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Attention in Young Soccer Players: The Development of an Attentional Focus Training Program

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ABSTRACT The purpose of this study was to investigate the effects of an attentional focus training program(AFTP) on improvement of attention by 40 young male soccer players in two age groups (8- to 10- years old, and 11- to 13- years old) tested before and after treatment. The procedure of the pre-test and post-test consisted of the completion of the Test of Attentional and Interpersonal Style(TAIS) and the Soccer(TAIS). Statistically significant performance differences (<.001) were demonstrated by the experimental group on the broad external attention(BET), the external overload attention(OET), the broad internal attention(BIT), the internal overload attention(OIT), the narrow attention(NAR), and the reduced attention(RED). Within the limitations of this study, it was concluded that the utilization of a specific AFTP as a psychological skills training procedure was effective in contributing to increased positive attentional traits (BET, BIT, NAR) and decreased negative attentional traits (OET, OIT, RED) of young soccer players.

INTRODUCTION

"Few topics in sport psychology are as important for athletic performance as attention or concentration" (Cox 1990). Ability is not a technique; focusing attention is the most basic for reducing anxiety about performance, and about what others think, or to refocus after a mistake (Magill 1993; Schmidt 1988).

Attention is the process that directs one's awareness as information becomes available to the senses. It is through one's senses that one receives information from the environment. Each sense plays an important role in awareness with vision assuming a lead role (Martens 1987).

Attention, rather than concentration, is the term used to describe the process which people use to perceive the outside world. W. James (Daehler et al. 1985) described attention as follows: "Everyone knows what attention is. It is taking possession by the mind, in clear and vivid form, of one out of what seems several simultaneously possible objects or traits at thought (p. 136)". Knowing what to pay attention to, how to shift attention as needed, and how to identify one's attention, or concentration, are skills essential for performing optimally.

When an individual becomes aware of what the senses are experiencing, he/she perceives it. Perception occurs only when one attends to the senses. The senses are constantly exposed to countless stimuli in the environment, but if one does not attend to them, they are not perceived. Therefore, they are not experienced. What is experienced, then, is limited entirely by where attention is directed.

People must have a memory to save important information. Once the information has been saved, it must be retrievable. Retrieval enables one to use the information to make decisions about forthcoming responses. The images in the sensory store may be visual or auditory, or they may come from any of the other senses, such as touch or taste (Cox 2002).

Attention has been studied in a number of ways. These ways of classifying attention have important implications for these interested in attention and attentional processes among athletes (Cratty 1967). People are found to give general or close attention to situations and stimuli. General attention is usually a less alert state from which responses are made more slowly. In contrast, close attention is accompanied by a higher state of arousal – activation from which quicker, usually more appropriate responses emanate. Close attention requires more energy and resources than general attention. Thus, while it is usually assumed in sports that close attention is desired for prolonged tasks, the attentively more efficient athletes may have a natural ability or may be taught to transfer effectively from general to close attention when situations require

these shifts. Therefore, the athlete may be more likely to detect extraneous but important features of a situation if a state of general attention is achieved, and thus, at times this less focused state may be desirable. The terms passive and active attention are sometimes used instead of the words general and close (Cratty 1989).

Some sport situations seem to call for continual shifts of attention from details to the big picture and then to details again. Also, situations in sports may also be compatible with shifts of attention outward toward the situation, versus inward toward inner thoughts, internal speech, and introspection. Many team sports seem to require rapid shifts from broad attention to a narrower range of cues. A soccer player, for example, must first look at the entire field and then kick a pass to a single teammate (Morgan 1978).

Studies of attentional and cognitive styles indicate that, indeed, individuals with both flexible and rigid attentional and perceptual orientations exist. Attentional flexibility seems to diminish with age and is more characteristic of the young (Cratty 1967). Some sports, like the team sports cited, also require constant shifts. The interactions of interpersonal attentional styles versus the demands of the sport along this flexibility dimension may be highly important for the ultimate success at higher and higher competitive levels. Furthermore, individual differences in attention and cognitive skills are obvious. Some soccer players quickly take in the whole field and find the open player for the pass, but others cannot see one meter beyond the ball (Abernethy 1993).

Some athletes have more trouble focusing on directions and on cues in external visual space because of the presence of internal imagery or internal self-talk (Martens 1987). In many situations, information from internal directions may be competing and interfering with information given externally and information emanation from the situation itself. At times it may be useful to permit an athlete to attend to an internally focused thought before giving instructions from an external source.

There is probably no variable of more crucial importance to sport performance than the ability to direct and control one's attention. Nideffer (1976) suggested that attention can be conceptualized on at least two dimensions: a) direction, and b) breath of focus. Athletes may attend to either internal or external cues, and in terms of its focus, attention may be either broad or narrow.

