

Indicators to control and evaluate the acrobatic technical component of the national Cheerleading teams of Colombia

Abstract

The research took place in Colombia, a country where Cheerleading is widely accepted in university sports; In this country, in this sport, a characteristic of the preparation of its national teams is the training in periods of concentration, where the need to control and evaluate the acrobatic technical component of these teams has been confirmed. To satisfy this need, it was essential to determine the indicators, so the objective was specified: to define the quality indicators of the technical acrobatic actions of Cheerleading and their evaluation scales. To achieve this objective, a creative process was used in which the members of the coaching group intervened as protagonists in the production of knowledge, while their proposals were validated and corrected by the best specialists in the country as experts. The quality indicators of the technical actions were arrived at, a classification of these, unprecedented for Cheerleading; as well as the execution and effectiveness rating scales as elements to consider in the control and evaluation of that component in Cheerleading.

Keywords: Cheerleading, acrobatic technical component, indicators

Introduction

Cheerleading is an extremely complex sport that can involve a high volume of acrobatics, jumps, pyramids, dances and animations with very complex and varied mechanical structures (International Cheer Union [ICU], 2021; Sánchez and Elizondo, 2021). Their competitive exercise, commonly called routine, consists of carefully designed choreographies, involving pyramids, acrobatics, throws, catches, lifts, turns, jumps and dance steps (Dugas et al., 2020; Synytsya et al., 2024; Xu et al., 2024 al., 2021).

In these routines, two fundamental roles are recognized when executing the different technical acrobatic elements: the bases and the flying ones; In the case of the latter, they carry out the flight phases resulting from launches and dismounts in search of the highest

possible height, so as to generate impact and projection on the public and the jury present (Müller et al., 2024), therefore that the biomechanical factors of speed, trajectory and angular momentum are considered decisive for its successful execution. The bases support the postures, help in projections and placement, provide impulses in throws in close coordination with the flyers (Donovan and Spencer, 2019).

The present investigation takes place in Colombia, a country where Cheerleading is widely accepted in university sports, which has allowed its participation in international championships, with two Pan American championships and a world championship.

A characteristic of the preparation of the Colombian national teams of this sport is the training in periods of concentration, since it makes it possible to bring together in them the best cheerleaders in the country who are training in their departments and cities in good technical and material conditions, and control the preparation received according to high-level competitive demands, with a view to participating in official competitions of the International Cheer Union (ICU) representing their country.

No information has been found in the literature studied about the particularities of training in periods of concentration. However, there is a need to control and evaluate the acrobatic technical component of the Colombian national Cheerleading teams, depending on the training concentrations.

Harre (1983) points out that the planning and evaluation of training and competencies constitute a unit within the framework of the direction of the training process by the coach. The evaluation, in addition to serving to control the implementation of the plan, has the primary function of determining the degree of effectiveness of the training methods and means applied. In this sense, it is considered that in order to meet this requirement, it is essential to search for forms of technical control in Cheerleading, to record and evaluate the execution of the acrobatic elements in this sport and objectively know the performance. of the athletes in this component.

On the other hand, and taking into consideration the results of a previous exploration (from the specialized literature in this sport, from the planning documents and methodological guidelines for the concentrations of the Colombian national Cheerleading team and informal interviews with its coaches), it was found that, being a recently

approved sport, in its scarce scientific-technical bibliography, no training control and evaluation systems have been found, duly endorsed or presented for discussion.

To design a control and evaluation system for the technical acrobatic component of the national Cheerleading teams of Colombia, depending on the training concentrations, the quality indicators of the technical acrobatic actions of Cheerleading and their evaluation scales must be defined, and this is the objective of this work.

Methodology

To fulfill the objective of the study, the following algorithm was established:

- a) Analysis of technical documents to extract the proposal of indicators for the evaluation of the technical quality of the cheerleaders in their performances.
- b) Application of the expert judgment method (Delphi) to evaluate the proposal of indicators.
- c) Definition of the indicators of the acrobatic technical component in Cheerleading.
- d) Application of the expert judgment method (Delphi) to assess the organization of the indicators in joint and individual actions that are presented in the competitive exercises (routines) of Cheerleading.
- e) Determination of the evaluation scales of execution and effectiveness of the defined indicators.

The documentary analysis, the participatory work with the technical group of the national Cheerleading team in Colombia, together with the evaluation by the selected experts, allowed us to determine the necessary indicators in the evaluation of the acrobatic technical component, as well as the evaluation scales of the quality of execution and effectiveness, as elements to consider in the control and evaluation of that component in Cheerleading.

Results and discussion

- Results of the analysis of technical documents to extract the proposal of indicators for the evaluation of the technical quality of the cheerleaders in their performances.

The information regarding the judging manuals and evaluation forms of the International Cheer Union (ICU, 2021) was reviewed as it is the entity that organizes the World Championship for national teams and the International All Star Federation (IASF, 2020), which are the existing normative documents and codified evaluation systems most used today in the field of Cheerleading.

