



# Essential metrics for assessing the success of physical education at the local government level

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## Abstract

**Objective of the study** was to process of determining and validating the essential metrics that enable the evaluation of the success of physical education initiatives at the local government level.

**Methods and structure of the study.** The research employed a combination of methods, including participant observation, expert evaluation, and mathematical statistical analysis. The empirical data encompassed a set of criteria and ten indicators of physical fitness, which are commonly used at the municipal level. A questionnaire was created for experts to assess the importance of these criteria for evaluating the success of physical education initiatives at the municipal level. The criteria were ranked based on their average score (median), the degree of consensus among experts (interquartile range), and the first quartile.

**Results and conclusions.** Assessing the efficacy of physical education necessitates a comprehensive approach that encompasses both quantitative and qualitative metrics. The research underscores the importance of developing initiatives to foster physical culture and sports, which entails organizing informational campaigns to raise public awareness about the significance of physical activity. Hosting sports festivals and other events can greatly contribute to this endeavor. The key metrics are: the number of children and adolescents aged 6-15 who participate in sports programs on a regular basis.

The proportion of residents who have achieved the standards set by the All-Russian Physical Culture and Sports Complex «Ready for Work and Defense» (GTO). The percentage of the population actively engaged in physical education and sports compared to the total population. These metrics directly impact the physical activity levels of the population at the municipal level.

**Keywords:** *indicator, assessment, efficiency, physical education, sport, municipal level.*

**Introduction.** The effectiveness of the implementation of municipal policy in the field of physical culture (PC) is becoming an increasingly important task in the context of modern challenges and changes in society. At the current stage of development of society, physical culture and sports are becoming not only important components of a healthy lifestyle, but also significant elements of state policy. In the context of globalization and rapid changes in the socio-economic sphere, the issue of the effectiveness of the implementation of physical culture and sports programs is becoming especially relevant. Municipalities occupy a central place in creating conditions for sports, providing access to the necessary infrastructure, modern educational pro-

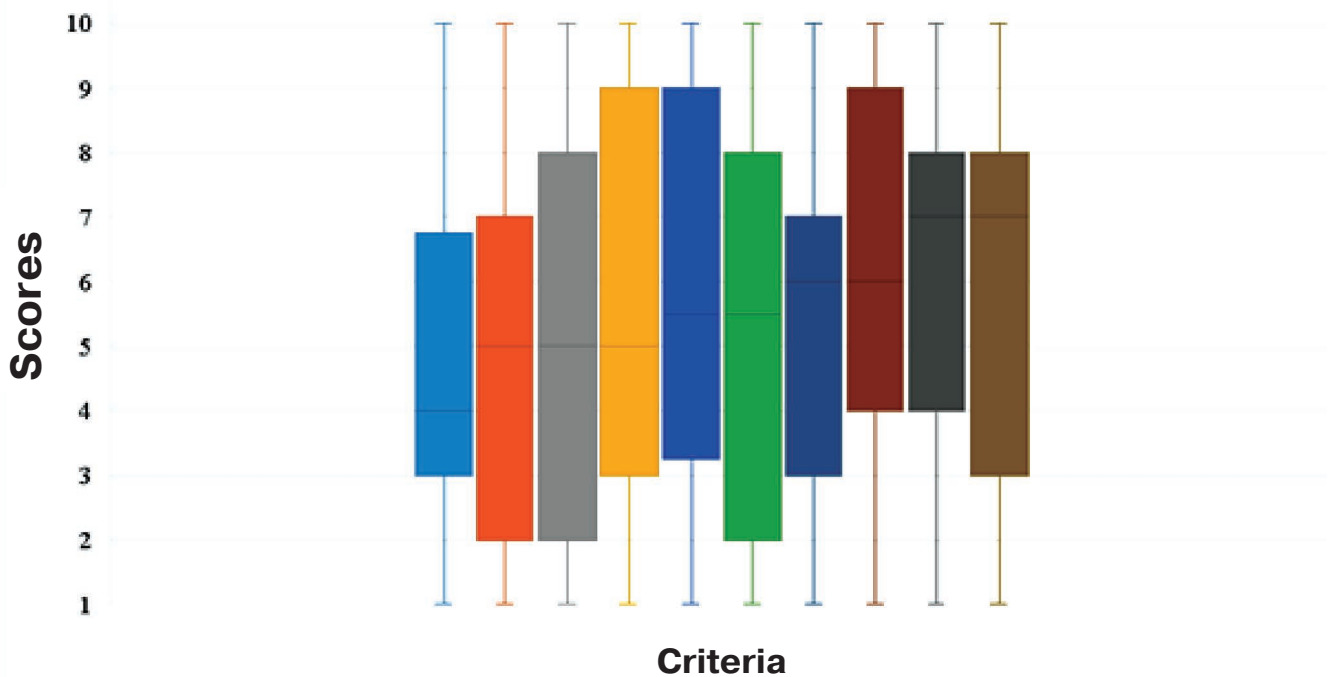
grams and the organization of sports events [1]. This requires a systematic approach to the organization and evaluation of physical culture within the municipal level, as well as the identification of key performance indicators for the functioning of the physical culture and sports system at the municipal level [2, 3].

