NORMS AND GRADES UNDER NORMAL DISTRIBUTION FOR BASIC MOVEMENT PATTERNS OF FREESTYLE WRESTLING PLAYER

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Abstract:
The aim of this study was to construct norms for Basic Movement Patterns of Freestyle Wrestling Player. Fifty five, male Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar between the age group of 19-25 years volunteered to participate in the study. The 20 Meter Dash Test was used to measure Running Speed, Illinois Agility Test was used to measure Running Agility, Standing Long Jump Test was used to measure Jumping Ability and Overhead Medicine Ball Throw Test was used to measure Throwing Ability. Statistical analyses were performed using the Statistical Package for the Social Sciences for Windows version 16.0 software (SPSS Inc., Chicago, IL). In order to construct the norms, Percentile Scale was used. Further, the scores were classified into five grades (i.e., very good, good, average, poor and very poor). In Running Speed, the scores below 5.149 are considered very poor, from about 4.837-5.49 is considered poor, 4.213-4.837 is considered average, 4.213-3.901 is considered good and the scores above 3.901 are considered very good. In Running Agility, the scores below 17.54 are considered very poor, from about 16.896-17.54 is considered poor, 15.608-16.896 is considered average, 15.608-14.964 is considered good and the scores above 14.964 are considered very good. In Jumping Ability, the scores below 218 are considered very poor, from about 224.409-218 is considered poor, 224.409-237.227 is considered average, 237.227-243.636 is considered good and the scores above 243.636 are considered very good. In Throwing Ability, the scores below 8.983 are considered very poor, from about...
10.582-8.983 is considered poor, 10.582-13.78 is considered average, 13.78-15.379 is considered good and the scores above 15.379 are considered very good.

**Key words:** norms, grades, basketball players, basic movement patterns

1. **Introduction**

Wrestling has been described as an intermittent physical event which produces great strength and muscle power demands of both the upper and lower body, with a high anaerobic energy metabolism demand (Horswill 1992; Horswill et al., 1989, 1992; Hubner-Wozniak et al., 2004; Kraemer et al., 2001; Sharratt et al., 1986). Numerous researchers have also reported that, although aerobic performance may be a basic requirement for wrestlers, it cannot be considered as a critical component of success in this sport (Horswill 1992; Horswill et al., 1992; Sharratt et al., 1986; Stine et al., 1979; Yoon 2002). During the 1980’s a few studies examined fitness profiles for wrestlers at different competitive levels in order to identify physiological differences that may contribute to success (Cisar et al., 1987; Horswill et al., 1989; Song and Garvie 1980).

2. **Material and Methods**

2.1 **Participants**

Fifty five, male Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar between the age group of 19-25 years volunteered to participate in the study. The subject’s demographics of Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) of Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar (N=55) are exhibited in Figure-1.

![Figure 1: Subject’s demographics of Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) of Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar (N=55)](image-url)
2.2 Procedures
The following Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) and their respective tests were selected for the present study:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Basic Movement Patterns</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Running Speed</td>
<td>20 Meter Dash Test</td>
</tr>
<tr>
<td>2.</td>
<td>Running Agility</td>
<td>Illinois Agility Test</td>
</tr>
<tr>
<td>3.</td>
<td>Jumping Ability</td>
<td>Standing Long Jump Test</td>
</tr>
<tr>
<td>4.</td>
<td>Throwing Ability</td>
<td>Overhead Medicine Ball Throw Test</td>
</tr>
</tbody>
</table>

2.3 Statistical Analysis
Statistical analyses were performed using the Statistical Package for the Social Sciences for Windows version 16.0 software (SPSS Inc., Chicago, IL). In order to construct the norms, Percentile Scale was used. Further, the scores were classified into five grades i.e., very good, good, average, poor and very poor.

