An analyses of skill related physical fitness level of kayaking and canoeing inter-university players

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Abstract
The purpose of this study was to compare Skill related Physical Fitness level of Guru Nanak Dev University, Amritsar male Inter- University Kayaking and Canoeing, Players. To obtain data, the investigators had selected Twenty four (N = 24) male Kayaking Canoeing Player of 18 to 25 years (Mean ± SD: Age: 19.761 ± 2.488 years; Body Mass: 1.749 ± 7.046 kilograms; Body Height: 65.047 ± 9.286 meters) of age to act as subjects. Components of Physical fitness (i.e., Speed, Agility, Balance, Coordination and Reaction Time) were taken up for the present study. Statistical analysis was performed using the Statistical Package for the Social Sciences for Windows version 16.0 software (SPSS Inc., Chicago, IL). The Student’s t-test was employed for between-group comparisons on each variable. The results revealed no significant differences were found in Speed, Agility, Balance, Coordination, and Reaction Time.

Keywords: Physical fitness, kayaking and canoeing

1. Introduction
Kayaking and canoeing are technical sports. These sports put tremendous demand on body [1]. Regular training has been identified with the advancement of certain physical traits along with particular changes in the morphological attributes of competitors [2, 3]. Despite the fact that different factors favours the athletes performance in a given game, there are a few characteristics which appear to be normal in the most prosperous competitors [4] (Leone et al., 2002). Overall status of athletes may be determined by means of general and particular field tests. In many previous studies, it is reported that there is a strong correlation between fitness level and the individual performance [5, 6]. Physical profile of an athlete can be determines by certain test which measures power, strength [7] and many physical fitness components like; speed, aerobic fitness and flexibility [2-4, 8].

Some sports put extreme physical demand on body’s musculoskeletal system [9]. Additionally, it also requires combination of various skills: technical skills, motor coordination, physical fitness; cardiovascular endurance and anaerobic fitness. Adequate level of physical fitness is important for any sportsperson to achieve success [10, 11, 12]. Irrespective to body mass of individual, all athletes posses equal resistance to execute the given task [13]. Eisenmann et al, 2005 specified that fitness is an essential component of health [14]. Strength, power and endurance are significant components of athletic performance. They concentrate their attention on these components during preseason preparing [15]. Kayaking is a type of speed sport. It is most physically demanding sport among all of endurance sports [16, 9]. Canoeing sport requires endurance and strength [17]. The fitness level of athlete’s helps in describing their physical fitness profile as well as in identifying the potential successful athlete for sports [2, 4]

In order to achieve high performance, skill-related physical fitness levels is important. Hence, the present study directs the aim to evaluate the skill related physical fitness level of kayaking and canoeing players of university level.

2. Method& Material

2.1 Selection of Subjects
Eighteen (N=24), male Guru Nanak Dev University, Amritsar Inter- University players 12 of each Kayaking and Canoeing between the age group of 18-26 years were recruited as subjects.
The objective and protocol was explained to the subjects and their verbal consent to participate in the study was taken. Distribution and demographics of subjects are brought forth in Table 1.

### Table 1: Distribution and demographics of subjects

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total (N=24)</th>
<th>Kayaking (N=12)</th>
<th>Canoeing (N=12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>21.87</td>
<td>22.16</td>
<td>21.58</td>
</tr>
<tr>
<td>Height</td>
<td>174.62</td>
<td>175.16</td>
<td>174.08</td>
</tr>
<tr>
<td>Weight</td>
<td>72.75</td>
<td>72.83</td>
<td>72.66</td>
</tr>
</tbody>
</table>

Fig 1: Distribution and demographics of subjects

### 2.2 Selection of Variables

The following components of Skill related Physical fitness were taken up for the present study:
- Speed
- Agility
- Balance
- Coordination
- Reaction Time

### 3. Statistical Procedure

Statistical analysis was done using IBM SPSS statistics data editor version-21. Data were expressed as means and standard deviations. The Student’s independent t-test was employed for comparing the groups statistically. The hypotheses were tested at 0.05 significance level.

### 4. Results

For each of the chosen variable, the result pertaining to components of skill related Physical fitness of Kayaking and Canoeing Player from Guru Nanak Dev University, Amritsar are brought in the following tables:

### Table 2: Descriptive and Inferential statistics of Skill related Physical Fitness Parameters of Kayakers and Canoeing paddlers

<table>
<thead>
<tr>
<th>Variables</th>
<th>Simple Size (N=24)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kayaking (N=12)</td>
<td>Canoeing (N=12)</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Speed</td>
<td>7.735</td>
<td>.4360</td>
</tr>
<tr>
<td>Agility</td>
<td>16.541</td>
<td>.5071</td>
</tr>
<tr>
<td>Balance</td>
<td>47.250</td>
<td>2.5271</td>
</tr>
<tr>
<td>Coordination</td>
<td>26.333</td>
<td>26.166</td>
</tr>
<tr>
<td>Reaction Time</td>
<td>8.166</td>
<td>8.833</td>
</tr>
</tbody>
</table>

Degree of freedom = 22

### 4.1 Speed

The Mean and Standard Deviation of the variable Speed of Kayaking and Rowing groups were 7.735 ± .4360 and 7.905 ± .5446 respectively. The results of t-test (t=0.644, p>0.05) depicts that differences between the two groups were insignificant.

### 4.2 Agility

The Mean and Standard Deviation of the variable Agility of Kayaking and Rowing groups were 16.541 ± 0.5071 and 16.316 ± 0.5166 respectively. The results of t-test (t=0.206, p>0.05) depicts that differences between the two groups were insignificant.

### 4.3 Balance

The Mean and Standard Deviation of the variable Balance of Kayaking and Rowing groups were 26.333 ± 1.9924 and 26.166 ± 1.9924 respectively. The results of t-test (t=0.162, p>0.05) depicts that differences between the two groups were insignificant.

### 4.4 Coordination

The Mean and Standard Deviation of the variable Coordination of Kayaking and Rowing groups were 8.166 ± 0.5446 and 8.833 ± 0.580 respectively. The results of t-test (t=0.644, p>0.05) depicts that differences between the two groups were insignificant.

### 4.5 Reaction Time

The Mean and Standard Deviation of the variable Reaction Time of Kayaking and Rowing groups were 8.166 ± 0.5446 and 8.833 ± 0.580 respectively. The results of t-test (t=0.206, p>0.05) depicts that differences between the two groups were insignificant.

### 5. Discussion

The present study was designed to determine the difference in various components of Physical Fitness in male Kayaking and Canoeing players of Guru Nanak Dev University, Amritsar. This study concluded insignificant results for Physical Fitness in Kayaking and Canoeing players. Physical Fitness have been seen very important for achieving high performance. The findings of present study revealed that there are no mean differences between kayaking and canoeing players with regard to the variable speed, agility, balance and coordination. These results are supported by another study done by Bal and Singh 2017, which concluded the same [18]. Further, the results are also favourable by the study done by Kumar, 2016 on basketball and handball players and on kabaddi and kho-kho players [19, 20]. However, in present study there is significant difference for reaction time between both.

### 6. Conclusions

The present study compared the skill related Physical Fitness level among the Kayaking and Canoeing players of university level. We observed no difference in speed, agility, balance.
and coordination, components of Physical Fitness between the two disciplines. However, our findings suggested significant difference in reaction time for the both disciplines.

7. References