S 6 Evaluation and standardization of motor performanceat

Gross score is a numbered statement of the performance achieved by a test person in a particular test. The types of gross scores are:

(a) scores expressed in physical units

b) score expressed by the number of repetitions

(c) a score expressed in terms of the number of successes or the number of errors

However, the gross score itself has little informative value. We are interested in the performance of other people, we want to compare performances, the gross score then relates to the norm or the nature of the movement task. We put the gross score in relation to the criterion. Therefore, we convert and standardize the original results (performances).

Tab. 7 Overview of the main types of standard scores

Designation	Characteristics	Transformational equation	Example *)
z-score (from points)	essentially a six-point scale in which arithmetic mean = 0 points, 1 point = 1 standard deviation	$= \frac{(\ -\ )^{-}}{}$	$= \frac{(8 - 0)}{140} = -0.8$
T-score (T points)	Theoretically a 100-point scale, in practice rather a 60-point scale. Arit. mean = 50 points, 1 point = 0.1 standard deviation	$T = 50 + 10of$	= 50 +10 (−0.8) = 42
Staniny	Nine-point scale (standard nine), in which the arithmetic mean = 5 points, 1 point = 0.5 standard deviations	$Sta = 5 + 2of$	= 5 + 2 (−0.8) = 3.4 = ˙3
The walls	Ten-point scale (English standard ten), arithm. average = 5.5 points, 1 point = 0.5 standard deviations	$Ste = 5.5 + 2of$	= 5.5+ 2 (−0.8) = 3.9 = ˙4
MQ - score	MQ = motor quotient. The scale at which the arithm. avg. = 100 points, 1 point = 0.66 standard deviation	$MQ = 100 + 15of$	= 100 +15 (−0.8) = 88
School stamp	Five-point scale (in the Czech Republic), theoretically arithmic. avg. = 3, 1 point = 1.2 standard deviations. In practice, it does not meet the parameters normal frequency distribution. (The most common mark is not a three)	$ŠZ = 3 - of$	= 3− (−0.8) = 3.8 = ˙4

***)** Example: $= \bar{}200\ cm$ $with_x = 20\ cm$ $x_{and} = 184\ cm$

Percentages:

The percentage determines the relative position of the tested person in the group, it informs us which part of the group scores lower than the given person. The gross score is converted to percentiles according to the formula:

$$= \frac{\text{- 0.5}}{}$$

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EXAMPLE

Out of 30 pupils, pupil A jumped 432 cm in the long jump, 26 pupils jumped less, three had a longer jump. From the lowest to the highest performance was student A 27.

$$= \frac{27 - 0.5}{30} = 0.88$$

The gross score of 432 corresponds to the 88th percentile, 88% scored lower.

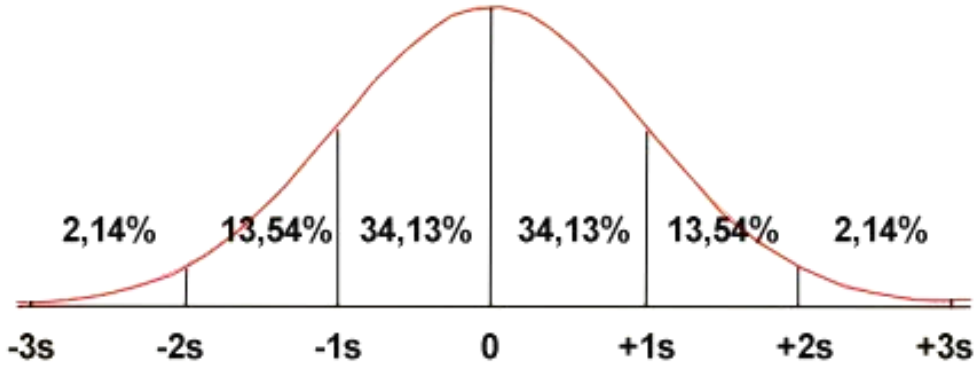
Standard:

