2.4 Ethical Consideration

An approval was obtained from the Oyo State Research Ethical Review Committee and the handlers of the athletes. Detailed information about the study was provided to all the participants. Informed consent form was filled by each participant. The intervention programme was fully explained to all participants who were free to withdraw from the study at any time. The data of the participants were securely kept. No names were divulged and each participant's data was coded. All information provided was kept in a confidential manner.

2.5 Data Analysis

The completed questionnaire was coded and analyzed using descriptive statistics of frequency, percentages, mean and standard deviation for the demographic data of the participants while parametric statistics of Analysis of Covariance (ANCOVA) was used to test the formulated hypotheses at 0.05 level of significance.

3. RESULTS

Demographic Data of Participants: The gender of the participants revealed that 49 (73.1%) were male while 18 (26.9%) were female. The participants were between the ages of 18 to 28 years.

Table 3: Descriptive statistics on age of the participants

Age	N	Mean	Std. Deviation
	67	23.5821	3.3491

The mean age of the participants is 23.581 with standard deviation of 3.341. 25 (37%) participants are from individual sports (athletics and tennis) while 42 (63%) are from team sports (soccer and volleyball)

Table 4: Distribution by length of participation in sport

Length of Participation in Years	Frequency	Percentage
(Short) 1 – 3 years	22	33 %
(Medium) 4 – 5 years	25	37 %
(Long) 6 years and above	20	30 %
Total	67	100 %

Table 5: Descriptive statistics on length of participation in sport

Length of participation in sport	N	Mean	Std. Deviation
	67	4.91	2.68

Table 6: Analysis of Covariance showing the interactive effect of type of sport and length of participation on the participants following 8 weeks of Hypnotherapy Training

Tests of Between Subjects Effects

Dependent variable: Attentional Demand

Source	Type III sum of squares	df	Mean Square	F	P	Eta squared
Corrected Model	21686.587a	12	1807.216	9.618	<0.05	.813
Intercept	11435.543	1	11435.543	124.134	<0.05	.697
Preatten	740.536	1	740.536	8.039	<0.05	.130
Trtgrp	11323.286	1	11323.286	122.916	<0.05	.695
Sport	16.227	1	16.227	.176	>0.05	.003
partcip	43.750	2	21.875	.237	>0.05	.009
trtgrp*sport	435.071	1	435.071	4.723	<0.05	.080
trtgrp*partcip	206.012	2	103.006	1.118	>0.05	.040
sport*partcip	78.029	2	39.014	.424	>0.05	.015
trtgrp*sport*partcip	509.334	2	254.667	2.764	>0.05	.093
Error	4974.607	54	92.122			
Total	1419143.000	67				
Corrected total	26661.194	66				

R Squared=.813 (Adjusted R Squared=.772)

The findings show there was no significant interaction effect of treatment, type of sports and length of participation in sports on the attentional demands of amateur athletes, ($F_{(2,64)}$=2.764, η^2=.093), ($\bar{x}$=254.667).

The descriptive statistics show that for individual sports in the experimental group, short participation ($\bar{x}$=165.000), medium participation ($\bar{x}$=164.20) and long participation ($\bar{x}$=165.20). for team sports, short participation ($\bar{x}$=150.000), medium participation ($\bar{x}$=161.28) and long participation ($\bar{x}$=161.000). in the control group, individual sports with short participation ($\bar{x}$=119.5), medium ($\bar{x}$=124.57) and long ($\bar{x}$=115.5). Team sports, short participation ($\bar{x}$=139), medium ($\bar{x}$=124.1) and long ($\bar{x}$=133).

4. DISCUSSION

The finding of this study suggests that to be able to have enjoyable and meaningful sport participation the tension of an athlete should be sufficiently high to maintain his/her performance. Based on the principle that different sports situations require different

attentional demands, therefore athletes must be made to realize that different types of attentional focus are required during performance.