The following are used as the main target indicators at the municipal level:

1) The proportion of the population of the municipality systematically engaged in physical culture and sports from the total number;

2) The number of children, adolescents and young people involved in physical education and sports sections, clubs, sports schools;

## Public involvement in physical education (FC)



- The number of children and adolescents aged 6-15 years who are systematically involved in sports schools
- For residents of the city who have fulfilled the TRP standards
- The proportion of the population systematically engaged in FKis
- Number of sports clubs in the municipality
- For children and teenagers who receive an additional service. education in the field of FKis
- The number of official sports competitions attended by persons undergoing sports training in municipal sports schools
- The number of children involved in physical education and sports activities
- The increase in the proportion of the adult population systematically engaged in PCIs at the age of 18-79 years
- The number of measures taken to test compliance with the TRP testing standards

*Tukey's Range Schemes of Ranked Performance Criteria «Population Engagement in Physical Education»*

- 3) The number of assigned sports categories;
- 4) The number of physical education and sports events.

Despite the identified target indicators, there is a problem in their systematic interpretation and assessment of the effectiveness of management in this area of «physical education».

Objective of the study was to process of determining and validating the essential metrics that enable the evaluation of the success of physical education initiatives at the local government level.

Methods and structure of the study. The research used the method of included observation, expert assessment, and methods of mathematical statistics.



The empirical material consists of one group of criteria and 10 indicators of physical education development typical for use at the municipal level. In the presented group, experts determined the priority of criteria for the development of physical education in the municipality, in accordance with their order of analysis, where 1 is the highest priority indicator, and 10th is the lowest priority. A questionnaire on the topic «Determining the priority of criteria for assessing the effectiveness of physical education development at the municipal level» was developed for the experts. The ranking of criteria is carried out by ordering: by average assessment (median – Me), by the cohesion of expert opinions (interquartile range – IQR), by the first quartile (Q1). The results of the study will serve as a basis for developing recommendations for improving the situation in the field of physical education in municipalities.

**Results of the study and discussion.** To objectively assess the situation and identify key areas of development, we turned to experts in this field. A questionnaire on the topic of «Determining the Priority of Criteria for Assessing the Effectiveness of Physical Culture Development at the Municipal Level» was developed for the experts. The sample for the criteria ranking study included 44 experts aged 22 to 67 years, where the average age is  $M_{age} = 40,9$  years and standard deviation  $SD_{age} = 13,9$ ; with experience from 1 year to 43 years ( $M_{experience} = 15,4$  years and  $SD_{experience} = 11,3$ ); of which 59,1% are men; 40,9% are women.

To visualize the data and understand the distribution of the research results, we will construct a Tukey span diagram for the ranked indicators of the criteria group "Population Involvement in Physical Culture" for assessing the effectiveness of physical culture development management, where 1 is the highest priority indicator and 10 is the lowest priority. The data are presented in the figure.

The Tukey boxplot shows that each criterion was rated at both minimum and maximum by the experts. Each boxplot in this rating system ranges from first to tenth priority, indicating that each criterion was rated at both maximum (1) and minimum (10) priority by multiple experts. If there were only one expert who rated 1 or 10, this would be seen as an outlier, but there are no such cases in our analysis. It is also clear that the range of opinions among the experts does not differ significantly.

The most significant indicator is the number of children and adolescents aged 6–15 years ( $Me=4$ ;

$IQR=3.25$ ;  $Q1=3$ ). The presence of a significant number of children in this age category opens up opportunities for attracting new participants to sports events and developing infrastructure. On the other hand, the least significant criterion is the «number of events held to test the implementation of the GTO complex test standards» ( $Me=7$ ;  $IQR=5$ ;  $Q1=3$ ). According to experts, this indicator should be used in assessing the development of physical culture last of all, since it does not reflect the real state of affairs in the field of "physical culture" and does not take into account the most important factors affecting the involvement of children and adolescents in sports. In addition, the number of tests may not correlate with the quality of physical fitness of the population. Thus, the data obtained confirm the need for a comprehensive approach to assessing the effectiveness of physical culture development at the municipal level. It is necessary not only to take into account quantitative indicators, but also to pay attention to the quality of the events held and their accessibility for residents of the municipality.

**Conclusions.** Assessing the effectiveness of physical education requires a comprehensive approach that includes both quantitative and qualitative indicators. The study reveals the need to develop programs to popularize physical education and sports, which involves organizing information campaigns to raise public awareness of the importance of physical activity. Sports festivals and other events can significantly contribute to this process. The key indicators are: the number of children and adolescents aged 6-15 who regularly attend sports schools; the proportion of city residents who have met the standards of the All-Russian Physical Education and Sports Complex «Ready for Labor and Defense» (GTO); the proportion of the population regularly engaged in physical education and sports in the total population. These indicators directly affect the physical activity of the population at the municipal level.

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