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*Original article*

## *The natural-historical trail: a space to promote collectivism in Physical Culture students*

*El sendero natural-histórico: un espacio para favorecer el colectivismo en estudiantes de  
Cultura Física*

*A trilha histórico-natural: um espaço para promover o coletivismo entre os estudantes de  
Educação Física.*

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### **ABSTRACT**

The research focused on strengthening the moral value of collectivism through the potential offered by physical recreation in the Santiago de Cuba region. The objective was to develop a system of educational activities to promote the moral value of collectivism in second-year Physical Culture students, based on the content of the course "Recreational Activities in



Nature," specifically within the natural-historical trail. The study started from the lack of connection between natural and historical heritage during pedagogical processes related to outdoor recreational activities, making it necessary to establish clearer links between teachers' knowledge, local history, and nature as a vital part of basic professional training. Theoretical methods such as analysis-synthesis, induction-deduction, and systemic-structural-functional analysis were used; empirical methods included observation, interviews, surveys, and self-assessment scales; and statistical-descriptive techniques were employed. The implementation of the study allowed for the development of theoretical and practical skills through natural-historical hiking, expressed in a values-based sports culture. Weaknesses and strengths of collectivism were identified, which served as the basis for designing the system of actions. The proposal was considered a valuable tool for training professionals committed to teamwork, collaboration, solidarity, cooperation, and shared participation; likewise, the contextualization of recreational content in terms of environmental and historical sustainability, within a comprehensive education.

**Keywords:** recreational activities in nature, cooperative learning, natural-historical trail, teamwork

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## *RESUMEN*

La investigación se enfocó en fortalecer el valor moral del colectivismo, mediante las potencialidades ofrecidas desde la recreación física, en la localidad santiaguera. El objetivo consistió en elaborar un sistema de acciones educativas para favorecer el valor moral del colectivismo en estudiantes de 2do año de la carrera de Cultura Física, a partir de los contenidos de la asignatura Actividades Recreativas en la Naturaleza, desde el sendero natural-histórico. Se partió de la falta de conexión entre el patrimonio natural e histórico, durante los procesos pedagógicos vinculados a las actividades recreativas al aire libre y se hizo necesario establecer vínculos más claros entre los saberes docentes, la historia local y la naturaleza como parte vital de la formación básica profesional. Se utilizaron métodos teóricos como análisis-síntesis, inducción-deducción y sistémico estructural funcional; empíricos, la observación, la entrevista, la encuesta y escala de autovaloración, y técnicas



estadístico-descriptivas. La implementación permitió desarrollar habilidades teórico-prácticas desde el senderismo natural-histórico, expresadas en una cultura deportiva basada en valores. Se identificaron debilidades y fortalezas del colectivismo, lo que sirvió de base para diseñar el sistema de acciones. Se consideró la propuesta como una herramienta valiosa para formar profesionales comprometidos con el trabajo en equipo, la colaboración, la solidaridad, la cooperación y la participación compartida; asimismo la contextualización de los contenidos recreativos en función de la sostenibilidad ambiental e histórica, dentro de la formación integral.

**Palabras clave:** actividades recreativas en la naturaleza, aprendizaje cooperativo, sendero natural-histórico, trabajo en equipo

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### *RESUMO*

Esta pesquisa teve como foco o fortalecimento do valor moral do coletivismo por meio do potencial oferecido pela recreação física na região de Santiago de Cuba. O objetivo foi desenvolver um sistema de atividades educativas para promover o valor moral do coletivismo entre alunos do segundo ano de Educação Física, com base no conteúdo da disciplina "Atividades Recreativas na Natureza", utilizando a trilha histórico-natural como ponto de partida. O estudo iniciou-se com a observação da falta de conexão entre o patrimônio natural e histórico durante os processos pedagógicos relacionados às atividades recreativas ao ar livre, tornando necessário o estabelecimento de vínculos mais claros entre o conhecimento dos professores, a história local e a natureza como parte vital da formação profissional básica. Os métodos teóricos incluíram as abordagens de análise-síntese, indução-dedução e sistêmico-estrutural-funcional; os métodos empíricos incluíram observação, entrevistas, questionários e escalas de autoavaliação; e foram empregadas técnicas estatístico-descritivas. A implementação facilitou o desenvolvimento de habilidades teóricas e práticas por meio de caminhadas na natureza e em áreas históricas, expressas dentro de uma cultura esportiva baseada em valores. Os pontos fortes e fracos do coletivismo foram identificados, fornecendo a base para a elaboração do plano de ação. A proposta foi considerada uma ferramenta valiosa para a formação de profissionais



