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Standardization of artistic gymnastic skill test on handspring pike for sub junior girls

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Abstract

The purpose of this study was to standardization of artistic gymnastic skill test on handspring pike for sub junior girls. A sample size or design is a definite plan for determining before any data is actually collected for obtaining a sample from a given population. The subjects of this study was girls Gymnastic players who represented minimum state level or 3 year game age (as per certified by coach) with the help of purposive sampling. The age group of the subjects were below 14 years only. To construct the gymnastic skills test battery's face validity was formulated by the researcher. A researcher taken different kinds of gymnastic skills from the FIG rulebook. After that we sent the skills to 13 experts for rating through likert scale. Then the experts rated & gave suggestions. When we finalized the skill by looking at the ratings. Highly rated skill had been considered for skill test battery. It is concluded that the gymnastic skill test ultimately could retain better skill item among the various skill items, which can successfully measure the gymnastic skill ability of the sub-junior gymnastic players with acceptable face validity, highly reliability and objectivity.

Keywords: Artistic, gymnastics, hand-spring pike

Introduction

Indian Gymnastic performances are play very important role for the glorious of the nation. So the gymnastic denote the mother of the all games. Gymnastic is a very important role play in children from beginning of his life. The human being having more flexibility in childhood level so the nurturing of the talent from grass root level is more important. "In gymnastic so many movements are involved like forward role, backward role, cart wheel etc. but as per the International rule book artistic gymnastic have floor exercise and apparatus are involved", (FIG Rule book 2019-20). Skill is an art of perform the gymnastic. Through skill test, the person inside a particular sport presents the performance based on his/her ability. On the basis of this ability, there is the periodic information about the gradual development of the youth and on that basis the abilities are also divided into the different classes. So that they can get more benefits of the training. "The skill test is used at the time of the selection of any gymnasts, so that there is a possibility of selection of fair and nurturing the best talent for the nation" (Gereth Irwin et. al 2005). Different skills test was constructed on different games like hockey (SAI Hockey Skill test, Hardyal Singh). Johnson Basketball skills test, volley skills test in volleyball. Hockey playing ability test. Used seven skill item and aged grouped was selected between 18 to 25 year old. Simple correlation was used to found the validity. Further apply multiple regressions to select the i.e. Straight hit, flick and speed dodge were the final selected test battery Bosco (2011) [2].

Basketball shot take a look at in Handball. 100 male handball players from South-West zone and North-East universities (four universities groups from every zone) WHO qualified for the All Asian country Inter-Zonal University Handball Tournament command at Banaras Hindu University, Varanasi, Uttar Pradesh from twenty fifth to twenty ninth Gregorian calendar month 2002, were elite to function subjects for this study Yadav *et al.*, (2011) [7]. The criterion live was the typical of the taking part in ability millions of the handball players appointed independently by 3 handball consultants. It absolutely was complete that the freshly developed basketball shot take a look at in handball meet the criterion of scientific credibleness i.e. the take a look at was reliable, objective and valid. Jayavel (2006) [4] the researcher conduct the study on construction of badminton skill test and compilation of norms for college men players. Selected variable was high lob service and forehand smash. For the purpose of study

18 to 25 year age delimited selected from Tamil Nadu state. A total 120 sample was part of the study those participated at inter collegiate level. This was analyzed through appropriate statistical method and establish the validity, reliability and objectivity for the newly constructed test and Hull scale was used to construct the norms. Kumar (2013) ^[5] revealed the development of Ball Badminton player skill test. Sample were selected from Tamil Nadu state, India under the age of 18 to 23. Sample were 330 those represent for their college team and data were collected during the competition period. Nine test item were selected for the skill test i.e. Low service, High spin twist service, Fast drive wrist service, Over-arm volley test, Under-arm volley test, Front row over-head flat smash, Back row over-head flat smash, Back row over-head twist smash, Shut-at-net. For the final phase norm was constructed through 6-sigma scale to provide the grading of over-all performance. The result was showing that there inter-relationship between test item and they were highly reliable. Kumar (2010) ^[6] Investigated on the topic of skill test construction in hockey. The pilot study was conducted to select the 9 skill item out of 23 skills. A total 454 Subjects were selected from Tamil Nadu state under age of 17-20 years. Dribbling, Hit, Push, Flick, Scoop, Goal shooting are selected variable for the study. The result was showing that there was inter relationship between performance and test items. Grading was provide to the performance of the players by using of 6sigma scale. Anbarasu (2013) ^[1] conducted the construction skill test and compilation of norms for selected field hockey skills. The norms were constructed for college level players under the age group 18-28 years. A total 500 players were selected from Tamil Nadu state through random sampling method. Dribbling, dribbling and hit and dribbling and push finalized. For the statistical used to describe the descriptive statistics and hull scale. Performance skills of player's was analyzed in qualitative term i.e. low, average, above average, good and outstanding. So the result was showing that less number of player were falling in outstand and low grade.

Significance of the Study

Gymnastic is the mother game of the all sports. Indian gymnasts is not achieve a glorious at the Olympic level. So performance of the Indian women Gymnasts is very behind in 2018 Asian games. Their performance were average but failure to achieve Medal in Olympics. So researcher need to assess the standard of female gymnasts at grass root level and upgrade the talent of gymnasts in appropriate manner. This instrument may also be used in grading Gymnasts in advance teaching or coaching of Gymnastic or in coaching session arranged for competition at various levels. This study will helpful physical education teachers and coaches in judging the adequacy of achievements of their players or students in Gymnastic skill and will assist the players or students to diagnosing their own strengths and weakness in Gymnastic. The test will be the latest test which fulfils the present requirement of girls Gymnastic.

