COMPARISON OF PET LEP AND TRADITIONAL MENTAL IMAGERY METHODS IN THE PERFORMANCE OF FOOTBALL GOALKEEPERS

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Abstract:
Mental imagery has long been the focus of researchers in sports psychology and motor learning. The purpose of this study is to compare Pet Lep and traditional mental imagery methods in the performance of football goalkeepers. For this purpose, 30 (13 males and 17 females) male and female goalkeepers aged 18 to 30 years were selected as a statistical sample using random cluster sampling. Subjects were divided into three groups and underwent specific exercises. The program of the first group consisted of practical exercises with mental imagery using the Pet Lep method, the second group consisted of practical exercises with mental imagery using the traditional method, and the third group consisted of practical exercises. Then, in the seventh, fourteenth, twenty-first and twenty-eighth sessions, all subjects were given a standard ball test and their learning progress was measured. The collected data were then statistically analyzed by one-factor analysis of variance test and Tukey test. Research findings showed that there is a significant difference in the level of learning the ball skill between Pet Lep mental imagery group and traditional illustration group and traditional illustration group and control group in all three stages of training. Also, a significant difference was observed in the retention of ball skills after one week of training between the Pet Lep mental imaging group and the traditional and control mental imaging groups. Finally, it is suggested that sports coaches and trainers use the Pet Lep imaging method in appropriate situations.

Keywords: Pet Lep illustration, traditional illustration, retention test

1. Introduction

Psychologists have come up with different definitions of mental imagery in recent decades these include illustration as the use of the senses to recreate or create an experience in the mind (Vealey & Greenleaf, 2001). This feature has also been considered
by sports psychologists in sports and learning various skills it is defined as the mental exercise of repeating a physical skill in the brain without any apparent movement of the limbs in order to learn and refine the technique. Of course, athletes’ perceptions during training may be involved with all the senses (Lang et al, 1980). Nowadays, sports scientists have resorted to mental training in order to update the methods of training science and shorten the learning process of beginners and take professional athletes off the plateau in learning. Among the features of these exercises; it is safe, inexpensive, does not require equipment and trainers, is not time consuming training and does not cause fatigue (Sheikh et al, 2007). Therefore, by recommending mental exercises, you can save money, facilities, time, space, manpower, etc.; on the other hand, it also increased the efficiency of athletes (Winter and Martin, 1992). Also, through mental training, injured beginners or athletes who are away from training for other reasons can be involved in training (Driediger et al, 2006).

Gregg & Hall (2005) showed that; mental imagery is one of the most popular techniques in psychology. Barrow, M.A. et al (2007) also showed that; mental imagery can be used very artistically in sports. Smith, Wright, Alisopp and Westhead (2007) in their article entitled "Mental Imaging by Pet Lep and Exercise Method" pointed out the numerous uses of this method in exercise. In fact, it should be said that this method gives athletes and sports coaches a tool beyond physical training and skills.

Some scholars such as Collins & Hale (1997), Goginsky & Collins (1996) and Vealey (1994) criticized the lack of empirical and theoretical structure of scientific research and applied activities related to this title. They highlighted weaknesses in mental training methods, including fatigue. In response to such criticisms, Holmes and Colin (2001) developed the Pet Lep model. This model is based on neuroscience findings, especially since neurophysiological findings are the main cause of actual imaging and movement. The acronym "Pet Lep" refers to practical and important components that should be considered when using mental imagery. The components include physical, environmental, skills, time, learning, excitement and intellectual factors. It should be noted that mental imagery can be a very effective method in performance balance. Holmes and Colin (2002) noted that; functional balance is not effective in physical relaxation and it even seems to be in stark contrast to the athletes' physical condition. In their view, mental imagery is more effective when all the senses are involved and kinetic emotions are experienced during actual skill performances. The physical components of this model are related to the physical reactions of athletes in sports situations. Some sports psychologists such as Williams and Harris (2001) Athletes are best able to visualize skill or movement if they are in a relaxed position.