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comprometidos com o trabalho em equipe, a colaboração, a solidariedade, a cooperação e a participação compartilhada; ela também contextualiza o conteúdo recreativo no âmbito da sustentabilidade ambiental e histórica, como parte de uma educação holística.

**Palavras-chave:** atividades recreativas na natureza, aprendizagem cooperativa, trilha histórica e na natureza, trabalho em equipe

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## INTRODUCTION

The moral value of collectivism is fundamental in the training of students in the Physical Culture career, understood as an ethical principle that prioritizes the objectives, needs and well-being of the group over individual interests, fosters collaboration, solidarity, shared responsibility and teamwork to achieve common goals (Blanco, 2023).

In the educational context, this value acquires special relevance, since as Rodríguez (2021) points out, physical activities constitute ideal spaces to strengthen it, by promoting dynamics that require cooperation and mutual respect.

On the other hand, the natural-historical trail is configured as a highly valuable educational and recreational resource. According to García (2020), it is defined as a route that integrates the natural environment with heritage and historical elements, designed to offer an experience that combines outdoor physical activity with learning about the environment and local culture. This approach not only promotes sustainable tourism and conservation but, as Castro & González (2023) point out, fosters a sense of belonging and responsibility towards the community and its legacy among participants.

The relationship between the natural-historical trail and the moral value of collectivism is direct and synergistic. The group experience developed in an environment with these characteristics demands and enhances collaboration, effective communication, and mutual support to overcome common challenges, such as navigating a route or collectively understanding historical information.

Thus, the trail becomes an experiential setting where collectivism is practiced and internalized, aligning with González's (2021) argument regarding the benefits of



experiential education in natural environments for developing social skills and values. Furthermore, Fernández & Méndez (2022) maintain that participatory methodologies and cooperative learning in unconventional settings are key to developing social skills and a strong group consciousness.

This interaction allows students not only to theoretically understand the value but also to experience it, strengthening their self-esteem and confidence by making them feel part of a collective project (García *et al.*, 2020). This values education is a fundamental component of the Physical Culture program, which is guided by a values-based approach (Rodríguez, 2017).

Despite the recognition of this relationship and the efforts to promote collectivism, a specific problem persists: systematic participatory methodologies that use resources such as the natural-historical trail are insufficient to operationalize and strengthen this value in the daily actions of 2nd year Physical Culture students.

Studies such as those by García *et al.* (2020) highlight the positive impact of collectivism on athletic performance and interpersonal relationships, but identify a gap in the application of concrete educational strategies that link curricular content with this external resource. This deficiency limits the student's holistic development and their ability to transfer the value of teamwork to various areas of their professional and personal lives.

Therefore, the present study is justified by the need to remedy this methodological deficiency; consequently, the objective of this research was to develop a system of educational actions to promote the moral value of collectivism in 2nd year students of the Physical Culture career, integrating the contents of the natural-historical path, for the effective link between theory and practice, in a meaningful and motivating context.

## **MATERIALS AND METHODS**

The research was conducted at the University of Oriente, Faculty of Physical Culture in Santiago de Cuba. The study employed a mixed-methods approach, with a quasi-experimental design, to apply a system of educational activities to a group and evaluate its effect on the development of the moral value of collectivism.



The population consisted of 92 second-year Physical Culture students. The sample was selected using simple random sampling to ensure that each student had an equal chance of being included. This resulted in a group of 48 students, representing 52.2% of the population. This proportion was considered representative for the purposes of the study.

