Relationship the most Important Attention Aspects of the Performance of Badminton Referees during Matches Conduct

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ABSTRACT
Attention aspects is one of the process of make right decisions for the badminton referees, lack of concerning study of attention of referees as well as physical, technical and psychological evaluations and tests result in general effect of the match performance. So, present study aimed to investigate relationship the most important attention aspects of the performance of badminton referees during matches conduct. 20 referees divided into; court referee and serving referee were participated in current study. Descriptive research design to treatment of study problem was conducted on January 26, 2012 at faculty of physical education hall- Babylon University. Researchers used referees performance evaluation form, attention focus test, and attention intensity test to measure study variations. Results revealed that court referees group showed high correlation coefficient between performance level and attention concentration and attention sharpness, as well as significant correlation coefficient between performance level and attention concentration for serving referees in badminton. No significant correlation coefficient between performance level and attention sharpness for serving referees in badminton. In conclusion, there is a correlation coefficient among attention focus, attention intensity and referees performance level.

Keywords: Performance level, Badminton referees, attention aspects, physical education.
1. Introduction

Badminton is a great sports activity for the old and the young. More recent training methods have been started to use around the world in badminton, there are principle elements lead to make match of badminton in demand form which are court, coach, players, and referees (Jassim et al., 2009), badminton match runs by 13 referees who have authority to implement all of law rules in cooperation with the general supervisor of the match (Esmaeil., 2010).

The referee is the most senior official in a badminton tournament and they in overall charge of all matters which affect play and the players on and off court. The Umpire and Line Judge teams who jointly look after a court during a match will report in to the referee who in turn looks after the whole tournament. The referee shall have key responsibility for: Producing schedule and order of play, amendments to the draw and schedule, the smooth running of play on the day, liaison with Umpire and Line Judge Managers, the correct implementation of regulations and the Laws of Badminton, and completion of a tournament report. Whereas key skills a referee should have include: A comprehensive knowledge of the regulations and the Laws of Badminton, be a decision maker, be able to interact effectively with coaches, players, players and other volunteers on the day, and ensure fair play.

Psychological factor of referee plays an important role in make a decision, especially during competitive (whether in official or unofficial competitions). However, good psychological factor can help referee to be comfortable with the rallies and gain a dominant position in a match (Qassim, 1990). The mental processes including an attention is one of the important issues related to the decision-making and the attention is platform of various mental processes without attention can’t be taught and remember or think about anything, in badminton is appeared the importance of attention clearly for the referees in terms of performance accuracy and this proves attention in the game in order to give a clear role in the decision-making of the referees and the achievement of the tasks that must be carried out by the referees to prepare them psychologically (Mohammad & Mohammed 2000).

The attention is one of the most essential elements in the success of the decision-making and its ability to control on the happenings and the events of the game because it will result in let the rulers take their decisions clearly, the decision is influenced the outcome of the match and attain the game to a basic interest which is excitement and fun (Mohamed 1996). Several studies showed the importance of attention for referees of different games but no study has investigated that in badminton, moreover attention aspects is one of the process of make right decisions for the badminton referees, lack of concerning study of attention of referees as well as physical, technical and psychological evaluations and tests result in general effect of the match performance. So, present study aimed to investigate relationship the most important attention aspects of the performance of badminton referees during matches conduct.
2. Methodology

Descriptive research design to treatment of study problem was conducted on January 26, 2012 at faculty of physical education hall- Babylon University.

2.1 Subject:
20 referees divided into; court referee and serving referee were participated in current study. Each group included 10 referees from first class of middle Euphrates region. So, the percentage of referees is 71.42%. However, researchers used referees performance evaluation form, attention focus test, and attention intensity test to measure study variations.

2.2 Measurements:

2.2.1 Determine attention aspects form:
Borden-Atefemon test amended by Abdel Gawad in 1971 was used in present study due to this test is one of the specific athletes’ tests that used to measure five aspects of attention namely (sharpness, consistency, concentration, distribution and conversion) (Ahmed & Ali, 1978), then criterion and its contents displayed on the experts in the field of general psychology and sports psychology. However, the percentage of expert opinions agreement to the criterion and its contents was according to the schedule below.