The width and direction of attention is substantially affected by changes in the arousal level of the athletes. The width of athletes' attention narrows as psychic energy increases, first eliminating irrelevant stimuli and later under high negative energy or stress, eliminating task-relevant stimuli (Martens 1987). Managing stress involves the skill of redirecting attention away from negative thoughts and muscle tension to task-specific stimuli. Thus, deficiencies in managing stress impaired attentional skills, poor attentional skill, and the ability to manage stress. Improvement in either, therefore, helps the other (Landers et al. 1985).

There is a large body of research that indicates that as anxiety and arousal increase, they interfere with the ability to shift attention from one type of focus to another. As pressure increases, the ability to shift decreases. The athlete who has a high score on the scale indicating an internal – analytical type at attention will tend to try and analyze under pressure. Often the situation they are in requires just the opposite – a quick reaction. Those athletes with a very narrow focus of attention become even more locked in under pressure (Bacon 1974; Fenz 1975; Nideffer 1980).

Anxiety will narrow attentional focus on environmental cues (Serason 1975). Anxiety can also diminish the coach's ability to control the direction and/or width of attention. The effects can, therefore, distort encoding processes and strategy planning thereby inhibiting responses that are selected to cope with these anxiety producing situations (Nideffer 1980).

Because of the complex nature of attentional focus, it is easy to see why an athlete might adopt an inappropriate pattern of attention for a specific situation. Attentional control training requires the athlete to be aware of the various types of attentional focus and to learn to apply each at the appropriate time. Once the athlete understands which type of focus is necessary for specific athletic situations, attentional control can be self-taught and practiced. Harris and Harris (Harris et al. 1984) have identified a number of strategies that can be used to improve concentration. However, for best results, the athlete must practice attentional focus skills in game-like situations.

"Attentional focusing strategies and instru-

ctions influence the observed muscular avtivity, which has direct implications for both skill execution and physical training settings." (Marchant et al. 2008). Several different types of attention or concentration are required in athletic situations. Coaches and sport psychologists must teach athletes how to control attention and arousal. As systematic training programs are developed, one can improve athletes' level and consistency of performance.

Although most athletes are capable of developing the different types of attentional focus required by sport situations, individual differences do exist. Attentional training programs can develop athletes' attention (Curtis 1989).

When athletes identify the "discriminate cues", they can mentally rehearse those attentional skills that are so critical to optimal performance. This process is to attention control what physical practice is to skill development (Klavora 1978).

Because soccer is such a fast-moving game, it is critical that players be able to change their attention instantly from one focus to the other. Players must develop the mental habits of centering their vision when shooting or trapping the ball and/or centering their vision for most other offensive situations. Soccer requires visual flexibility. Also, player must use drills that focus on the ability to shift attention instantly from one object to another object. Soccer is as much mental as it is physical, and a great player is "on" every game because he/she has the mind awareness to maintain attention under the stress of athletic competition.

This study was conducted to develop and modify the attentional focus of youth soccer players through the psychological skills training program, and to implement an experimental design to assess the utility of this program. Also, it was an attempt to develop a Soccer Measures Test of Attentional and Interpersonal style of the attentional abilities measured by the Test of Attentional and Interpersonal style (Nideffer 1976a; Nideffer 1990). The independent variable was participation in an attentional focus training program (AFTP). The dependent variables were changes in attention in both groups. As a result of the AFTP subjects of the experiment group will demonstrate an increase in BET, BIT, NAR and a decrease in OET, OIT, RED. The control group will not demonstrate any differences on the six attentional subscales. Finally, the S-TAIS test will demonstrate moderately positive correlations when compared to the TAIS.

METHODOLOGY

Design

The study, an experimental design, was conducted over an eight-week period. Two observations, pre- and post-treatment, were made. Before the first soccer game, the shortened version of the TAIS and the S-TAIS were administered to each player, asking each individual to complete the questionnaires at that time. The second observation was made after the last game of the fall soccer season.

The players were divided into two age groups: (a) 8-to 10- year-olds, and (b) 11- to 13- year-olds. Assignment of subjects to the control group (CG) or the experimental group (EG) was random by lot except that each soccer's total participant group was divided equally between CG and EG by age. Each of the four teams had 10 subjects (see Table 1). A 2X 2 (Age by Conditions) mixed factorial design was used, with repeated measures. The CG was not involved at all in the items of the AFTP. The coach conducted only real physical practice with the CG during the time of this experiment. The AFTP was applied three times a week to develop attention of the EG during the eight – week period of the experiment (see Table 2). The repeated measures design (pre-test, post-test) was utilized for correlated observation because the same subjects were used for all conditions of the study.