Inclusion criteria: being a regular 2nd year student of the Physical Culture degree, being between 18 and 20 years of age and giving their consent to participate in the research; exclusion criteria: students who were not present in the initial diagnostic phase or who had partial enrollment in the subject linked to the research.

The sample consisted of 18 females and 28 males, aged between 18 and 20 years. Additionally, to triangulate information and enrich the diagnosis, 14 professors who taught in the second year of the program were included; all had more than 10 years of experience in the field, and five held a master's degree.

**The theoretical methods used were:**

Analytical-synthetic, it was applied systematically during the study of the potential of the contents of the natural-historical trail to enhance the moral value of collectivism, it allowed to break down the information obtained from the consultation of different theoretical references (Castro & González, 2023; García, 2020; Rodríguez, 2021) and synthesize the essential relationships between the resource of the trail and the formation of the value.

Induction-deduction was employed to draw general conclusions from specific observations regarding the potential of the learning path for working with the moral value of collectivism among students. It also allowed for the deduction, based on established theoretical principles, of the most relevant educational actions. This process was fundamental for comparing and explaining the empirical data obtained.

The systemic structural functional method was used in the construction of the system of educational actions and the development of the evaluation indicators, to promote the moral value of collectivism in the way of acting of the students of the 2nd year of the Physical Culture career.

**The following empirical methods were used for data collection:**



Observation: participant observation was conducted during sports and recreational classes and activities. A structured observation guide with predefined categories (teamwork, solidarity, shared responsibility) was created. The interpretation criteria were based on the frequency and quality of the observed behaviors, classified into three levels: high, medium, and low.

Semi-structured interviews were conducted with the 14 teachers. The interview guide was designed to explore their perceptions of the level of collectivism developed among the students and the potential they identified in the natural-historical pathway. The responses were analyzed using categorical content analysis.

Derevensky 's criteria was applied to the 48 students *et al.* (2020), adapted and validated for the Cuban context through expert review. To ensure the instrument's reliability in this population, a pilot test was conducted, yielding a Cronbach 's alpha coefficient ( $\alpha$ ) of 0.81, indicating acceptable internal consistency. The scale measured dimensions such as collaboration, solidarity, and mutual respect.

The study was conducted in three phases: diagnosis, implementation of actions, and evaluation. For the analysis of the quantitative data obtained from the self-assessment scale and observation, descriptive statistical analysis was used, calculating frequency distributions (n) and percentages (%) for each response category. The analysis was performed using SPSS v.25 software.

## **RESULTS**

The results of the initial diagnosis, obtained through triangulation of the methods applied, showed an initial situation of the development of the moral value of collectivism in the students.

Results of the self-assessment scale (n=48)

58.3% (28 students) were at a low level in the solidarity dimension and showed little willingness to support their peers selflessly.

In the teamwork dimension, 54.2% (26 students) showed an average level, demonstrating the ability to collaborate, but with a tendency to prioritize individual success when it



conflicted with group success. Only 18.8% (9 students) self-assessed themselves as having a high level of shared responsibility.

### **Observation results:**

The observation sessions confirmed the scale's findings. A low frequency of spontaneous collaborative behaviors was recorded during group recreational activities in nature. Functional communication predominated over mutual support, and difficulty in resolving internal conflicts collectively was observed.

### **Results of the interviews with teachers:**

All teachers interviewed agreed on the need to promote participatory methodologies to foster collectivism. 85.7% (12 teachers) identified the natural-historical trail as a resource with high pedagogical potential for this purpose, although 71.4% (10 teachers) acknowledged not having used it systematically and with clear objectives for values education.

The combination of these results allowed for a comprehensive interpretation of the problem. The low levels of solidarity and teamwork could be attributed to contextual factors such as the persistence of traditional teaching methods focused on individual performance, the lack of systematized activities specifically designed to foster positive interdependence, and the insufficient integration of the natural-historical trail's content as an experiential setting for practicing collectivism. This last point, noted by the teachers, represented a gap between the resource's potential and its actual application, which justified and supported the proposed system of educational actions.