(Table 1)
Shows the percentage of expert opinions agreement to the criterion and its contents

<table>
<thead>
<tr>
<th>N</th>
<th>The most important of attention aspects</th>
<th>The relative importance</th>
<th>Appearance unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attention sharpness</td>
<td>% 88</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>Attention consistency</td>
<td>% 5</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>Attention concentration</td>
<td>% 81</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>Attention distribution</td>
<td>% 20</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>Attention conversion</td>
<td>% 7</td>
<td>X</td>
</tr>
</tbody>
</table>

2.2.2 Estimate form of badminton referees performance:
The researchers amended some of items of the form that prepared by Mr. (Samir Muhanna, 2000) to match the form of the International Federation for badminton, as well as the form of the Arab Union for badminton which is accredited by the International Federation to know the technical side of the referee. The form was prepared by researchers has to be suitable with the nature of the Iraqi referee in arbitration in the local match. The form involves 5 items was displayed to the experts and specialists in badminton in purpose of separate the final form. Estimate processes were achieved by two badminton experts, two matches for each referee then we have taken mean.
Higher estimation degree was 50 degree and referee was estimated from the beginning till the end of match.

2.2.3 Attention concentration aspects test:
   Instructions:
   1. Repeat of attention sharpness but Mithronom and khalsher devices have to be available because it is given 60 sound beat in minute with flash of light each 5 second, it means 12 light flash in minute.
   2. Selected number for this test is (96) with his key.
   3. Time of test is one minute.

   Correction method and results account:
   1. The equation itself which is used in an attention sharpness will use in the concentration.
   2. Final of production in the attention sharpness is symbolized (U) without stimulus.
   3. The net productivity in concentration is (attention sharpness with exciting audio and optical denoted (U)).
   4. Attention concentration is extracted at the final result.

\[ U - U = \text{attention concentration} \]

Time of test is 2 minutes. If the value of the extracted is lowered, the concentration will be increased for the player (Walid 1991), it means, if the final value of concentration is small, the concentration is high and the opposed is correct.

2.2.4 Attention sharpness aspects test:
   Instructions:
   1. With the (Start) word, the tester is turning test pattern at the moment of running time and starts to write off the number (97). Test time just one minute.

   Correction method and results account:
   1. Count the total number of numbers that tester is reached to it per minute or even a word (stop), the overall size of any part perspective and is symbolized (A).
   2. Counting the correct numbers (97) which learner is written-off in the perspective part symbolizes (C) and then extracted by a key test.
   3. Counting the numbers which learner is written-off wrongly in the perspective part symbolizes (W).
   4. Counting the numbers which learner is forgotten in the perspective part symbolizes (O).
   5. Attention sharpness was extracted by the following equation: (Wadih & Hassan, 1999)

\[ \text{Attention sharpness (U)} = \frac{C-W}{C+W} \times A \]
Note: If the result of attention sharpness is increased, the general attention is rising for the referees.

2.3 Main experiment:
Main experiment was conducted on January 26, 2012 for classification championship in Babylon-Hall of Physical Education for badminton, forms of attention aspects were distributed to the referees before every game and then evaluating the performance of the referees by experts.

2.4 Statistical analysis:
Researchers used SPSS to conduct present study and they used following statistical: Mean, standard deviation, correlation coefficient, and T test.

3. Results and Discussion
Table (2) showed mean of the level of performance of the court referees, where was (33.2) with a standard deviation (1.42), while the mean of the attention concentration (1.67) and standard deviation (0.68) The value of the correlation coefficient (0.79) which is greater than the tabular value (0.60), which indicates a significant correlation between the two variables.

(Table 2)
Shows mean and correlation coefficient of the level of performance of the court referees and attention concentration

<table>
<thead>
<tr>
<th>N</th>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Coefficient correlation</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>level of performance</td>
<td>33.2</td>
<td>1.42</td>
<td>0.79</td>
<td>S</td>
</tr>
<tr>
<td>2</td>
<td>attention concentration</td>
<td>1.67</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tabulate value (0.60), freedom degree (9), and significant level (0.05).

Table (3) showed mean of the level of performance of the court referees, where was (33.2) with a standard deviation (0.88), while the mean of the attention sharpness (0.84) and standard deviation (0.74) The value of the correlation coefficient (0.64) which is greater than the tabular value (0.60), which indicates a significant correlation between the two variables.

(Table 3)
Shows mean and correlation coefficient of the level of performance of the court referees and attention sharpness

<table>
<thead>
<tr>
<th>N</th>
<th>Variables</th>
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<td>S</td>
</tr>
<tr>
<td>2</td>
<td>attention sharpness</td>
<td>0.84</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tabulate value (0.60), freedom degree (9), and significant level (0.05).
Table (4) showed mean of the level of performance of the serving referees, where was (31.5) with a standard deviation (0.82), while the mean of the attention concentration (1.22) and standard deviation (0.77) The value of the correlation coefficient (0.79) which is greater than the tabular value (0.60), which indicates a significant correlation between the two variables.

