

How to Cite:

Abudari, A. S., Al dababseh, M. F., & Al Fattah, O. A. (2022). Standard levels of physical fitness components as one of the admission indicators for students of sports excellence: The University of Jordan. *International Journal of Health Sciences*, 6(S5), 11641–11650.
<https://doi.org/10.53730/ijhs.v6nS5.12013>

Standard levels of physical fitness components as one of the admission indicators for students of sports excellence: The University of Jordan

Ali Salman Abudari

The University of Jordan

Email: Abudari_76@yahoo.com

Mohammad Fayez Al dababseh

The University of Jordan

Osama abd Al Fattah

The Ministry Of Education - Jordan

Abstrac---Study provide standard levels of physical fitness tests for students applying for study seats at the University of Jordan on the list of sports excellence for the period between (2017-2020). By descriptive on a sample of (283) male and (169) female students to fulfill the study's goal. The study included the following tests: a 1600m running test to assess respiratory cyclic endurance, a long jump test from stability to assess explosive force of the leg muscles, a running rebound test (4x10m) to assess agility, and a medical ball throw test with a weight of (5) kg for male students and (3) kg for female students to assess strength. The explosiveness of the arm muscles. The study's findings revealed the most recent standard levels of the tests employed in the study, allowing them to keep up with societal trends. It is well recognized that there is a requirement to make some changes to the test standards every three years. These parameters, according to the researchers, should be employed in physical fitness assessments that qualify students for skill testing at the University of Jordan.

Keywords---standard levels, physical fitness, tests, athletic excellence, the University of Jordan.

Introduction

Physical fitness plays an important role in expressing the individual's ability and physical efficiency to carry out daily life tasks and duties without feeling tired or

stressed. Hadith (Mesa et al., 2006; Ebbeling et al., 2002). Al-Jalehawi (2001) also indicates that physical fitness is the basic foundation on which the possibility of practicing various sporting activities is built. According to Abdelhak (2005) in the same field, industrialized countries want to improve their societies' level of physical fitness. This is owing to its favorable and positive correlation with health and moderate strength. Raising one's level of physical fitness also helps to improve one's ability to carry out life-motor requirements effectively, as well as to improve one's level of motor skills related to performance, as it is the foundation for achieving sports excellence and moving towards excellence and achievement in the sports field. (Greenberg et al., 2011; Emrich et al., 2008; Leung et al., 2008). The tests that measure the level of physical fitness play an important role in revealing the physical level that the athlete has reached, as Armo and Jakson (2002) indicate that it is an important component in the training programs set by coaches in order to evaluate these programs whenever necessary and to stay informed about the physical level. It determines the athlete's strengths and aptitudes within the constraints of the game.

Allawi and Radwan (2000) emphasize the significance of defining standards and their positive role in assisting teachers and trainers in identifying the raw scores of individuals based on the selective sample used in developing these standards. Levels and standards are considered one of the major objective tools that employees in the sports field rely on to measure individual performance and compare it to peers and higher levels, as well as in diagnosing and following up on improvement.

According to Mathews (2003), standards are one of the best sorts of levels since they are produced by gathering raw data from a large number of people of similar aptitude, age, and gender, and then statistically analyzing this data to obtain standard levels based on logical analysis. According to Al-Janabi (2016), the criteria provide a framework for evaluating an individual's or a group's outcomes, because an individual's raw score has no meaning until it is compared to the standard score. Raw test findings, according to Al-Khasawneh et al. (2009), are only useful if they are combined with a criterion that determines their importance, the individual's position with respect to the group, and the amount of deviation from the group average. As a result, one of the key purposes of the test codification process is to establish the criteria.