The research made it possible to verify the deficiencies in the formation of the moral value of collectivism in the 2nd year students of the Physical Culture career, as well as the potential of the contents of the natural-historical trail for its strengthening, from a humanistic, cultural and environmental approach that had the purpose of establishing its procedure through the development of the skills of cooperation, collaboration and teamwork, for the realization of recreational activities in nature.



To analyze the problems presented by the moral value of collectivism in 2nd year students of the Physical Culture degree, the following indicators were defined, which emerged from a solid theoretical and methodological basis:

1. A willingness to work in teams facilitated personal interaction among students. This indicator was derived directly from the conceptualizations of Blanco (2023) and Rodríguez (2021), who identified collaboration and mutual support as core elements of collectivism. It was operationalized through the observation of behaviors such as selfless assistance, assertive communication, and coordination of efforts during group activities on the natural-historical trail. This allowed for the evaluation of the practical application of this value in student behavior.
2. Mastery of the elements of the moral value of collectivism. Based on the definitions of Fernández & Méndez (2022) and García *et al.* (2020), this indicator assessed the theoretical and conscious understanding of key dimensions such as solidarity, shared responsibility, and the subordination of individual interests to group goals. Its evaluation was conducted through interviews and self-assessment scales (based on Derevensky). *et al.*, 2020) allowed us to determine if the students internalized the principles of collectivism beyond their practical implementation.
3. Potential of the content of the natural-historical trail for developing the moral value of collectivism. This indicator was constructed based on the theoretical framework of Castro & González (2023) and García (2020), who highlighted the capacity of these environments to foster group identity, respect for heritage, and collaborative work. Their analysis allowed them to identify how specific elements of the trail, such as group navigation or collective interpretation of heritage, can be pedagogically structured to stimulate this value.

The triangulation of these behavioral, cognitive, and contextual indicators allowed for a comprehensive diagnosis of the level of development of collectivism and the opportunities for its strengthening, through the natural-historical path.

Proposal for a system of educational actions to promote the value of collectivism in 2nd year Physical Culture students through the Natural-Historical Trail. (See figure 1)





**Figure 1.** Representation of the system of educational actions to promote the value of collectivism.

(Source: *own*)

### 1. Walk through history

**Objective:** To promote teamwork and problem-solving through the exploration of local history.

**Organizational procedure:** form groups of 4-5 students.

#### **Actions to be developed:**

- Provide historical maps and compasses to follow a route that reflects the historical evolution of the town.
- Record observations and reflections in a group field journal.
- Share the findings and collective learning in a plenary session.

### 2. Reconstruction of the past

**Objective:** to develop empathy and historical understanding through the recreation of past events.

**Organizational procedure:** organize the students into pairs.

Actions to be developed:



- Investigate a relevant historical event in the locality.
- Recreate the event, using period clothing and tools.
- Present the reenactment to the group, based on the collective values present in the historical event.

### 3. Ancestral ecosystems

**Objective:** to promote environmental awareness and respect for biodiversity, through the study of ancient ecosystems.

**Organizational procedure:** form interdisciplinary groups.

**Actions to be developed:**

- Investigate the ecosystems that existed in the locality in the past and their transformation.
- Use samples of flora, fauna, and descriptive sheets to support the research.
- Develop a group proposal for the conservation of natural heritage.

### 4. Artifacts and legends

**Objective:** to promote the appreciation of cultural heritage, through the analysis of historical artifacts and local legends.

**Organizational procedure:** organize discussion groups.

**Actions to be developed:**

- Analyze historical artifacts and the legends associated with them.
- Discuss in a round table the cultural and symbolic value of the objects.
- To collectively develop a narrative that integrates the artifacts and their community meaning.

### 5. Guardians of heritage

**Objective:** to instill a sense of responsibility and pride in local heritage through collective conservation activities.

**Organizational procedure:** form interdisciplinary groups.



### Actions to be developed:

- Participate in local heritage conservation days (e.g., cleaning, signage, maintenance).
- Design and produce educational brochures for the community about the importance of preservation.
- Conduct an outreach campaign at the university or local community.
- Evaluate as a group the impact of the actions taken.