Table 1: Experimental design (Groups)

Group	*Age*	*Teams*	*Subjects*
CG	8 to 10	1	10
EG	8 to 10	1	10
CG	11 to 13	1	10
EG	11 to 13	1	10

Subjects

Young, male soccer players (N=40), 8 to 13 years of age, served as subjects. Players came from four teams who play in Youth Soccer League. None of them had knowledge of the experiment prior to the test. Subjects reported good vision and were in good health in the beginning of the soccer season. To avoid situation – specific re-

Table 2: Research design (Treatments, Tests)

Subjects	*Pretest*	*Treatment*	*Post–test*
EG	TAIS S-TAIS	Practice 8 weeks 2 times per week 50 minutes per session * AFTP: Relaxation Affirmations, ImageryConcentration, Meditation 24 sessions 3 times per week 8 weeks 30 minutes per session	TAIS S-TAIS
CG	TAIS S-TAIS	Practice 8 weeks 2 times per week 50 minutes per session Watch soccer games, films, and videotape replays of their actual games	TAIS S-TAIS

* The AFTP was created by the researcher using the review of literature and the empirical experience.

sponse bias, the questionnaires were administered to players at times not immediately preceding or subsequent to competition. Subjects and subjects' parents were requested to sign and informed consent form. Subjects were randomly selected for the CE and EG. One group was the CG (no treatment), and the second was the EG:

1. Control Group (CG), male, 8 to 10 years of age and 11 to 13 years of age groups; available for an eight-week period of time for a pre-test, sixteen 50-minute practice sessions, twenty-four 30-minute sessions of watching films with soccer matches, and a post-test.
2. Experimental Group (E.G.), male, 8 to 10 years of age and 11 to 13 years of age groups; available for an eight-week experimental condition of a pre-test, sixteen 50-minute practice sessions, twenty-four 30-minute sessions of programmed intervention, and a post-test.

Measures

There are few instruments presently available which directly evaluate the constructs of attentional and interpersonal style of an individual. The TAIS appeared to be the most appropriate instrument to be used for this study because norms have been developed for several groups including athletes, undergraduate college students, police trainees, and executives (Nideffer 1977).

The TAIS is a 144-question self-report inventory which takes 25 minutes to complete and has 17 subscales. Only six of the subscales which pertain to attentional focus were used for this study. Nideffer (1976a) provided a 12-item scale that was designed to measure all six of the attentional characteristics the TAIS measures. To do this, he reduced the number of items in each of the TAIS attentional scales to two. He reported that the correlations between the short version of the TAIS attentional scales and the longer version (N=25 swimmers) were as follows: (a) BET=.79, (b) OET=.56, (c) BIT=.92, (d) OIT=.70, (e) NAR=.67, and (f) RED=.69.

The six subscales that reflect attentional processes are:

BET. High scores on this scale are obtained by individuals who describe themselves as being able to effectively integrate many environmental stimuli at one time (Nideffer 1977).

OET. The higher the score, the more mistakes due to being confused and overloaded by environmental information (Nideffer 1977).

BIT. High scores see themselves as effectively integrating ideas and information from several different areas, as being analytical (Nideffer 1977).

OIT. The higher the score, the more mistakes individuals make because they think about too many things at once (Nideffer 1977).

NAR. The higher the score, the more effective individuals describe themselves in terms of ability to narrow attention (Nideffer 1977).

RED. A high score indicates individuals make mistakes because they narrow attention too much, failing to include all of the task-relevant information (Nideffer 1977).

High scores on three of the six attentional subscales reflect positive attentional traits (BET, BIT, and NAR), while high scores on the remaining scales reflect negative attentional traits (OET, OIT, and RED).

The items are general in nature without reference to any specific sporting context, and each item is rated according to a 5-point Likert scale ranging from never (5) to always (1). Each subject's individual attentional style was assessed and classified through the use of two 12-item survey instruments. The measure consisted of six attentional subscales (BET, OET, BIT, OIT, NAR and RED) of the TAIS that was modified, applying it to situations specific to soccer (S-TAIS). The S-TAIS's 12 items were generated by

two individuals with extensive knowledge in psychology and soccer skills. All 12 items on the six attentional subscales of the TAIS were converted to a soccer-specific reference, maintaining as much of the original TAIS context, grammatical structure, and wording in each item as possible.

An example of an item included on the TAIS is the NAR subscale and its S-TAIS counterpart is as follows:

1. TAIS — It is easy for me to keep thoughts from interfering with something I am watching or listening to.
2. S-TAIS — It is easy for me to keep thoughts from interfering with my game while I'm at the soccer field.

Procedure

At the beginning of the soccer season, players were told that they would take part in a study to assess their attentional focus. One day before the first game (October 5th, 2006), the TAIS and the S-TAIS version were distributed, to the players. The teams practiced two times a week plus the game every Sunday. All players completed the TAIS and the S-TAIS in a quiet classroom after their practice. The post-measure for the attentional focus was conducted on December 2nd, 2006). The pre- and post-test questionnaires were administered by the researcher.

The dependent variable in the study, the effective state of attentional focus of the player, was determined by measures included in the written questionnaires that were administered to each player. Only the 12 items of the six attentional subscales of the TAIS and the S-TAIS were completed by the subjects.