According to Shuber et al. (2005), percentile ranks are among the most widely used degrees in the field of physical education, and they are also used in the development of local and national standards because they provide adequate opportunities to interpret any individual's scores when he compares himself with his peers at the local or national level, by dividing individuals into different levels. In addition, the researchers realize that there is an urgent need for studies that are concerned with building modern standards, and this is what the University of Jordan has not done for a long time. The university's need for high school graduates in some sports who have obtained total grades qualifies them to enter the university according to the applicable admission system. These outstanding athletes submit special applications and are subject to physical and skill tests. In order to choose the best among the applicants for these tests, there must be criteria based on scientific foundations so that those who conduct them can give

grades and make comparisons between these applicants. Based on the results of these tests, they will be accepted into the majors they wish to study. In light of the former criteria for physical fitness tests used to select students who excelled in sports at the University of Jordan, which have become obsolete due to the development of athletic levels of the students applying for these exams. According to Azab (2007), it is necessary to make revisions to the test criteria every three years in order to adapt them to societal developments. As a result, the purpose of this study was to set new national standards for some of the physical fitness tests administered by the University of Jordan in order to choose students who excel in sports to secure study seats at university in order to adapt to societal changes once every three years.

Materials and Methods

Study sample

The researchers used the descriptive approach on a sample consisting of (283) male and (169) female students, and they are all students applying for study seats at the University of Jordan on the list of sports excellence for the period between 2017-2020, and their number is (452) male and female students.

Study tests

The researchers adopted the tests that were used to measure the physical fitness of students applying for academic seats on the list of sports excellence, and based on their results, the skill test is done in case of success in the physical test, and these tests are:

1. 1600m run test to measure cyclic respiratory endurance.
2. The long jump test from stability to measure the explosive power of the muscles of the legs.
3. Rebound running (4x10m) to measure agility.
4. Throwing a medicine ball with a weight of (5) kg for male students and (3) kg for female students to measure the explosive force of the muscles in the arms.

The performance of these exercises was arranged so that the student performs the long jump test of stability, then rebound runs, then throws the medical ball, then runs for a distance of (1600 meters). These tests have validity and stability coefficients.

The procedural stages of the study

Dates have been set for taking these tests and informing the applicants of them.

1. 2- Committees of specialists in the College of Physical Education and the Department of Sports Activities have been identified to supervise the performance of these tests.
2. Forms were designed to record the results.
3. The method of performing each test was clarified and a model was made for the long jump tests of stability, rebound running and pushing the medicine ball.

Statistical treatment

The appropriate statistical methods were used to achieve the results, which are arithmetic averages, standard deviations, skew coefficient, flatness and percentiles.

Results and Discussion

This study aimed to build standard levels for some physical fitness tests for female students and students applying for academic seats on the list of athletic excellence at the University of Jordan, and the tables (1-4) illustrate this.

Table 1. Descriptive statistics and deciles raw scores for the Jump test

Descriptive indicators	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Males	1.50	2.80	2.17	0.24	0.25	0.14
Female	1.10	2.35	1.66	0.26	-0.16	-0.30
Deciles	Raw score/M					
	Males			Females		
10	1.90			1.30		
20	2.00			1.40		
30	2.04			1.50		
40	2.10			1.60		
50	2.15			1.70		
60	2.20			1.75		
70	2.30			1.80		
80	2.40			1.85		
90	2.55			2.00		
100	2.80			2.35		

Table (1) reflects the results of deciles of the raw sores the jump test. Regarding the males results the test mean value was (2.17), this value represented the mean of the values between the minimum value being observed (1.50) and the maximum observed value (2.80) on the other hand the females test mean value was (1.66), this value represented the mean values between the minimum (1.10) and maximum value (2.35). the values of skewness (0.25) and kurtosis (0.14) for male's test data distributions and (- 0.16) and (-0.30) for females - presented in the last two columns- describes the behavior of the test data the results tell that the behavior is approximate to the normal data distribution this as these two normality indicators' values were close to zero and laying within the normal distributions indicators references (-3) and (+3).