Cross-cutting elements of the educational action system, to promote the value of collectivism:

- Cooperative learning techniques: project-based learning, role-playing, problem-based learning, round table and service-learning.
- Media and resources: historical maps, compasses, field diaries, antique clothing and tools, natural samples, descriptive sheets, historical artifacts, conservation materials, and resources for graphic design.
- Continuous assessment: through rubrics, to assess collaborative participation, the quality of teamwork, and group reflection.

To evaluate the educational actions system, it was applied a self-assessment scale with Derevensky 's criteria. *et al.* (2020) who suggested the need to evaluate the role of sports and physical activities not only to improve physical health, but also to foster important social and emotional skills.

By creating environments to encourage cooperation and teamwork, students developed essential life skills, beneficial to their growth and overall well-being.

Definition of indicators and items:

Cooperation: willingness to work in a group towards common goals.

- When I work in a group, I strive to ensure that all members actively participate.
- I consider the team's goals as important as my personal goals.
- I am willing to share my resources with the team to achieve a common goal.
- I look for solutions that benefit the entire team.



- I prefer to make decisions in a group rather than individually, especially when they affect others.

Solidarity: mutual support among group members.

- I feel committed to the well-being of my classmates.
- I act in defense of a colleague if he is treated unfairly, even if that can cause me problems.
- I celebrate my colleagues' successes as my own.
- I am willing to put my needs second to support a colleague in difficulty.
- I feel a strong connection with my classmates and their success in the Physical Culture degree.

Teamwork: ability to integrate and act as part of a team.

- I value the different skills and perspectives that each member brings to the team.
- I strive to maintain a positive and motivating team environment.
- I recognize and respect the contributions of all team members.
- I encourage open and honest communication among all team members.
- I take responsibility not only for my own tasks, but also for helping others to complete theirs.

Collaboration: interaction and joint effort to achieve a goal.

- I actively seek the participation of others to combine our skills and knowledge.
- When I collaborate, I focus on achieving a common goal rather than standing out individually.
- I enjoy and learn from my colleagues and contribute my knowledge to the team.
- I believe the best results are achieved when we work together, not in competition.
- I am open to different points of view and willing to adapt my ideas to improve teamwork.

Shared participation: equitable involvement of all members in group activities.

- I believe that all members should have the same opportunity to lead and be heard.



- I encourage each team member to have a clear and meaningful role.
- I make sure that tasks are distributed equitably among the members.
- I value the importance of all members being involved in decision-making.
- I encourage all members to share their ideas and suggestions.

Thus, the application of the self-assessment scale allowed to rate the level of the moral value of collectivism in each student, in relation to the proposed indicators (collaboration, teamwork, cooperation, solidarity, and shared participation) on a scale of 1 to 5, where 1 represented disagreement and 5 total agreement. (See Table 1)



*Figure 2. Representation of the results obtained from the survey conducted*

*(Source: own )*

The application of the rating scale made it possible to visualize clearly and concisely the state of each indicator of the moral value of collectivism and facilitated the identification of patterns and areas for improvement in the collective behavior of the studied sample.

#### Analysis of the results

Cooperation was positively valued by the majority of students, with 81.2% of participants (39 students) expressing complete or strong agreement with this practice, suggesting that mutual help and collaboration in the learning process were fundamental for most students.

Solidarity was not valued unanimously; only 27.0% of the students (13) expressed complete agreement with this practice. This indicated that some students did not consider solidarity an important aspect of the learning process.



Teamwork was positively valued by only 37.5% (18 students) who expressed some disagreement, indicating the need to develop improvement actions for those students who did not consider it among their priorities for learning and social life.

Collaboration was highly valued by 43.7% of the sample (21 students) and was considered one of the most humanistic values that influenced the strengthening of ties between the members of the group.

Shared participation was also positively valued, with 66.6% of students (32) expressing complete or strong agreement with this practice. This suggests that inclusion and active participation in the learning process were considered fundamental by the majority of students.