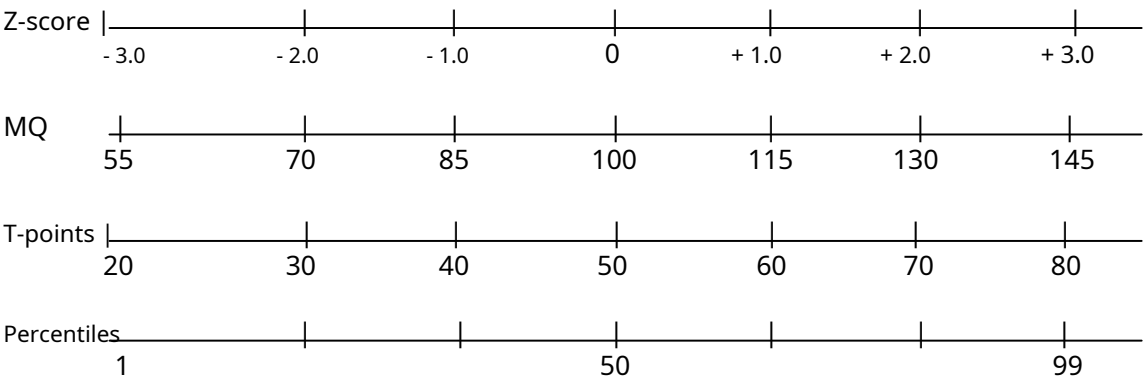
Standard means a quantitative value, empirically determined, representing the normal (usual) performance recorded in a corresponding population. Standards are a prerequisite for the effective use of tests in school and sports practice.
We recognize standards based on:

a) scoring scales (Z-points, T-points, Walls,...)
b) percentiles
c) determination of motor age

The norm is sometimes an ideal pattern of correct execution, eg performing a certain exercise in gymnastics (forward throw).

Standardized normal divE**laziness** C
ethnicity(+ various types of standard scores)





Gaussian curve features:

- symmetrical about the axis
- uniform bell-shaped
- the peak of the curve is identical with ,¯*Mo, Me*
- *R* = ˙6*with*
- in the interval *x* ± 1*with* lies approximately 68% of all cases
- in the interval *x* ± 2*with* lies approximately 95% of all cases
- in the interval *x* ± 3*with* lies approximately 99% of all cases

TASKS

1. Using the measured data in the endurance test in the push-up (women) and push-ups on the crossbar repeatedly, compile a three, five and nine-degree standard and enter the obtained values in tab. 8, 9 and 10. Use the values to compile standards:

Women (University): Endurance in the squad = 11 *with* = 10.1

Men (University, TV students): Shyby on the landing bar repeatedly = 9.3 *with* = 3.4

2. Graphically represent personal performance in each of the listed standards using numerical axes in relation to the normal distribution.

Tab. 8 Three-level standard

Qualitative evaluation	Body	The principle of the standard	Power range
Below the average	1	1.1 *with* and less	
Average	2	± *with*	
Above average	3	1.1 *with* and more	

Tab.9 Five-level standard

Qualitative evaluation	Body	The principle of the standard	Power range
Significantly below average	1	1.51 *with* and less	
Below the average	2	– – 0.51 *with* to 1.50 *with*	
Average	3	± 0.50 *with*	
Above average	4	+ 0.51 to 1.50 *with*	
Significantly above average	5	1.51 *with* and more	

Tab.10 Nine-level standard

Body	The principle of the standard	Power range
1	1.76 *with* and less	
2	– – 1.26 *s to* 1.75 *with*	
3	0.76 *s to* 1.25 *with*	
4	0.26 *s to* 0.75 *with*	
5	± 0.25 *with*	
6	0.26 *s to* 0.75 *with*	
7	0.76 *s to* 1.25 *with*	
8	+ 1.26 *s to* 1.75 *with*	
9	+ 1.76 *with* and more	

Graphically represent personal performance in individual standards.