The deciles raw scores results declare that (10 %) of the sample males has achieved a raw score of (1.90) and that (50.0 %) of the sample's males had recorded the value (2.15) while (10 %) of the females' sample had reported a raw score of (1.30) and that (50.0 %) of the sample's females had reported a value of (1.70). Obviously, the maximum test value being achieved for males was (2.80) and for females was (2.35).

Table 2. Descriptive statistics and deciles raw scores for the shuttle run test

Descriptive indicators	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Males	8.32	12.68	9.98	0.70	0.53	0.99
Female	9.00	14.30	11.28	0.97	0.57	0.19
Deciles	Raw score/ S					
	Males			Females		
100	9.12			10.13		
90	9.44			10.50		
80	9.65			10.73		
70	9.81			10.90		
60	9.98			11.08		
50	10.04			11.25		
40	10.22			11.85		
30	10.45			12.10		
20	10.94			12.59		
10	12.68			14.30		

Table (2) reflects the results of deciles of the raw sores the shuttle run test. Regarding the males results the test mean value was (9.98), this value represented the mean of the values between the minimum value being observed (8.32) and the maximum observed value (12.68) on the other hand the females test mean value was (11.28), this value represented the mean values between the minimum (9.00) and maximum value (14.30). the values of skewness (0.53) and kurtosis (0.99) for male's test data distributions and (0.57) and (.19) for females - presented in the last two columns- describes the behavior of the test data the results tell that the behavior is approximate to the normal data distribution this as these two normality indicators' values were close to zero and laying within the normal distributions indicators references (-3) and (+3).

The deciles raw scores results declare that (10 %) of the sample males has achieved a raw score of (12.68 and that (50.0 %) of the sample's males had recorded the value (9.93) while (10 %) of the sample females had reported a raw score of (14.30) and that (50.0 %) of the sample's females had reported a value of (10.98). Clearly the maximum test value being achieved for males was (9.20) and for females was (10.25)

Table 3. Descriptive statistics and deciles raw scores for the throwing test

Descriptive indicators	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Males	4.60	13.25	7.67	1.55	0.78	0.82
Female	3.40	11.00	6.44	1.56	0.44	-0.34
Deciles	Raw score/ M					
	Males			Females		
10	5.80			4.55		
20	6.35			4.90		
30	6.80			5.35		

40	7.10	5.85
50	7.50	6.35
60	7.87	6.80
70	8.24	7.20
80	9.00	7.80
90	9.84	8.60
100	13.25	11.00

Table (3) reflects the results of deciles of the raw scores the throwing test. Regarding the males results the test mean value was (7.67), this value represented the mean of the values between the minimum value being observed (4.60) and the maximum observed value (13.25) on the other hand the females test mean value was (6.44), this value represented the mean values between the minimum (3.40) and maximum value (11.00). the values of skewness (0.78) and kurtosis (0.82) for male's test data distributions and (0.44) and (- 0.34) for females - presented in the last two columns- describes the behavior of the test data the results tell that the behavior is approximate to the normal data distribution this as these two normality indicators' values were close to zero and laying within the normal distributions indicators references (-3) and (+3). The deciles raw scores results declare that (10 %) of the sample males has achieved a raw score of (5.80) and that (50.0 %) of the sample's males had recorded the value (7.50) while (10 %) of the sample females had reported a raw score of (4.55) and that (50.0 %) of the sample's females had reported a value of (6.35). Clearly the maximum test value being achieved for males was (13.25) and for females was (11.00)

Table 4. Descriptive statistics and deciles raw scores for the endurance test

Descriptive indicators	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Males	5.05	13.00	6.89	1.29	1.36	2.48
Female	6.00	14.50	9.99	1.94	0.26	-0.51
Deciles	Raw score/M					
	Males			Females		
100	5.44			7.40		
90	6.01			8.30		
80	6.22			8.52		
70	6.35			9.35		
60	6.50			10.10		
50	7.10			10.32		
40	7.22			11.00		
30	7.50			12.00		
20	8.58			12.50		
10	13.00			14.50		

