PLANNING, DEVELOPMENT AND VALIDATION OF BEACH VOLLEYBALL SET SKILL TEST

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Introduction
Beach Volleyball as a new sport is needed skill test to evaluate the athletes’ skill performance. Therefore a training intervention program could be followed and useful results for the coaches could be obtained. According to [1] a test should first be valid in that it measures what it was intended to measure. Secondly it should be reliable (defined as the degree of consistency of the test). Therefore, the aim of this study was to report on the planning, development and validation of a beach volleyball set skill test.

Methods
Setting and participants: The participants were beach volleyball players (n=40), 21 boys and 19 girls, 13-26 years old (M=17.22 ±6.08). The participants were divided into three age groups, group A=novice, (n=18, 11-13 years old and 2-10 months experience), group B=median, (n=12, 14-16 years old and 1-5 years experience) and group C=experts (national level) (n=10, 16-27 years old and over 5 years experience). They performed the test the same day, during beach volleyball practice. Prior to the test, all participants were given the same instructions on how to perform the test.

The test began after two trials and the next day the participants repeated the test (Fig. 1).

![The set skill test](image)

Table 1: The score of set skill test

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean (SD)</th>
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<tbody>
<tr>
<td>Novice</td>
<td>15.89 (5.51)</td>
</tr>
<tr>
<td>Median</td>
<td>26.58 (5.40)</td>
</tr>
<tr>
<td>Experts</td>
<td>35.5 (9.59)</td>
</tr>
</tbody>
</table>

Fig 1: The set skill test

Establishing validity and reliability:
Three types of validity: content, criterion and construct validity, and two types of reliability: internal consistency (intraclass) and stability are generally defined in the literature and were also examined in this study.

Results
Content validity: In this study the content of the test was selected by two expert beach volleyball coaches who judged the test, after taking into account all the parameters (age, level and sex of participants) and special characteristics of the game (Safrit, 1986). Also five expert athletes were performed the test first, to establish that the elements of the test are essential for the skill and represent the basic elements of skill.

Criterion validity: To assert criterion validity, test scores can be compared with one or more external variables to ascertain the test’s validity (concurrent validity) [1] According to [2] in physical education and sport this alternative criterion could include such aspects as expert’s judgments of coaches. The criterion used in this study was the subjective skill estimation of two expert coaches. The Pearson correlation was used to identify the correlation between the score skill test and the subjective evaluation of the skill (r=0.99, p<0.01).

Construct validity: The known group difference method was used to study whether the test distinguished between these groups. A multivariate analysis of variance was applied to detect differences between the three groups (novice, median level and experts) and the results indicated that there were significant differences between groups (F(2,39)=47.89, p<0.05) (table 1).

Reliability: Internal consistency is the degree to which people perform similarly throughout all parts of the test (Barrow et al, 1989) and it was obtained in this study by using multivariate analysis of variance with repeated measures (ANOVA) to determine the variance among every skill test trial. There was significant measure effect (Wilks’ lambda=0.39, F(9,31)=5.401, p<0.05 and e²=.611). Also a test-retest in all groups was used to determine the reliability of the set skill test. The correlation coefficient between repeated measures were high and significant (r=.94, p<0.01).

Discussion/Conclusion
The set skill test procedure for beach volleyball was examined to determine it degree of validity and reliability for assessing set skill performance. The requirements for content, construct and criterion validity according to the literature [3; 4] were achieved in this test. In terms of reliability, the results of the internal consistency and the test-retest method were in acceptable margins. These results indicated that the beach volleyball set skill test is a valid and reliable instrument and it could be used by coaches to test the ability of players to set the ball effectively.

References