However, in most studies of mental imagery, there was no significant relationship between the use of relaxation and its usefulness in visualization (Conroy, 1997 and Gray et al, 1984). The environmental component of this model refers to the physical environment in which mental imagery takes place. To get the motion picture, the imagined environment must be similar to the real environment. For example, a rugby player must do mental training while standing on the field. If it is not possible to provide
a similar environment, location images and audio tapes of the crowd can be used. If the structure of the mental imagery model is used, it should include descriptions of people's reactions to the environment and different from the descriptions of environmental stimuli (Smith et al, 2001). The component related to the task (skill in question) is an important factor, as a skill is conceived and embodied, it must be commensurate with the skill that must actually be performed. For applied mental imagery, a process called "response training" must be performed (Lang et al, 1980). This process involves the participant focusing on the responses of the real environment by invoking and reinforcing physiological and behavioral reports in the skill implementation environment, which emphasizes the direction of effective mental imagery.

Given the potential for injury to athletes in sports and to prevent the loss of their potential talents as well as to avoid their severe decline and discover the best training methods, the researchers sought to select the most appropriate type of mental imagery for athletes by examining and comparing both types of mental training.

2. Methodology

The present study is a quasi-experimental study that is conducted in the field. The statistical population of the study was men and women aged 18 to 30 years, 30 of whom (13 men, 17 women) were randomly selected as the statistical sample. After matching the subjects in terms of mental ability and level of readiness in the field of football, the goalkeepers were randomly divided into three groups of 10 people. Except for the control group, two experimental groups performed practical training and mental imagery in combination. They gave. The training program of the first group, which performed mental imagery using the Pet Lep method, was the mental training of the desired skill and emphasis on the physical components of Pet Lep. Subjects were also instructed to visualize the specific location and clothing they should wear during the test. The training program of the second group, which performed mental imagery in the traditional way, was first relaxation and finally mental training of the desired skill. The third group (control) practiced only practical skills. The standard ball test was used to collect information To evaluate the performance of the samples at the end of the seventh, fourteenth, twenty-first sessions and one week after the last exercise (for the purpose of retention test), the test was performed. In order to statistically analyze the information, descriptive statistics and inferential statistics were used to determine the significance or non-significance of the difference in scores obtained by the three groups. One-factor analysis of variance test in three groups was used to determine the mean difference of data and Tukey test was used to determine their level of significance.
3. Results

At first, the results of the first, second and third tests as well as the retention test were reviewed in all three groups and as shown in Table 1, in all four tests, the Pet Lep Imaging Group scored better on average than the other two groups.

Table 1: Mean and standard deviation of the scores of the studied groups in the first, second, third and retention tests

<table>
<thead>
<tr>
<th>Group</th>
<th>Statistics</th>
<th>First test</th>
<th>Second test</th>
<th>Third test</th>
<th>Retention test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pet Lep mental imagery</td>
<td>± 5.54</td>
<td>47.27</td>
<td>±4.49</td>
<td>53.53</td>
<td>±6.91</td>
</tr>
<tr>
<td>Traditional mental imagery</td>
<td>±4.43</td>
<td>34.07</td>
<td>±6.54</td>
<td>41.53</td>
<td>±5.35</td>
</tr>
<tr>
<td>Control</td>
<td>±4.82</td>
<td>28.78</td>
<td>±5.65</td>
<td>28.78</td>
<td>±7.86</td>
</tr>
</tbody>
</table>

According to the data observed in Table 2, because the F calculated in all three groups and in the four tests performed is greater than the critical F of Table 2 at the probability level of P <0.05, therefore, there is a significant difference between the mean of the two groups at least.

Table 2: Summary of one-factor analysis of variance of the first, second, third and retention tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Source changes</th>
<th>Degrees of freedom Df</th>
<th>Sum squares SS</th>
<th>Average square</th>
<th>F</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>First test</td>
<td>Between subjects</td>
<td>2</td>
<td>1841.200</td>
<td>920.600</td>
<td>8.019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inside the subjects</td>
<td>42</td>
<td>4821.600</td>
<td>114.800</td>
<td></td>
<td>3.22</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>44</td>
<td>6662.800</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second test</td>
<td>Between subjects</td>
<td>2</td>
<td>843.600</td>
<td>421.800</td>
<td>4.153</td>
<td>3.22</td>
</tr>
<tr>
<td></td>
<td>Inside the subjects</td>
<td>42</td>
<td>4256.400</td>
<td>101.557</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>44</td>
<td>5200.000</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third test</td>
<td>Between subjects</td>
<td>2</td>
<td>798.311</td>
<td>399.155</td>
<td>3.895</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inside the subjects</td>
<td>42</td>
<td>4303.600</td>
<td>102.466</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>44</td>
<td>54470.911</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retention test</td>
<td>Between subjects</td>
<td>2</td>
<td>711.215</td>
<td>355.607</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inside the subjects</td>
<td>42</td>
<td>4105.300</td>
<td>97.745</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>44</td>
<td>4816.515</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Then, to determine the significant difference between the means of the groups, Tukey test was used, the information obtained is shown