Table (4) reflects the results of deciles of the raw scores the endurance test. Regarding the males results the test mean value was (6.89), this value represented the mean of the values between the minimum value being observed (5.05) and the maximum observed value (13.00) on the other hand the females

test mean value was (9.99), this value represented the mean values between the minimum (6.00) and maximum value (14.50). the values of skewness (1.36) and kurtosis (2.48) for male's test data distributions and (0.26) and (- 0.51) for females - presented in the last two columns- describes the behavior of the test data the results tell that the behavior is approximate to the normal data distribution this as these two normality indicators' values were close to zero and laying within the normal distributions indicators references (-3) and (+3). The deciles raw scores results declare that (10 %) of the sample males has achieved a raw score of (13.00) and that (50.0 %) of the sample's males had recorded the value (7.10) while (10 %) of the sample females had reported a raw score of (14.50) and that (50.0 %) of the sample's females had reported a value of (10.32). Clearly the maximum test value being achieved for males was (5.44) and for females was (7.40)

Tables 1, 2, 3, and 4 show that the torsion coefficient values for all members of the sample were within the normal distribution, which is between (-3 and 3), and the researchers believe that based on the study results in the previous tables, it is possible to determine the standard levels of some physical fitness tests for advanced students. To gain academic seats on the University of Jordan's list of sports excellence for each of the following tests:

First: long jumping tests

Long jump			
Female		Male	
Out of 10	Long jump distant(cm)	Out of 10	Long jump distant(cm)
1	130 -110	1	150-190
2	140-131	2	191-200
3	150-141	3	201-205
4	160-151	4	206-210
5	170-161	5	211-215
6	175-171	6	216-220
7	180-176	7	221-230
8	185-181	8	231-240
9	200-186	9	241-251
10	201+	10	251 +

Second: Shuttle Run Test

Shuttle Run			
Females		Males	
Out of 10	Time/sec.	Out of 10	Time/sec.
10	9.00-9.29	10	8.32-9.20
9	9.30-10.25	9	9.21-9.43
8	10.26-10.50	8	9.44-9.65
7	10.51-10.69	7	9.66-9.79
6	10.70-10.84	6	9.80-9.93

5	10.85-10.98	5	9.94-10.04
4	10.99-11.15	4	10.05-10.20
3	11.16-11.41	3	10.21-10.43
2	11.42-11.90	2	10.44-10.95
1	11.90 +	1	10.95 +

Third: Medicine ball throw tests

<i>Medicine ball throw</i>			
Females		Males	
Out of 10	Dist./m	Out of 10	Dist./m
1	3.40-4.55	1	4.60-5.80
2	4.56-4.90	2	5.81-6.10
3	4.91-5.60	3	6.11-6.50
4	5.61-6.00	4	6.51-6.90
5	6.01-6.50	5	6.91-7.10
6	6.51-6.85	6	7.11-7.40
7	6.86-7.50	7	7.41-7.80
8	7.51-8.00	8	7.81-8.20
9	8.01-8.70	9	8.21-9.00
10	+8.71	10	+9.00

Fourth: 1600 m run test

endurance			
Females		Males	
Out of 10	Time/min.	Out of 10	Time/min.
10	6.00 or less	10	5.05-5.44
9	7.40-6.01	9	5.45-6.05
8	8.30-7.41	8	6.06-6.23
7	8.52-8.31	7	6.24-6.37
6	9.35-8.53	6	6.38-6.52
5	10.10-9.36	5	6.53-7.10
4	10.32-10.11	4	7.11-7.29
3	11.00-10.33	3	7.30-7.63
2	12.00-11.01	2	7.64-9.17
1	12.01 +	1	9.17 +

Conclusions

The studies recommend adopting these standards in fitness tests qualifying for skill tests for students applying for athletic excellence at the University of Jordan since they supplied modern standard levels by transforming raw scores into standard scores and so becoming valuable.