In summary, cooperation and shared participation were practices that received significant support from students, while solidarity was not as widely valued, and collaboration and teamwork presented areas for improvement. These results informed actions to inform learning strategies that fostered collaboration and inclusion, and to identify opportunities for improvement in promoting the indicators with the lowest levels of acceptance.

## *DISCUSSION*

The results of this research revealed that, while students positively valued cooperation (81.2%) and shared participation (66.6%), they presented significant difficulties in solidarity (27.0%) and teamwork (37.5%). These findings align with González's (2021) assertion that the development of moral values in the context of recreation and sports cannot be limited to theoretical statements, but must be materialized in concrete practices that transform interpersonal relationships within the group.

The proposed system of actions was presented as a concrete response to the need to implement values-based management, which, according to Rodríguez (2017), is an indispensable pillar in the training of professionals in Cuba.

In accordance with Roba & Quintero (2014), the results obtained reinforce the central role of universities as socializing agents in the promotion of values. However, the study revealed that despite this favorable institutional framework, weaknesses persisted in the



internalization of solidarity among Physical Culture students, suggesting the need for more participatory and experiential methodologies.

The data obtained align with Pérez & Torres' (2024) perspective on collectivism as a guiding value in the Physical Culture career; particularly, the low percentage in teamwork (37.5%) was paradoxical in a context where the collective was privileged, which indicated possible discrepancies between the institutional discourse and everyday educational practices.

From Viladrich 's theory of self-determination & Appleton (2023), the results suggest that intrinsic motivation towards collaborative work may be mediated by factors not sufficiently addressed in professional training, such as the perception of autonomy and relational competence.

These findings are consistent with contemporary international research that emphasizes the educational value of non-traditional learning environments. Authors such as Kourtesopoulou & Kriemadis (2021) highlights the role of the outdoor education in the development of collaborative and leadership skills.

From a psychological perspective, Manninen Campbell (2022) and Rambe demonstrate that self-determined motivation in outdoor sports contexts promotes the internalization of prosocial values. Finally, Rambe & Khairani (2021) confirm that the integration of local heritage into recreational activities strengthens collective identity and community commitment, thus validating the relevance of the proposed approach.

In conclusion, in line with Tenorio *et al.* (2024), these results reinforce the importance of a comprehensive Physical Culture that integrates environmental, social, and economic dimensions with the development of values. The implementation of the natural-historical trail proved to be a favorable setting for this integration and facilitated the transition from stated values to concrete collective behaviors.

## CONCLUSIONS

The implementation of the educational action system based on the natural-historical trail proved effective in identifying and addressing critical areas in the development of the moral value of collectivism among second-year Physical Culture students. The results of the



applied self-assessment scale showed significant progress in cooperation (81.2% acceptance) and shared participation (66.6%), while revealing persistent needs in solidarity (27.0%) and teamwork (37.5%).

The natural-historical trail was configured as an ideal pedagogical setting for the development of collective values, by contextually integrating historical, environmental, and physical learning. Direct observation during the five implemented activities confirmed that this environment facilitated the transition from stated values to concrete collaborative behaviors, especially in the "Guardians of Heritage" and "Walk Through History" activities.

The evaluation of the system using empirical methods (survey, observation, and self-assessment scale) allowed for verification of its effectiveness under real-world application conditions. However, limitations were identified related to the availability of material resources and the need for greater curricular integration, suggesting adjustments for future implementations.

The main evidence of effectiveness was that 72.9% of students showed improved willingness to work collaboratively after implementation, according to observation records and post-implementation scale results. This result validated the system's potential to transform individualistic practices into collective behaviors.

The study concluded that the proposed system of educational actions constituted a valid and applicable tool for the training of Physical Culture professionals, with a demonstrated capacity to develop essential collective skills through the integration of natural and historical heritage and recreational activities in nature.

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***Conflict of interest statement:***

The author declares that there are no conflicts of interest.

***Author's contribution:***

The author is responsible for writing the work and analyzing the documents.



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