Table 3: Tukey test

<table>
<thead>
<tr>
<th>Tests</th>
<th>Group</th>
<th>Average Comparison</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>H.S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>First test</td>
<td>First</td>
<td>2</td>
<td>-</td>
<td>10.2</td>
<td>20.19</td>
<td>9.516</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>42</td>
<td>-</td>
<td>-</td>
<td>9.99</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td>44</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Second test</td>
<td>First</td>
<td>2</td>
<td>-</td>
<td>11.00</td>
<td>20.6</td>
<td>8.95</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>42</td>
<td>-</td>
<td>-</td>
<td>9.6</td>
<td></td>
</tr>
</tbody>
</table>
There is a significant difference in the level of goalkeeping ball learning between the Pet Lep mental imagery group and the traditional mental imagery group in all three stages of training. Also, there is a significant difference in the rate of ball learning between the Pet Lep mental imagery group and the control group in all three stages of training;

There is a significant difference in the amount of ball learning between the traditional mental imagery group and the control group in all three stages of training;

There is a significant difference in the retention of ball skills after one week of training between the Pet Lep mental imagery group and the traditional mental imagery group;

There is a significant difference in the retention of ball skills after one week of training between the Pet Lep mental imagery group and the control group;

There is a significant difference between the traditional mental imagery group and the control group in the level of retention of ball skills after one week of training.

4. Conclusion and Discussion

According to the results, all groups made progress at the beginning of the exercise, which is consistent with the results of Hemayat Talab et al. (2007). This result can confirm the law of power of exercise indicating rapid progress in the initial stage and decrease in the later steps. The results of this study show that; the groups that used a combination of practical training and mental imagery in their training, after 21 training sessions, their learning progress and retention increased compared to the group that used only practical training. And in the statistical analysis it was found that; The difference between the means of these groups, the first group (Pet Lep mental imagery) compared to the second group (traditional mental imagery) and the third group (control), and the second group (traditional mental imagery) compared to the third group (control) is significant, These results are consistent with the results of research by Driskel, Cooper and Moran (1994), Feltz and Landers (1983), Yaguz (1999), Gregg & Hall (2005), Barrow et al. (2007), Smith & et al (2007), Mojtabedi, Kazemi (1996) and Fooladi (2002) are compatible. Based on the results, in the first phase of training, a significant difference was observed between the group that did mental training and practical training with the practical training group. This is consistent with the results of Minus (1980), Rice Berg & Roagz Dalea (1979), who believed that mental imagery promotes early learning. Considering that both
experimental groups of the study used a combination of practical training and mental imagery, but the average of the mental imagery group with Pet Lep method is higher than the group that did mental imagery in the traditional way, and the difference between the means of the two groups is different. There is significance. This finding is consistent with the findings of Potter et al. (2004) Smith et al. (2007) and Holmes and Collins (2001). These results support the Pet Lep method of mental imagery and the benefit of the Pet Lep model is not limited to a specific age group and level of experience or sports assignments. Perhaps one of the superior factors of this illustration can be considered in the assimilation of the mind and the competitive way, which makes the person use all the details to imagine himself in a real training environment. Thus, studies show that; Pet Lep model is more effective than traditional methods of mental imaging, also, although the different elements of the Pet Lep model are individually important the more of these elements, the more effective the mental imagery. Finally, the effect of mental image on learning sports skills must be acknowledged and opened a new approach in this field so that sports coaches can be more and more familiar with the mental image using the Pet Lep method in the development and evolution of sports. Of course, it must be said that; all methods of mental training are useful and cause athletes' motor skills. Athletes' training coaches are expected to be able to teach their students better illustration techniques in favorable conditions. At higher levels, it is also suggested that by determining the best method of mental training and familiarizing coaches and athletes with the appropriate conditions, we see the best performance resulting from mental training.

References


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