3. Results
For each of the chosen variable, the result pertaining to Descriptive Statistics (Mean and SD) and Percentile Plot (Hi and Low) of Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) of Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar are presented in the following tables:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Basic Movement Patterns</th>
<th>Mean ± SD</th>
<th>Hi</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Running Speed</td>
<td>4.525 ± 0.312</td>
<td>5.2</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>Running Agility</td>
<td>16.252 ± 0.644</td>
<td>17.2</td>
<td>15</td>
</tr>
<tr>
<td>3.</td>
<td>Jumping Ability</td>
<td>230.818 ± 6.409</td>
<td>250</td>
<td>221</td>
</tr>
<tr>
<td>4.</td>
<td>Throwing Ability</td>
<td>12.181 ± 1.599</td>
<td>16</td>
<td>9</td>
</tr>
</tbody>
</table>

A glance at Table-1 shows the in Running Speed, the mean score was 4.525 and standard deviation score was 0.312. In Running Agility, the mean score was 16.252 and standard deviation score was 0.644. In Jumping Ability, the mean score was 230.818 and standard deviation score was 6.409 whereas, in Throwing Ability, the mean score was 12.181 and standard deviation score was 1.599. The Descriptive Statistics (Mean and SD)
of Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) of Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar (N=55) has been presented graphically in Figure 2.

![Graph showing descriptive statistics for basic movement patterns](image)

<table>
<thead>
<tr>
<th>Basic Movement Patterns</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running Speed</td>
<td>Greater than (&gt;) 5.149</td>
<td>4.837-5.149</td>
<td>4.213-4.837</td>
<td>4.213-3.901</td>
<td>Less than (&lt;) 3.901</td>
</tr>
<tr>
<td>Running Agility</td>
<td>Greater than (&gt;) 17.54</td>
<td>16.894-17.54</td>
<td>15.608-16.894</td>
<td>15.608-14.964</td>
<td>Less than (&lt;) 14.964</td>
</tr>
</tbody>
</table>

3.1 Grades under Normal Distribution

Five types of classification/grades i.e., Very Poor, Poor, Average, Good and Very Good have also been prepared under Normal Distribution. Grades have been presented in Table 2.

**Table 2: Grading of Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) of Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar (N=55)**

<table>
<thead>
<tr>
<th>Basic Movement Patterns</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running Speed</td>
<td>Greater than (&gt;) 5.149</td>
<td>4.837-5.149</td>
<td>4.213-4.837</td>
<td>4.213-3.901</td>
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<td>15.608-14.964</td>
<td>Less than (&lt;) 14.964</td>
</tr>
</tbody>
</table>
3.2 Running Speed

- In Running Speed, the scores below 5.149 are considered very poor, from about 4.837-5.49 is considered poor, 4.213-4.837 is considered average, 4.213-3.901 is considered good and the scores above 3.901 are considered very good.

3.3 Running Agility

- In Running Agility, the scores below 17.54 are considered very poor, from about 16.896-17.54 is considered poor, 15.608-16.896 is considered average, 15.608-14.964 is considered good and the scores above 14.964 are considered very good.

3.4 Jumping Ability

- In Jumping Ability, the scores below 218 are considered very poor, from about 224.409-218 is considered poor, 224.409-237.227 is considered average, 237.227-243.636 is considered good and the scores above 243.636 are considered very good.

3.5 Throwing Ability

- In Throwing Ability, the scores below 8.983 are considered very poor, from about 10.582-8.983 is considered poor, 10.582-13.78 is considered average, 13.78-15.379 is considered good and the scores above 15.379 are considered very good.
**Figure 3:** Normal distribution of Basic Movement Patterns (i.e., Running Speed, Running Agility, Jumping Ability and Throwing Ability) of Freestyle Wrestling Player of Guru Nanak Dev University, Amritsar (N=55)
4. Conclusions

In summary, the present study manifests an intervening attempt to construct norms for Basic Movement Patterns of Freestyle Wrestling Players of Guru Nanak Dev University, Amritsar.

According to the results, we can conclude that the in Running Speed, the scores below 5.149 are considered very poor, and the scores above 3.901 are considered very good. In Running Agility, the scores below 17.54 are considered very poor, and the scores above 14.964 are considered very good. In Jumping Ability, the scores below 218 are considered very poor, and the scores above 243.636 are considered very good. In Throwing Ability, the scores below 8.983 are considered very poor, and the scores above 15.379 are considered very good.

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References


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