Statement of the Problem

Gymnastic developments in India reveal that the present status of Gymnastic has neither been understood by the professional nor by the controlling authorities, therefore it has been considered by the researcher to construct standardize and develop norms the Gymnastic skill test for girls Gymnasts. Hence to achieve this purpose the researcher has

under taken the problem as follows: "Standardization of Artistic Gymnastic Skill Test on Handspring Pike for Sub Junior Girls".

Objective of the Study

- To standardize the artistic Gymnastic skill test on handspring pike for 10 – 12 year girls.
- To standardize the artistic Gymnastic skill test on handspring pike for 12-14 year girls.

Hypotheses of the Study

- It is hypothesized that the newly constructed skill test will be highly reliable for sub junior gymnasts.
- It is hypothesized that the newly constructed skill test battery will be highly objectivity for gymnasts.

Operational Definition of key terms

- **Gymnastic:** Gymnastics is an activity it is the foundation for all sports and physical activity. It teaches sports person or participants how to move, roll, jump, swing and turn upside and down. It is an exciting activity and sport for its unique contribution to general fitness, coordination, agility, strength, balance and speed. It promotes all-round physical development, muscular strength, joint flexibility, balance, coordination and core strength required for everyday living.
- **Test:** Test is an instrument or activity which is utilized to gather information on an individual's capacity to play out a predefined task. It is an instrumental tool which can helps to the researcher for assessing or measuring the specific or particular characteristics of selected sample or subjects in the research studies.
- **Construction of the Test:** Test development or test construction refers to the planning, preparing, administering, scoring, statistically analyzing, and reporting results of tests.

Research Method

The present study is a type of descriptive research. In this chapter for the sampling design, sampling frame, establishing procedure to construct gymnastic skill test battery, identification of skill items, face validity, establishing the procedure to perform gymnastic skills, tools used, procedure of establishing scoring, data collection for reliability and objectivity, establishing reliability, establishing objectivity. Administration of the test and statistical techniques applied to standardized and developed norms have been described.

Sampling Technique

The subjects of this study was 200 girls Gymnastic players who represented minimum state level or 3 years game's experience (as per certified by coach) with the help of purposive sampling. Establishing Procedure to construct the gymnastic Skill Test battery.

The procedure of the construction of skill test according to is given below

- Identification of skill test items
- Establishing validity
- Establishing the procedure to perform gymnastic skills
- Tools used
- Procedure of establishing scoring
- Establishing reliability.
- Establishing objectivity

Tools Used for the Present Study

1. Vaulting Table
2. Spring Board
3. Mat
4. Powder

Table 1: Shows the standard score of Variable, Purpose, and equipment

Variable	Purpose	Equipment's/Material/Tools
Handspring Pike	To measure the Handspring Pike ability	Vaulting Table, Spring Board, Mats and Powder.

Procedure

First of all, you will come running from the runway and then take off from the springboard with both feet. After takeoff, keep both hands on the vaulting table while stretching

upwards and simultaneously stretching both legs in a handstand position. After that, while pushing with both your hands, hold your feet and move your chest towards your toes, and land on the mat. Gymnastics (n.d)



Fig 1: Shows the Handspring Pike Skill of gymnastic test of 10 –12 years

Scoring: The score is on the basis of judgment by experts.

Result of the study

Table 2: Shows the standard score of t-scale, hull-scale, and sigma-scale of Hand Spring Pike skill for Sub-Junior Gymnasts

T-Scale	Sigma Scale	Hull Scale
15.93	3.33	2.68
14.23	3.23	2.56
12.53	3.13	2.44
10.83	3.03	2.32
9.13	2.93	2.2
7.43	2.83	2.08
5.73	2.73	1.96
4.03	2.63	1.84
2.33	2.53	1.72
0.63	2.43	1.6
1.07	2.33	1.48

Above the table shows the standard score of the t- scale, sigma and scale hull scale, of Hand Spring Pike skill for sub-junior Gymnasts. The lowest score of t-score, sigma score and hull score of Hand Spring Pike skill i.e. 1.07, 2.33, and 1.48 and highest score were found i.e. 15.93, 3.33, and 2.68 respectively. The results show of the lowest and highest standard scores of t-scale, sigma-scale and hull-scale of Hand Spring Pike skill as per norms score, lie in poor and excellent category.

Table 3: Shows the standard score of t-scale, hull-scale, and sigma-scale of Hand Spring Pike skill for 12 To 14 Years Gymnasts

T-scale	Sigma scale	Hull scale
15.4	4.7	4.08
13.95	4.61	3.98
12.5	4.52	3.88
11.05	4.43	3.78
9.6	4.34	3.68
8.15	4.25	3.58
6.7	4.16	3.48
5.25	4.07	3.38
3.8	3.98	3.28
2.35	3.89	3.18
0.9	3.8	3.08

Table shows the standard score of the t-scale, sigma and scale hull scale, of Hand Spring Pike skill for 12 To 14 Years Gymnasts. The lowest score of t-score, sigma score and hull score of Hand Spring Pike skill i.e. 0.9, 3.8, and 3.08 and highest score were found i.e. 15.4, 4.7, and 4.08 respectively. The results show of the lowest and highest Standard scores of t-scale, sigma-scale and hull-scale of Hand Spring Pike skill as per norms score, lie in poor and excellent category.

Conclusion of the Study

The gymnastic skill test ultimately could retain better skill item among the various skill items, which can successfully

measure the handspring pike ability of the gymnastic players of sub-junior with acceptable face validity, highly reliability and objectivity.

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