Treatment Conditions

1. Control Group (CG). The CG received no specific training program with the AFTP but practiced identically in length and frequency with the EG. During the practice sessions and the games, the researcher made no organized effort to impact on the attentional focus of the players. Players of the CG watched films with soccer games and videotape replays of their actual games. The researcher will apply the AFTP to the CG teams during the winter time if this study shows significant improvement of the attentional focus of the EG teams.
2. Attentional Focus Training Program (AFTP) Group. The experimental intervention consisted of 24 sessions, 30-minute each given over an eight-week period of time. AFTP was a psychological skills training program which was designed to improve the attentional focus of individual. These skills included: (a) relaxation, (b) imagery, (c) affirmations, (d) meditation and (e) concentration (Schmidt 1988; Nideffer 1976b; Nideffer 1985; Selderman et al. 1983; Gill 1986; Landers 1988; Smith 1996; Orlick 2000; Papanikolaou et al. 2004).

Young players in the AFTP group did some affirmations at home. At the conclusion of the study, all players, coaches, and parents were informed of the general results of the study and were given the opportunity to meet individually with the researcher to discuss individual results.

Statistical Analysis

Analysis of variance (ANOVA) was used with repeated measures to test for pre-post differences between the two groups on the attentional focus measure. Descriptive statistics were used to determine any significant differences between subjects based on the TAIS. Pearson product-moment and split-half correlation coefficients were calculated to estimate TAIS and S-TAIS reliability. For the purposes of this study, a moderately positive correlation was a correlation between .60 and .85.

RESULTS

Hypothesis 1.1 stated that as a result of the AFTP, subjects will demonstrate an increase in BET. This question was answered by using the repeated measures ANOVA. The data were interpreted by comparing the scores of the CG who had no training and the scores of the EG who had received the AFTP program. The means and standard deviations were computed. The results are shown in Table 3 and Figure 1. The pre-test scores of the means and standard deviations presented in Table 3 indicated a homogeneous distribution of variance. The EG had a greater post-test score than the CG. A repeated measures ANOVA (see Table 4) revealed significance within group differences for BET ($F(1,19)=164.77$, $P<.001$). The data support the hypothesis indicating a difference between the BET post-test scores of the CG and EG.

Table 3: Mean and standard deviation for BET

Group	*N*	*Pre-test*		*Post–test*	
		M	*SD*	*M*	*SD*
CG	20	5.05	1.3	5.05	1.36
EG	20	4.25	1.0	6.55	.51

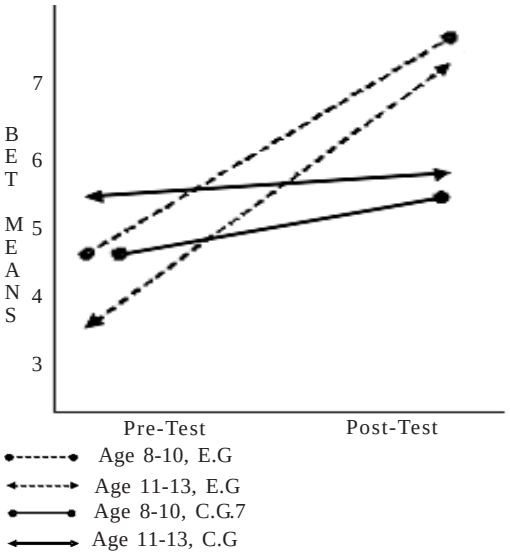

Fig. 1. BET by age interaction

Table 4: Repeated measures ANOVA: BET subscale

Source ofvariation	*SS*	*df*	*MS*	*F**
Between groups	52.90	1	52.90	164.77
Within subjects	20.60	19	1.08	
Interaction	6.10	19	.32	
Total	79.60	39		

F.99 (1, 19) = 8.18
* Significant at the .001 level

Hypothesis 1.2 stated that as a result of the AFTP subjects will demonstrate a decrease in OET. The means and standard deviations were computed. The results of the computation are shown in Table 5 and Figure 2. The CG had a higher post-test score than the EG. The data in Table 6 reveal a significant difference of the F value (F (1.19)=71.284, P <.001). The data supports the hypothesis indicating a difference between the OET post-test scores of the CG and EG

Hypothesis 1.3 stated that as a result of the AFTP, subjects will demonstrate an increase in BIT. The means and standard deviations were computed. The results of the computation are shown in Table 7 and Figure 3. BIT scores show

Table 5: Mean and standard deviation for OET

		Pre-test		*Post–test*	
Group	*N*	*M*	*SD*	*M*	*SD*
CG	20	3.85	1.69	4.00	1.45
EG	20	5.10	1.59	2.80	.70