Based on the findings, there was significant interaction effect of treatment and type of sports on attentional demands. Although some attentional demands are common across sports, sports also differ in the demands they place on attention. Scholars have reported differences in attention performance as a function of the type of sport the athlete plays (Alves et al., 2013; Heppe, Kohler, Fleddermann, & Zentgraf, 2016; verburgh Scherder, van Lange, & Oosterlaan, 2014). This implies the shape of attention varies as a function of the demands of the expertise domain, therefore athletes who specialize in different sports should show a corresponding difference in the spatial distribution of attention.

The finding further revealed that the interaction between experimental and control group was not significant, because both groups performed well in the experiment, any differences between groups in the experimental trials presumably reflect differences in the ability to focus attention on multiple objects rather than differences in visual acuity for peripheral objects. Researchers have recognized the significance of attention in sports and literature has provided numerous findings reporting the predominant attentional capacities of experts in comparison with relative novice athletes (Memmert, 2006; Memmert, 2009; Moran, 2003). Some have also argued that expert athletes generally do not differ from novices in basic visual perception tasks, but do differ in attention-demanding tasks.

Researchers have suggested there is a fundamental difference in performance and its relationship to attentional demands placed on participants who play team sports versus individual sports. It may be that the number of individuals participating together may moderate the psychological demands on performance. Specifically, some argue that participants in individual sports could be more adversely affected by anxiety than those in team sports. According to Jackson and Csikszentmihalyi (1999), moderate amount of anxiety enhances performance when an individual's skill level matches the performance demands of the situation, furthermore, the individual interprets that anxiety positively (Papageorgi, Creech & Welch; 2013). Some also believe that performance in which athletes work with others to try to obtain optimum sport performance may have different relationship with attentional demands than does performance undertaken by oneself.

This study also reported no significant interaction effect of treatment, type of sports and length of participation on attention demands. It could be argued that under conditions of increased and decreased attentional narrowing, athletes alter the way in which they scan peripheral information. This could suggest that whereas novel or less practiced performance may demand extensive attentional resources for successful implementation, such explicit monitoring and control may not be necessary at high levels of skill execution.

The findings further suggest that ability to adopt appropriate attentional focus is a central component of peak performance; it could be suggested that it serves as a platform upon which other peak performance training strategies are constructed. Without effective attentional management skills, other skill training is less likely to be effective. This finding further suggests that peak performance training needs to be adapted to manage previous experiences that may undercut the effectiveness of the standard mental skills training if not adequately treated.

5. CONCLUSION

The findings of this study have revealed that hypnotherapy training is a useful tool for improving athletic performance. The findings suggest that athletes differ in their responses to competition demands. The outcome of this study provide basis to indicate that hypnotherapy is a useful tool in performance enhancement. By implication, it could help athletes to maintain robust perceptions of concentration in order to cope with the stressful demands of

competition. The outcome of this study is of relevance to sport psychology practitioners as it has been suggested that hypnotic training may increase personal control over emotions, attention, relaxation and performance. The following recommendations are made based on the findings of this study:

1. Hypnotherapy technique should be adopted as psychological aid that will assist athletes to be physically, mentally and emotionally ready prior to, during and after competition to enhance their performance. This definitely requires the services of a sport psychology practitioner.
2. Team handlers, coaches, sport administrators and members of teams' technical crew should work hand in hand with sport psychologists. The practitioners also need to utilize their professional prowess to monitor, assess, evaluate, develop and recommend appropriate cognitive intervention strategies that would put our athletes in good physical, mental and emotional readiness before, during and after competition for performance enhancement.
3. Coaches, sport psychologists and team handlers must emphasize mental discipline in their athletes; they need to keep their focus on their training and performance goals, as well as mental strength and resolve to deal with distractions.

Psychological tests should be conducted on the athletes periodically to determine their mental status in relation to psychic demands of competitions. Where there are deficiencies, adequate and appropriate psychological intervention strategies should be adopted to enhance the psychological strength of athletes.

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