



Construction of Norms for Test Battery for Athletic Potential Ability of College Women Athlete

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Abstract

The purpose of this study was to construct the norms for test battery for evaluating the athletic potential ability of college women athlete. For this purpose three hundred and fifty four female college 100 metres sprinters, excluding other athletes such as jumpers, throwers, walkers, middle distance and long distance runners were randomly selected from various colleges of Tamil nadu state, India and their age ranging between 17 and 25 years were selected. The performance of athletes was assessed by using the test battery designed and constructed by Suthamathi and Suganthi was chosen for this study. The test items namely 120m run, 60m run, 100m run standing start, 90m run, 25m run, 80m run, medicine ball forward throw, 110m run, 150m run, 70m run, elevated push-ups, modified sit-ups, frog jump, medicine ball backward throw, hopping, vertical jump and double leg jump were administered to all the subjects by the investigators. The scores of each test items were recorded by the investigators on the basis of performance in test. The data, which was collected by administering tests, was statistically treated to develop norms for all the test items. Two scales namely, percentile and 6 sigma scale were constructed. The scores were further classified into five grades i.e. excellent, good, average, satisfactory and poor.

Keywords: Athletics, Women, Norms, Scales, Grades.

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Introduction

In athletics, performance of athlete is judged by competition results. Apart from competition, the assessment of an athlete in any athletic event can be done either by subjective or objective means. Generally the subjective assessment is done by the experts, which has certain limitations. The objective assessment can be done by the physical tests both in laboratory as well as in the respective ground/field/court/track which is relevant to the events. Physical tests are designed to measure the athletic potential ability required for a specific athletic event. **Morrow (2005)** opined that the physical qualities should be analysed in steps in order to determine the athletic potential ability are to be measured. Because of the wide range of test in most athletics events, a selection of the most important physical tests is invariably necessary. The athletic potential ability tests batteries have been used in physical education and athletics to assess the ability of the athlete.

A norm is a scale that permits conversion from a raw score to a score capable of comparisons and interpretations. It is obvious that if a test is accompanied by norms, its usefulness is enhanced. Its characteristics of average and range are known. The test accompanied

by norms has several advantages over tests without norms. Norms enable one to interpret player's scores in relation to a large group in the same population. Their use enables a comparison of performance of a player with other players, and gives uniform meaning to the comparison of a player's score on one test with his/her score on another. In addition, norms provide a reliable and useful basis for interpretation and evaluation of test results. One of the most commonly used methods of describing relative status of the performance is the percentile rank (**Field, 2005**). Percentile norms have been developed for several popular tests in Physical Education. It is impossible to know how well one has done on a test unless his/her score is shown in relation to others taking or having taken the same test. Norms using percentiles are widely applicable, appropriate for many situations, and easy to interpret by players as well the coaches and trainers.

Methodology

The purpose of this study was to construct the norms for test battery for evaluating the athletic potential ability of college women athlete. For this purpose three hundred and fifty four female college 100 metres sprinters, excluding other athletes such as jumpers, throwers, walkers, middle distance and long distance runners were randomly selected from various colleges of Tamil nadu state, India and their age ranging between 17 and 25 years were selected. The performance of athletes

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was assessed by using the test battery designed and constructed by Sudhamathi and Suganthi was chosen for this study. The test items namely 120m run, 60m run, 100m run, 90m run, 25m run, 80m run, medicine ball forward throw, 110m run standing start, 150m run, 70m run, elevated push-ups, modified sit-ups, frog jump, medicine ball backward throw, hopping, vertical jump, double leg jump were administered to all the subjects by the investigators. The scores of each test items were recorded by the research scholar on the basis of

performance in test. The subjects were given adequate demonstration, practice trials and required instructions for all tests. The subjects were exhorted to give their best performance. The data, which was collected by administering tests, was statistically treated to develop norms for all the test items. Two scales namely, percentile and 6 sigma scale were constructed. The performance of seventeen test items was chosen as the criterion measures.

Results

Table I. Percentile Norms for all the Skill Test Items

Selected Variables	Percentiles									
	10	20	30	40	50	60	70	80	90	100
120 Metres	14.78	14.89	14.99	14.99	14.99	14.99	14.99	15.21	15.21	15.21
60 Metres	7.63	7.76	7.82	7.82	7.82	7.82	7.82	7.99	7.99	7.99
100 Metres ST	12.62	12.71	12.81	12.81	12.81	12.81	12.81	13	13	13
90 Metres	11.52	11.54	11.68	11.68	11.68	11.68	11.68	11.99	11.99	11.99
25 Metres	3.88	3.89	3.95	3.95	3.95	3.95	3.95	4.01	4.01	4.01
80 Metres	8.88	9.04	9.04	9.04	9.04	9.11	9.11	9.24	9.24	9.24
MB Forward throw	555	555	675	675	675	675	675	675	707	707
110 Metres	13.75	13.91	13.91	13.91	13.91	13.98	13.98	14.07	14.07	14.07
150 Metres	17.33	17.45	17.45	17.45	17.45	17.69	17.69	18.99	18.99	18.99
70 Metres	8	8.01	8.01	8.01	8.01	8.01	8.01	8.45	8.45	8.45
Elevated Push-ups	19	19	20	20	20	20	20	23	29	29
Modified Sit-ups	15	15	15	15	18	19	19	19	21	21
Frog jump	1495	1495	1495	1495	1567	1608	1608	1608	1611	1611
MB Backward throw	330	330	330	330	401	445	445	452	452	452
Hopping	1820	1820	1850	1850	1885	1885	1885	1885	1887	1887
Vertical jump	31	31	31	31	40	40	40	45	74	74
Double leg jump	1727	1727	1727	1727	1780	1780	1780	1933	1987	1987

All the individual performance of the variables was converted as composite score. Based on the norms found in table - I a 6-sigma scale, i.e. 3 standard deviations above the mean and 3 standard deviations

below the mean was developed to calculate the athletic potential ability performance scores which is given in table - II.

Table II. 6 - Sigma Scale for Athletic Potential Ability Performance Scores

6-Sigma Scale	Athletic Potential Ability Performance Scores
3 σ	358.43
2 σ	365.36
1 σ	372.22
σ	379.22
-1 σ	386.15
-2 σ	393.08
-3 σ	400.01

Finally from the norms a Grading Scale was developed to interpret the athletic potential ability

performance scores of the athletes which was presented in table III.

Table III. Grading Scale for the Interpretation of Playing Ability

Scores	Alphabetical Grade	Interpretive Grade
Above 400.01	A	Excellent
386.16 to 400.01	B	Good
372.23 to 386.15	C	Average
358.43 to 372.22	D	Satisfactory
Below 358.43	E	Poor

Conclusions

1. The athletic potential ability performance (overall performance) score of the athletes were interpreted by using a grading scale on the basis of 6-Sigma scale as A, B, C, D & E (or) Excellent, Good, Average, Below Average and Poor respectively according to their overall performance score based on the percentiles norm, which was developed for all the selected test items.
2. The normative scales constructed by investigators may be used to evaluate the performance of college women athlete.
3. The normative scales constructed in this may be used in sports schools, sports hostels, school education departments and professional students of physical education for motivation, classification and grading purposes.

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