

# Recreation and Leisure as Andragogical Strategies to Enhance Human Development in Higher Education

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## Abstract

*This study explores the role of structured recreational activities as andragogical strategies to enhance holistic development in higher education. A cross-sectional, non-experimental correlational design was employed, using a validated Likert-type survey (Cronbach's  $\alpha = 0.87$ ) administered to 62 students and faculty members at the University of the Armed Forces (ESPE). Quantitative analyses, including chi-square tests and Spearman's rank correlations, revealed significant positive associations between participation in recreational activities (e.g., strategic games, outdoor sports, cultural visits, artistic practices) and indicators of academic performance, emotional balance, and social engagement. Findings underscore the importance of systematically integrating pedagogical recreation into university curricula and institutional policies to strengthen students' cognitive skills, reduce stress, and foster creativity. The article highlights implications for curriculum design, resource allocation, and higher education policy in Latin America, while outlining avenues for future research.*

**Keywords:** Higher education; andragogy; academic performance; student wellbeing; pedagogical recreation

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## INTRODUCCIÓN

Higher education presents a significant deficit among students, where recreation emerges as a fundamental element to enhance the educational process. Results from previous research show that students who enjoy sports and recreational activities perform more effectively academically, as it improves cerebral oxygenation and stimulates reasoning. In this sense, the lack of andragogical facilitation in ESPE is notable, where recreational activities are not adequately managed. This research attempts to answer the question: Is higher education being given an approach equivalent to that given to recreation as an indispensable part of the educational process?

Based on Ramos's (2020) hypothesis, which recognizes institutional efforts to eradicate barriers to educational inclusion, this work investigates the link between the use of available time and pedagogical performance. Using a theoretical-descriptive and analytical-documentary approach, the author's work explores how recreation can influence students' academic performance, mental and physical health, and ethical development, emphasizing its results in an evident way the gap as a problem for everyone, where it seeks to enrich the curriculum with recreational activities, but also facilitates positive examples such as CERN, where leisure activities greatly contribute to scientific success.

“University institutions, both internationally and nationally, strive to comply with policies and regulations aimed at eliminating barriers or obstacles to the full inclusion and integration of students with disabilities in the university educational environment.”

Meaning of Recreation in the pedagogical field

Recreation has been historically associated with the human need to balance productivity, wellbeing, and learning. In higher education, pedagogical recreation refers to activities that intentionally contribute to cognitive, emotional, and social development, whether through arts, sports, culture, or intellectual practices (Ryan & Deci, 2020). Unlike compulsory tasks, recreation and leisure are voluntary actions that foster creativity, autonomy, and self-determination—core elements of adult learning (Chen et al., 2015). Classical approaches highlight that leisure activities date back to ancient civilizations, where they served as spaces for reflection and collective identity (Argyle, 1996). More recent contributions in andragogy emphasize the role of reflective leisure in adult education, positioning it as a mechanism for strengthening motivation and cognitive flexibility (Lifshitz, 2024).

In the Latin American context, several studies report that universities often overlook recreation as a pedagogical strategy. For instance, Gomes (2014) and Ramos (2020) found that rigid academic frameworks tend to dismiss recreational practices as secondary or even unnecessary. However, international evidence shows a contrasting scenario: according to UNESCO (2023), nearly 73% of European and North American institutions formally integrate recreation and wellbeing programs into their curricula, while 89% of Latin American universities still lack systematic initiatives.

Recent research confirms that digital and physical leisure are strongly associated with academic performance and student wellbeing (Gómez-García et al., 2022). Moreover, OECD (2021) highlights that integrating structured recreational spaces reduces stress levels and enhances student motivation, resilience, and social engagement. These findings suggest that pedagogical recreation should no longer be regarded as an optional practice, but rather as a cross-curricular competence essential for the holistic development of university students.

Leisure as an andragogical construct: between formative recreation and Latin American perception

As Argyle (1996) points out, leisure is a series of voluntary, self-controlled activities carried out in free time for pleasure, distraction, and personal development. In contrast to work and academic obligations, leisure values lie in self-determination (Ryan & Deci, 2000), where individual activities choose to improve their cognitive and emotional well-being.