(Table 4)
Shows mean and correlation coefficient of the level of performance of the serving referees and attention concentration

<table>
<thead>
<tr>
<th>N</th>
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<th>Mean</th>
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<th>Coefficient correlation</th>
<th>Significant</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>level of performance</td>
<td>31.5</td>
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<td>0.79</td>
<td>S</td>
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<tr>
<td>2</td>
<td>attention concentration</td>
<td>1.22</td>
<td>0.77</td>
<td>0.79</td>
<td></td>
</tr>
</tbody>
</table>

Tabulate value (0.60), freedom degree (9), and significant level (0.05).

Table (5) showed mean of the level of performance of the serving referees, where was (31.5) with a standard deviation (0.74), while the mean of the attention sharpness (0.69) and standard deviation (0.65) The value of the correlation coefficient (0.47) which is lower than the tabular value (0.60), which indicates no significant correlation between the two variables.

(Table 5)
Shows mean and correlation coefficient of the level of performance of the serving referees and attention sharpness

<table>
<thead>
<tr>
<th>N</th>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Coefficient correlation</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>level of performance</td>
<td>31.5</td>
<td>0.74</td>
<td>0.47</td>
<td>No S</td>
</tr>
<tr>
<td>2</td>
<td>attention sharpness</td>
<td>0.69</td>
<td>0.65</td>
<td>0.47</td>
<td></td>
</tr>
</tbody>
</table>

Tabulate value (0.60), freedom degree (9), and significant level (0.05).

(Table 6)
Shows mean, standard deviation, and T test between court and serving referees in variables of study

<table>
<thead>
<tr>
<th>Variables</th>
<th>Court referee</th>
<th>Serving referee</th>
<th>T test</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
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<td>0.69</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Tabulate T value = 2.1, significant level (0.05) and freedom degree= 18
Table (6) showed that mean and SD of performance level for court referees was (33.2), (1.42) respectively and serving referees (31.5), (0.82) respectively, whereas T test was (3.14) which is greater than the tabular T value (2.1), which indicates a significant differences between the two groups in favor of court referees in the performance level. In attention concentration variable has been achieved referees set mean reached mathematically (1.67) and standard deviation (0.68), while the group of serving referees achieved mean reached mathematically (1.22) with a standard deviation (0.77) while the value of (T) the calculated (0.33), a smaller than the calculate (T) value (2.1), which demonstrated that no significant differences between two groups in attention concentration.

In attention sharpness, court referees group showed that mean (0.84) and standard deviation (0.69), while the group of serving referees achieved mean (0.69) with a standard deviation (0.65) while the value of (T) the calculated (4.11), a larger than the calculate (T) value (2.1), which demonstrated that a significant differences between two groups in attention sharpness in favor of court referees. Court referees showed a correlation between performance level and each of attention concentration and sharpness because of prescribed arbitration tasks which face the court referee in which referee needs to focus its attention and intensity of attention for the duration of the match.

Performance speed and variation situations through match and the large number of different situations for the players required from the court referee a high attention concentration ability in order to make correct decision. The attention concentration on the some exciting does not mean rigidity of attention and its stopped, but moving attention during the focus in the field or extension, or widening of attention, but within the limits of follow up choice stimulant which is to focus on (Mohammad., 2001), by the court referee of badminton. Badminton matches that you always need to the attention concentration and sharpness by the court referee, especially in the decisive matches that require a high concentration of the referee and the sharpness of the attention as a result of the many variables during the match.

Related to serving referees, we noted that there is a significant correlation between their performance and attention concentration. This result shows that the serving referee of the badminton needs to focus attention to follow up accuracy of the performance by the players, where a serving referee has to focus on a lot of effects (such as follow the movement of player feet and hit the shuttlecock and setting foot beating of serving line and focus attention on those stimuli be one time. It is clear there is no correlation coefficient for the serving referee in the level of their performance and the sharpness of attention which shows that the serving referee links their arbitral missions with serving authenticity, as well as attention sharpness did not affect the level of their performance.
The best results in performance level and attention sharpness were showed for the serving referees whereas no significant differences between two groups in attention concentration. It means there was a correlation coefficient between performance level, attention concentration and sharpness as shown for the court referees.

4. Conclusion

There is a correlation coefficient among attention concentration, attention sharpness and referees performance level. Results revealed that court referees group showed high correlation coefficient between performance level and attention concentration and attention sharpness, as well as significant correlation coefficient between performance level and attention concentration for serving referees in badminton. No significant correlation coefficient between performance level and attention sharpness for serving referees in badminton.

References

http://www.badmintonengland.co.uk