From there, the elements related to the indicators that are evaluated of the acrobatic technical component in Cheerleading were collected. The requirements to belong to the Coed premier teams were also reviewed, a document that was promulgated by circular 003 in June 2017 by the Colombian Cheerleading Federation FEDECOLCHEER (Circular No.003, June 4, 2017. Call for Try Outs Selections Colombia., 2017) which specifies the requirements for the technical skills that athletes must have at the time they present themselves to be evaluated with the purpose of having the possibility of belonging to the national team.

Other existing documents were reviewed that allowed an analysis regarding the competitive technical-acrobatic evaluation and frequently used in other tournaments of this sport, such as the regulations of the International All Star Federation (IASF, 2020), and U.S. companies. All Star Federation (USASF, 2020), which are references in their judging system for many of the championships held in Colombia; It is necessary to clarify that there is not yet a unified regulation for all national and international Cheerleading competitions, which is why this search was necessary in order to achieve the greatest possible number of indicators to be taken into consideration in the proposal.

Assessment of the proposed indicators by the experts

The experts answered a questionnaire related to the definition of quality indicators of the acrobatic technical component to be considered in the control and evaluation of that component in Cheerleading.

An initial list of possible indicators was sent to them digitally, proposed based on the review explained in point a), and endorsed by the national team coaching team, to define the quality of execution of the technical acrobatic component. , with the instruction of issuing their criteria according to the scale explained in the corresponding questionnaire.

The processing of this survey through tables of absolute and relative frequencies expressed in percentages, made it possible to select the quality indicators to be used in the control and evaluation of the acrobatic technical component.

- Definition of the indicators of the acrobatic technical component in Cheerleading

The use of theoretical methods, the results of the interviews carried out and the expert criteria applied, allowed the different indicators to be classified into joint and individual actions.

Because it is a team sport where the acrobatic exercise is developed from the coupling of two athletes: one in the role of flyer, and another as a base and in correspondence with the phases of each acrobatic exercise (initial, main and final) where The technical-acrobatic actions (indicators) already defined are executed, the following order is established. (Table 1)

Table 1. Indicators of joint actions in the acrobatic component of Cheerleading

Execution phase Indicator	Indicator
Ascent (Initial Phase)	Synchronization Height Rhythm Transitions
Permanence (Central phase)	Stability Projection Markings
Clearance (Final phase)	Control Projection

Subsequently, taking into account the role played by each athlete in the development of the actions of the acrobatic component (base or flying) and considering that the actions of each of them must be observed separately, to ensure an individual assessment of the actions in the role that corresponds to each one, these individual indicators are ordered for each corresponding role, which is seen in table 2.

Table 2. Indicators of individual actions in the acrobatic component in Cheerleading

Role of the cheerleader	Indicator
Base	Grips Receptions Postural Control
Flying	Spins Investments Postural Control Body and Facial Expression

In figure 2, with the integration of the two previous tables, an unprecedented classification in this sport can be seen, which systematizes the results presented in the two previous tables. For this, the classification criteria of joint actions and individual actions were applied, based on the tables presented previously.

In the joint actions, the criteria used to group the indicators of the acrobatic technical component were the execution phases of those actions and in the case of individual actions, the role played by the cheerleaders in those actions. The figure presented allows a better understanding of the composition of the indicators in the joint actions and individual actions during the technical-acrobatic execution.