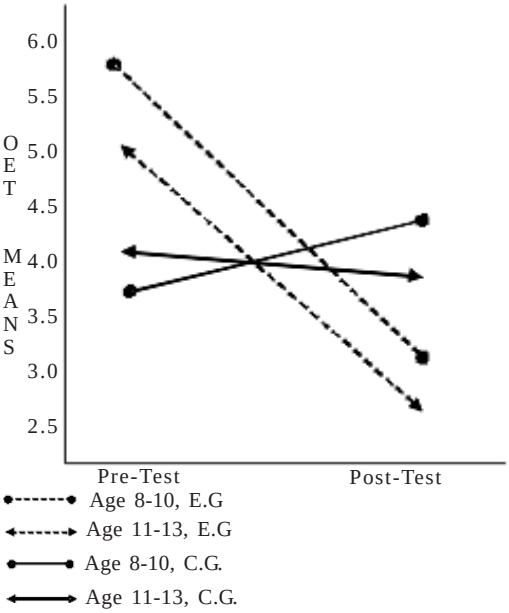

Fig. 2. OET by age interaction

Table 6: Repeated measures ANOVA: OET subscale

Source ofvariation	*SS*	*df*	*MS*	*F**
Between groups	52.90	1	52.90	71.29
Within subjects	42.90	19	2.26	
Interaction	14.10	19	.74	
Total	109.90	39		

F. 99 (1, 19) = 8.18
* Significant at the .001 level.

a difference between the CG and EG groups. A repeated measures ANOVA (see Table 8) indicated significant main or interaction effects. Thus, there was support for Hypothesis 1.3 (F(1.19)=120.36=P <.001).

Hypothesis 1.4 stated that as a result of the AFTP, subjects will demonstrate a decrease in OIT. The means and standard deviations were computed. The results of the computations are shown in Table 9 and Figure 4. OIT scores show a difference between the CG and EG. A repeated measures ANOVA (see Table 10) revealed significance between group differences for OIT (F

Table 7: Mean and standard deviation for BIT

		Pre-test		*Post–test*	
Group	*N*	*M*	*SD*	*M*	*SD*
CG	20	5.00	1.41	4.90	1.40
EG	20	3.85	1.59	6.30	.92

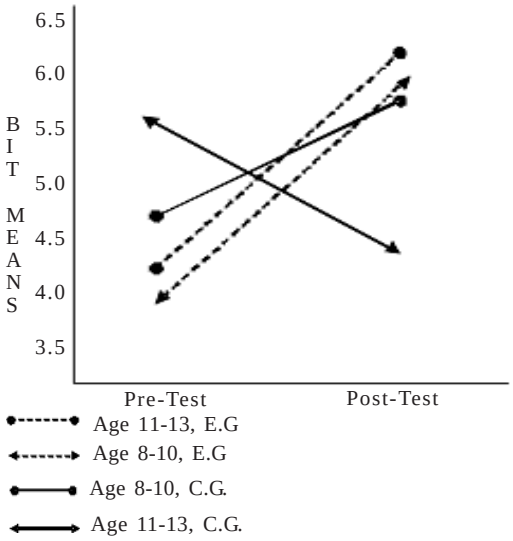

Fig. 3. BIT by age interaction

Table 8: Repeated measures ANOVA: BIT subscale

Source ofvariation	*SS*	*df*	*MS*	*F**
Between groups	60.03	1	60.02	120.37
Within subjects	39.28	19	2.07	
Interaction	9.48	19	.50	
Total	108.78	39		

F.99 (1, 19) = 8.18
* Significant at the .001 level

Table 9: Mean and standard deviation for OIT

		Pre-test		*Post–test*	
Group	*N*	*M*	*SD*	*M*	*SD*
CG	20	3.95	2.21	4.00	2.13
EG	20	5.10	1.92	3.00	.80

(1,19) = 28.023, P <.001)) The data supports the hypothesis indicating a difference between OIT post-test scores of the CG and EG.

Hypothesis 1.5 stated that as a result of the AFTP, subjects will demonstrate an increase in NAR. The results of the computation of the means and the standard deviations are shown in Table 11 and Figure 5. NAR scores show a difference between the CG and EG. A repeated measures ANOVA (see Table 12) revealed significance within group differences for NAR (F 91.19)=64.189, P <.001). The data support the hypothesis indicating a difference between the NAR post-test scores of the CG and EG.

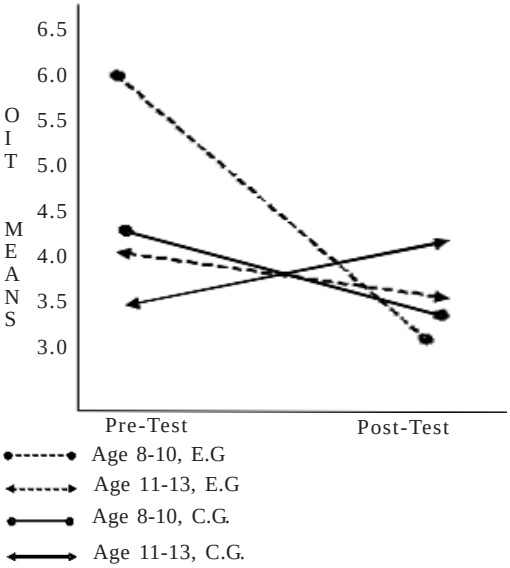

Fig. 4. OIT by age interaction

Table 10: Repeated measures ANOVA: OIT subscale

Source ofvariation	*SS*	*df*	*MS*	*F**
Between groups	44.10	1	44.10	28.02
Within subjects	51.90	19	2.73	
Interaction	29.90	19	1.57	
Total	125.90	39		