Conflicts of Interest

We declare no competing interests

Funding Statement

There are no sources of funding

References

- Abdel-Haq, Emad Saleh (2005) Building Anthropometric Characteristics for Fourth and Fifth Grade Students (10-9) years in Nablus Governorate. . An-Najah Journal for the Humanities, 19(2), 396-371.
- Al-Janabi, Salman (2016). Grades and Standard Levels, Lecture No. 50, University of Kufa, College of Physical Education and Sports Sciences, Iraq, p. 2.
- Al-Khasawneh, Aman and Shoka, Nart and Ghasab, Ismail and Abdel Hafez, Abdel Basset (2009). Determining standard levels of physical fitness among students of the Faculty of Physical Education at Yarmouk University, Journal of Educational Sciences Studies, 36, 251-237.
- Allawi, Muhammad and Radwan, Muhammad (2000). Measurement in physical education and sports psychology. Arab Thought House, Cairo.
- Ariwibowo, M. F., Wahab, Z., Isnanta, R., & Isnurhadi, I. (2020). Physical evidence promotion on consumer decisions in using bowling sport services. International Journal of Social Sciences and Humanities, 4(3), 22-28. <https://doi.org/10.29332/ijssh.v4n3.445>
- Athab, Abbas (2007). Building and legalizing a physical test battery for admission to military colleges. Journal of Physical Education Sciences, University of Babylon, special issue of the 16th Conference of the Faculties of Physical Education in Iraq.
- Ebbeling, D. Pawlak, B. & Ludwig, D. (2002). "Childhood obesity: public-health crisis, common sense cure," *The Lancet*, 360(9331): 473-482.
- Emrich, E. Pitsch, W. Guellich, A. Klein, M. Froelich, M. Flatau, J. Sandig, D. & Anthes, E. (2008). Spitzenfoerderung in Deutschland. Best and aufnahmen und prespektiven. *Leistungs sport*, 38 (1), 1-20.
- English References
- Greenberg H. Raymond SU. & Leeder SR.(2011). The prevention of global chronic disease: Academic public health's new frontier. *Am J Pub Health*. 101(8):1386-90, <http://dx.doi.org/10.2105/AJPH.2011.300147>.
- Leung FP. Yung LM. Laher I. Yao X. Chen ZY. & Huang Y. (2008). Exercise, vascular wall and cardiovascular diseases: An update (Part 1). *Sports Med*. 38(12):1009-24, <http://dx.doi.org/10.2165/00007256-200838120-00005>.
- Mathews, ok (2003). Measurement in Physical Education. 5th Ed, Saumer Company.
- Mesa, J. Ruiz, R. Ortega, F. Warnberg, J. González- Lamuno, D. & Moreno, L. (2006), Aerobic physical fitness in relation to blood lipids and fasting glycaemia in adolescents: Influence of weight status. *Nutr Metab Cardiovasc Dis*. 16(4), 285-93
- Shuber, Mahmoud Ibrahim and Nizar, Al-Talib and Sami Abdel-Fattah (2005). Setting standard levels for physical ability tests to accept female students in the Department of Physical Education, *Journal of Physical Education*, University of Bahrain, 14(1), 24-1.
- Suryasa, I. W., Rodriguez-Gámez, M., & Koldoris, T. (2022). Post-pandemic health and its sustainability: Educational situation. *International Journal of Health Sciences*, 6(1), i-v. <https://doi.org/10.53730/ijhs.v6n1.5949>
- Vitalina, N., Valentyna, V., Olexandr, S., Iryna, R., & Roman, O. (2022). The influence of digital creative technologies on the development of education and

medicine. International Journal of Health Sciences, 6(2), 699–708.
<https://doi.org/10.53730/ijhs.v6n2.7669>