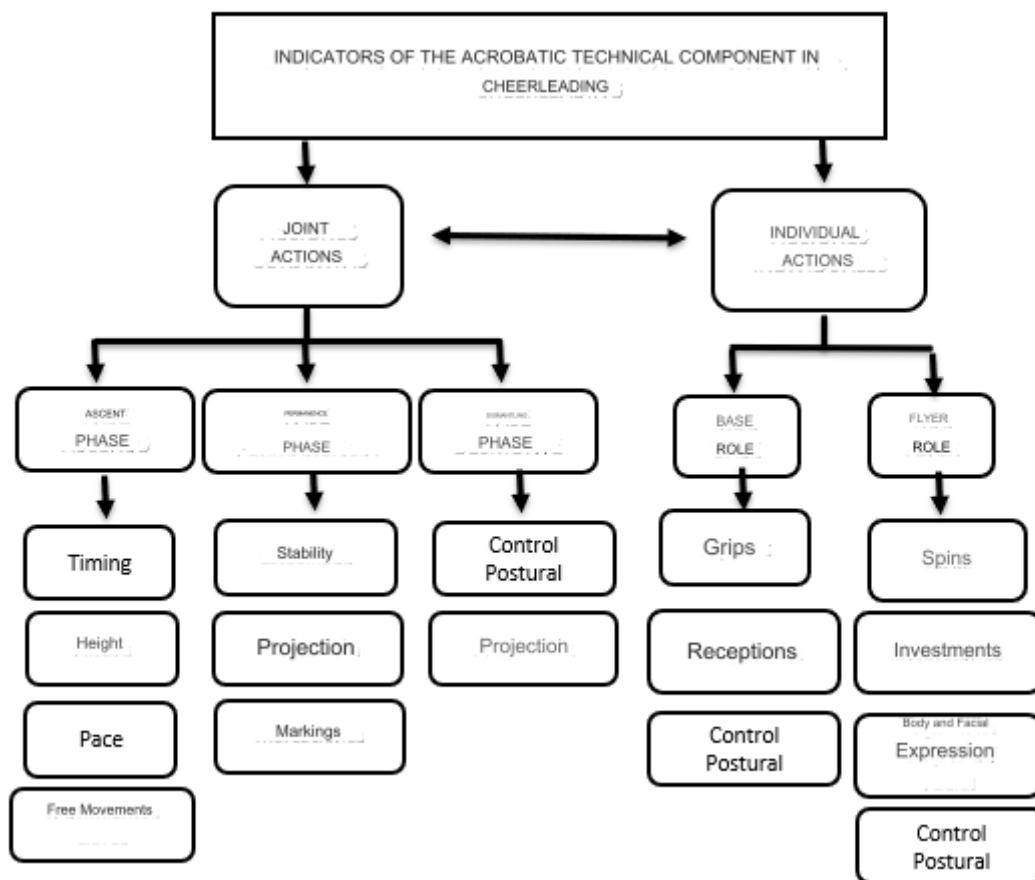


Figure 2. Proposal of indicators of the aerobic technical component in Cheerleading

- Assessment of the organization of the indicators in joint and individual actions that are presented in the competitive exercises (routines) of Cheerleading by the experts

After having defined the indicators with the first questionnaire by means of a list reduction, the experts are asked to assess their organization in joint and individual actions, according to flight and bases and they are presented with the general classification of the selected indicators.

The majority of the experts agreed in recognizing the value of the organization of the indicators of the aerobic technical component in joint actions and individual actions for the aerobic technical component of Cheerleading, all recommended the use of this

classification in the control and evaluation to be considered in the control and evaluation of that component and expressed the following criteria:

- ✓ They recognized the need to apply these indicators to control the acrobatic component.
- ✓ They considered the separate evaluation of joint actions and individual actions to be very necessary; as well as, its differentiation for bases and flyers.
- ✓ They declared the result achieved as very important, based on the fact that it would allow them to more precisely delimit the evaluation of the actions in the acrobatic technical component of Cheerleading and that they did not know this classification, so it is a novel result, which can contribute to the control and evaluation in this sport and in general to its technical preparation.

- Determination of the evaluation scales of execution and effectiveness of the defined indicators

Once the indicators were obtained for the control of the acrobatic component, it was decided after consultation on various sports that share some of their characteristics with Cheerleading (among them, the need to give quantitative value to qualitative criteria of the quality of the technical elements that make it up). compose), adapt the quality evaluation scale taken from the development and high competition program for age groups in Rhythmic Gymnastics built by Dias et al. (2019), specifically in its section on testing technical ability, since it was considered relevant, by the technical group of coaches of the Colombian national team, for its application in the evaluation of the indicators of the acrobatic technical component during the preparation of Cheerleading athletes in national team concentrations. This scale, shown in table 3, has already been sufficiently presented and validated in Rhythmic Gymnastics, with reviews and applications around the world, since 2019.

Table 3. Quality evaluation scale of acrobatic technical indicators

Description	Scoring range
Not completed. The stunt being attempted is not recognizable	0,0 -1

The stunt is barely recognizable. Poor technique, incorrect body position (posture) or fall.	1,5 – 2
The essential technical characteristics have been achieved. Poor technique and execution.	2,5 – 3
The stunt is shown with acceptable technique and execution; controlled. It can be introduced in a competition exercise.	3,5 – 4
The acrobatics is shown with very good technique and execution. There are no development or completion errors.	4,5 – 5

Note: For a more precise assessment of quality, half-point grades may be awarded (e.g. 1.5; 2.5; etc.). Table adapted from the development and high competition program for age groups in rhythmic gymnastics (Dias et al., 2019). The evaluation of the quality of technical execution = VC Quality Value is given in increments from 0 – 5 points.

To determine the level of effectiveness of the athletes in performing the same acrobatic element, the technical quality evaluation will be recorded in three consecutive executions, adding the results obtained, where the maximum possible score will be 15 points, which will be equivalent to 100 % effectiveness of the element executed.

Table 4 makes it possible to estimate the percentage of effectiveness of the same acrobatic element according to the result of the sum of the scores obtained in the three consecutive evaluations of acrobatic technical quality:

Table 4. Rating scale of the effectiveness of acrobatic technical indicators

Sum of points obtained	Effectiveness in %	Category Evaluative
14,40 a 15	96 al 100 %	Excellent
12,15 a 14,39	81 al 96 %	Good

9,15 a 12,14	61 al 80 %	Regular
9,14 and below	Less than 61 %	Bad

Conclusions

The quality indicators of the technical acrobatic actions and their evaluation scales of execution and effectiveness were defined on the basis of the differentiation of the base and flying actions, through the participation of the coaches and the criteria of experts, taking into account the competitive demands of Cheerleading and constitute elements to be considered in the control and evaluation of the acrobatic technical component in Cheerleading.

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