F.99 (1, 19) = 8.18
* Significant at the .001 level

Table 11: Mean and standard deviation for NAR

		Pre-test		*Post–test*	
Group	*N*	*M*	*SD*	*M*	*SD*
CG	20	4.05	1.95	4.50	1.79
EG	20	3.85	1.93	6.35	.67

Table 12: Repeated measures ANOVA: NAR subscale

Source ofvariation	*SS*	*df*	*MS*	*F**
Between groups	62.50	1	62.50	64.20
Within subjects	60.60	19	3.20	
Interaction	18.50	19	.974	
Total	141.60	39		

F.99 (1, 19) = 8.18
* Significant at the .001 level

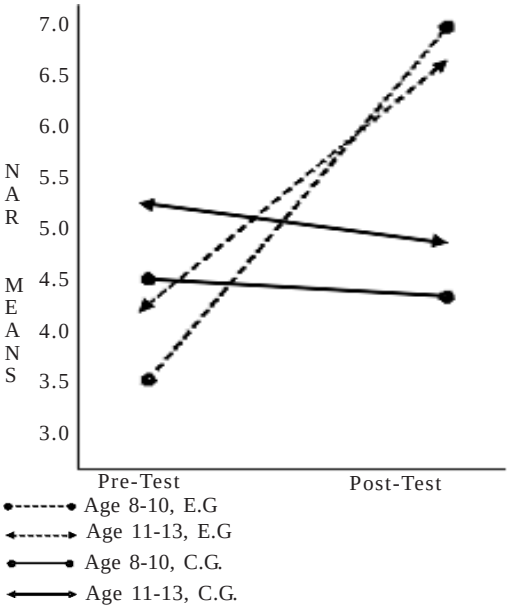

Fig. 5. NAR by age interaction

Hypothesis 1.6 stated that as a result of the AFTP, subjects will demonstrate a decrease in RED. This question was answered by using the repeated measures ANOVA. The data were interpreted by comparing the scores of the CG and the scores of the EG. The means and standard deviations were computed. The results of the computation are shown in Table 13 and Figure 6. The CG had a higher post-test score than the EG. A repeated measure ANOVA (see Table 14) indicated significant differences for RED. The observed F ratio of 79.276 is significant at P <.001. Thus, the hypothesis was supported.

Table 13: Mean and standard deviation for RED

		Pre-test		*Post–test*	
Group	*N*	*M*	*SD*	*M*	*SD*
CG	20	3.40	1.60	3.05	1.50
EG	20	5.15	1.50	2.95	.83

Hypothesis 2 stated that the S-TAIS test will demonstrate moderately positive correlations when compared to the TAIS. One purpose of this investigation was to modify Nideffer's (1976a) TAIS subscale to apply to a specific sport-soccer— and to compare this measure to the original. Repeated measures ANOVA on attentional subscales using the S-TAIS reveal a high level of correlation between the TAIS and

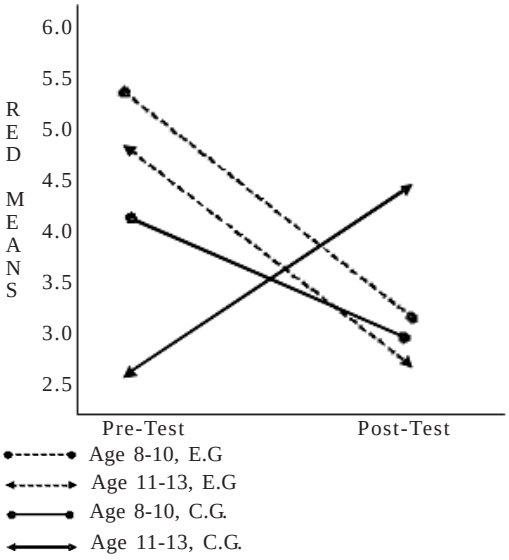

Fig. 6. RED by age interaction

Table 14: Repeated measures ANOVA: RED subscale

Source ofvariation	*SS*	*df*	*MS*	*F**
Between groups	48.40	1	48.40	79.28
Within subjects	43.90	19	2.31	
Interaction	11.60	19	.61	
Total	103.90	39		

F.99 (1, 19) = 8.18
* Significant at the .001 level

the S-TAIS. The TAIS and the S-TAIS present similar structures (see Table 15).

Table 15.: Repeated measures ANOVA: Summary for Attentional Subscales Scores (S-TAIS)

Subscale	*MS Between*	*MS Within*	*F (1, 19)*
BET	36.10	3.74	34.47*
OET	30.63	3.05	27.87 *
BIT	52.90	1.30	71.28 *
OIT	50.63	5.07	43.97 *
NAR	48.40	2.23	58.95 *
RED	55.23	4.31	79.04 *

Critical value F .99 (1, 19) = 8.19
* Significant at the .001 level.

The results of this investigation are summarized as follows:

1. The differences in the pre-test to post-test subject group mean scores for attentional traits of BET, OET, BIT, OIT, NAR and RED were statistically significant for the EG.
2. The correlations between the S-TAIS post-

test and the original attentional scales of the TAIS (N=40 young soccer players) were as follows: (a) BET=.68, (b) OET=.59, (c) BIT=.82, (d) OIT=.71, (e) NAR=.67, and (f) RED=.65.

DISCUSSION

Hypothesis 1.1 through 1.6 deal with the predicted effects of the AFTP on the BET, OET, BIT, OIT, NAR and RED. The results showed that the subjects in the EG, having been trained in the AFTP, demonstrated a statistically significant improvement in the attentional abilities measures as compared to the CG subjects. These results indicated that the differences between the pre-test group mean scores and the post-test group mean scores, likely, occurred as a result of the experimental treatment.

By examing the mean scores, it was concluded that the AFTP resulted in an increase on the (a) BET (pre-mean=4.25, post-mean=6.55); (b) BIT (pre-mean=3.85, post-mean=6.30); and (c) NAR (pre-mean=3.85, post-mean=6.35). It was also concluded that the AFTP resulted in a decrease in the (a) OET (pre-mean=5.10, post-mean=2.80); (b) OIT (pre-mean=5.10, post-mean=3.00); and (c) RED (pre-mean=5.15, post-mean=2.95).

High scores on three of the six attentional subscales reflect positive attentional traits (BET, BIT and NAR), while high scores on the remaining scales reflect negative attentional traits (OET, OIT and RED). BET, BIT, and NAR subscales assess to what extent an individual can effectively attend to external (BET) and internal (BIT) cues and the extent to which an individual can effectively narrow his field of attention (NAR). The other three subscales reflect an individual's tendency to adopt an inappropriate attentional focus. These subscales indicate the extent to which one has a RED and is overloaded by OET and OIT stimuli.

EG subjects scored higher on the scales indicating effective functioning (BET, BIT and NAR) than they do on scales indicating ineffective functioning (OET, OIT and RED). They reported a higher score on BET after the treatment (mean=6.55) compared to the pre-treatment score (mean=4.25). A high score on BET is indicating the players can deal with a busy (in terms of external events) environment, quickly assessing and reacting to situations. A high score on BIT (post-mean=6.30) indicates that players can effectively integrate a number of ideas and/or feelings. Players are good planners and relate things learned in one area to another. Landers and Courtet (Landers et al. 1985) found that rifle and pistol shooters who had an effective broad-internal focus (BIT) performed more accurately. A high score on NAR (mean=6.35) is an indication that the players can narrow attention when the environment requires it (for example, hit a ball, shoot at a target, etc.).

The three attentional scales (OET, OIT and RED) provide an indication of the individual's tendency to have on inappropriate attentional focus, to be unable to shift from one focus to another. The individual may be unable to broaden or narrow attention when required. These scales must be interpreted on the basis of their position relative to their counterparts (BET vs. OET, BIT vs. OIT, and NAR vs. RED).

A lower score (post-mean = 2.80) on the OET scale indicates the players of the EG do not find themselves overloaded by external stimuli. Players do narrow attention so they do not become confused and frustrated (angry). A lower score (post-mean = 3.00) on OIT indicates the players of the EG do not have too many thoughts and feelings demanding attention. They do not become overloaded and confused from within. A lower score (post-mean = 2.95) on RED indicates the players' attention of the EG is not narrowed to the point of excluding important information. This success to broaden attention when the situation demands it means the players react with sufficient information.

Players of the CG tended to become overloaded with external (post-mean = 4.00) and internal stimuli (post-mean = 4.00), be less able to integrate thoughts and ideas (post-mean = 4.90), and be less able to effectively narrow attention (post-mean = 4.50). CG subjects showed a low score on broad-external focus that does not allow them to adapt their play to the complex and rapidly changing events occurring around them. Average score on RED (post-mean = 3.05) indicates that players often make mistakes because they narrow their attention too much.

CG players scored above the 80th percentile in the effective attentional traits (BET = 84%; BIT = 84%; NAR = 80%). The greatest attentional weakness for the CG appeared to be the tendency to have an inappropriate attentional focus. Specifically, the CG appeared to be more easily overloaded by external stimuli (OET, 82nd

percentile). This suggests that the CG frequently felt distracted by things going on around them. If players of the CG cannot deal effectively with external stimuli, then it might be expected that they would become confused and upset in situations requiring NAR. This situation appeared to be compounded by the players' expressed tendency to become overloaded by internal stimuli (OIT, 80th percentile). Such a combination (high OET and high OIT) would be predicted to promote the "downward spiral" (choking effect) discussed by Nideffer (1981).

The relative position of ineffective scores to each other has not changed in the *CG*. OET is still higher than OIT and RED. Thus, the players' attentional problem that they are most likely to have has remained the same. The CG represents an average attentional profile (Nideffer 1976b).

The EG subjects have described themselves as extremely effective attentionally. Their lowest effective attentional score is at the 97th percentile (BIT). They are aware (BET = 98%), and very focused and disciplined (NAR = 97%). Their scores on the distractibility subscales are lower than average (OET = 16%, OIT = 3%, RED = 3%), indicating that they do not get distracted.

The highest effective attentional score is the BET score. This indicates that the players' most well-developed attentional skill is their ability to be aware. "The benefits of utilizing an external focus have been demonstrated in a number of tasks, such as standing balance, volleyball and soccer kicks", (Wulf et al. 2002). The findings of Zachry et al. (2005), proved that when the basketball players directed their focus upon the center of the basketball hoop (external focus) performed more accurately on free throws and the EMG activity of the biceps brachii and triceps brachii muscles was lower. A primary attentional demand in soccer is for a broad-external focus of attention. A soccer player needs a broad focus when he/she is looking for a teammate to pass to. The focus of attention must narrow and become externally focused as the player acts, or reacts, to a shot or pass (NAR=97%). According to Vance et al. (2004), the external focus allows unconscious or automatic processes to control the movement. The OET score is the highest of their three ineffective attentional scores (OET, OIT, and RED). This scale measures the tendency to become overloaded by external information but the score (OET = 16%) shows that there is no problem.

The greatest attentional strength of the EG seemed to be their ability to narrow attention (NAR, 97th percentile). This would indicate that players of the EG are able to narrow their attention when the situation demands it. Interestingly, players of the EG expressed the tendency to adopt a broader focus when attention is directed inward (BIT, 97th percentile). This suggests the possibility that players may prefer rehearsing a variety of thoughts / strategies when an internal focus is being adopted.

Findings have showed the remarkable similarity between the TAIS scores and the S-TAIS scores on the attentional skills. The scores are nearly identical. These scores represent effective attentional profiles. Subjects score higher on scales indicating effective functioning (BET, BIT, NAR) than they do on scales indicating ineffective functioning (OET, OIT, RED).

The EG TAIS attentional profile appears identical to the S-TAIS, with the exception that the subjects' mean score on the OIT and RED subscales of S-TAIS was one full standard deviation below the mean. The OIT and RED scores were lower on the S-TAIS than on the TAIS. Although the general configuration of the attentional profile is similar for the TAIS and the S-TAIS, differences between subscales tend to be magnified through the use of the situation-specific S-TAIS. Van Schoyck and Grasha (1981), reasoning that a sport-specific measure might be more reliable and valid than the general TAIS, developed a tennis-specific version (T-TAIS). The T-TAIS did produce higher test-retest reliability and internal consistency. More importantly, the T-TAIS was more consistently related to tennis ability and match scores than was the TAIS.

In general, the results indicated that those players who had received the AFTP changed their attentional abilities compared to those who had not received this training. It appears that the AFTP is a program in which psychological techniques are beneficial in helping players to develop an effective attentional focus. In a study, conducted by Papanikolaou et al. (2004), proved positive effects of AFTP on shooting and throwing skills in soccer.

Finally, following treatment subjects reported themselves as significantly less overloaded by both external (OET) and internal information (OIT). They made fewer errors of under-inclusion (RED). The EG had an increase in their score

on the NAR scale on the TAIS. This means that training had resulted in their learning to maintain a narrower, task-relevant focus. Also, there were significant positive changes in the attentional abilities of BET and BIT. The EG indicated good environmental awareness and assessment skills (BET) and good analytical and planning skills (BIT).

The results of this study show a functional relationship between AFTP and improved attentional abilities. The fact that there are differences between the three effective attentional scores (BET, BIT, NAR), as well as differences between the three ineffective scores (OET, OIT, RED), indicates that the individuals had admitted that they did indeed have "relative" attentional strengths and weaknesses.

CONCLUSION

Based on the hypotheses, the statistical findings, the limitations, and the delimitations of the research study, the following conclusions have been drawn:

1. The use of specific instructional relaxation, imagery, affirmations, meditation and concentration training as elements of AFTP was effective in contributing to increased attentional focus of young male soccer players at two age levels.
2. The S-TAIS test demonstrated to be positively correlated to the TAIS.

RECOMMENDATIONS

If S-TAIS is used properly, the test results can help soccer players and coaches recognize areas of attentional strengths and weaknesses. The S-TAIS is recommended for future research to investigate the attentional focus of soccer players.

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