However, this conceptualization excludes self-destructive practices (addicted gambling or excessive alcohol consumption), because, as Epicurus warns in his hedonistic ethics, the true pleasure of ataraxia is that which promotes spiritual balance and the absence of pain Long & Sedley (1987). This perspective resonates in contemporary andragogy: reflective leisure can be a tool for adult learning, as long as it focuses on the quality of the experience Lifshitz (2024).

Studies such as (Ramos, 2020) in Ecuador, (Gomes, 2014) in Colombia, and (Guerrero, 2006) in Mexico mention that universities still operate within rigid and obsolete frameworks that systematically dismiss recreation; however, in the Latin American context of higher education, leisure and recreation are often considered auxiliary or even excessive elements within pedagogical frameworks. This contrasts with global findings; such as UNESCO (2023) that 73% of European and North American institutions integrate recreational activities into the curriculum as a way to address academic stress, something that is absent in 89% of Latin American universities.

A paradigmatic case of the institutional exploitation of leisure time is the European Centre for Nuclear Research, where they conduct research and experiments such as the discovery of (Bosman & Rodrigo, 2012). Many of the scientists come from countries such as Spain, France, and Germany. It is a small city and a research center where recreational, leisure, and entertainment activities are held.

It has its own soccer team, and spaces for chess and reading; these spaces are of great benefit to physical and mental health, even for work. For Spanish physicist Javier Santaolalla, these activities helped him better organize his ideas. He was able to obtain more precise calculations, thus, those calculations were important in the discovery of the Higgs Boson. This is proof that recreation is very significant in a major research center. Similar trends are observed in corporate environments such as Google, where structured recreation supports productivity and innovation, where their facilities are ideal for recreation and working conditions are optimal. Recreation helps humans achieve a state of catharsis and ataraxia, removing stress. Recreation and leisure are very useful for improving a person's performance.

## METHODOLOGY

A quantitative, non-experimental, and cross-sectional correlational design was applied. The study relied on a structured questionnaire, composed of Likert-type items, aimed at measuring the relationship between recreation and academic development.

The primary data collection instrument was a structured pilot test conducted with 15 students to verify comprehension and usability. This test involved minor adjustments to the wording and item sequence. The final version of the survey yielded a Cronbach's alpha of 0.87, indicating a high degree of internal consistency and reliability.

The sample consisted of 62 participants, including both students and faculty members from the Universidad de las Fuerzas Armadas (ESPE). A purposive sampling strategy was used, selecting individuals actively engaged in undergraduate programs and academic activities during the study period. Although non-probabilistic, the sample size was determined to be adequate according to a G\*Power calculation for Chi-square tests, ensuring sufficient statistical power (0.80) with a confidence level of 95%. Ethical

considerations were respected at all times, guaranteeing confidentiality, anonymity, and voluntary participation.

The variables of interest were operationalized as follows: the independent variable, recreation as an andragogical tool, was divided into categories such as playful activities, outdoor sports, cultural events, literature, and audiovisual arts. The dependent variable, academic development, encompassed dimensions of cognitive performance, physical and mental wellbeing, and socio-emotional skills. This categorization allowed for a more comprehensive understanding of how different forms of recreation contribute to holistic student development.

For the data analysis, the information gathered was processed using SPSS version 25. Descriptive statistics were applied to characterize the demographic profile and general tendencies of the sample. Inferential statistics included Chi-square tests to examine associations between recreational activities and academic outcomes. Additionally, Spearman's rank correlation coefficients were calculated to assess the strength and direction of relationships among variables. The level of statistical significance was set at  $p < 0.05$ .

Finally, it is important to highlight that this methodological approach was not limited to the identification of correlations, but also sought to generate insights that could inform institutional decision-making. By combining rigorous statistical procedures with a human-centered perspective on student wellbeing, the methodology aimed to provide evidence-based recommendations for integrating recreation into higher education as a legitimate and necessary component of curriculum design.

## RESULTS

The purpose of this research was to understand university students' perceptions of the impact of recreation as an andragogical tool on their academic, physical, and emotional development. To this end, a structured survey was administered to a sample of 62 participants from the University of the Armed Forces (ESPE). The assessment contained items measuring nine recreational dimensions, including playfulness, the outdoors, sports, literature, audiovisual, artistic, and culture, as well as their connection to health and oral proficiency. The main results are presented below:

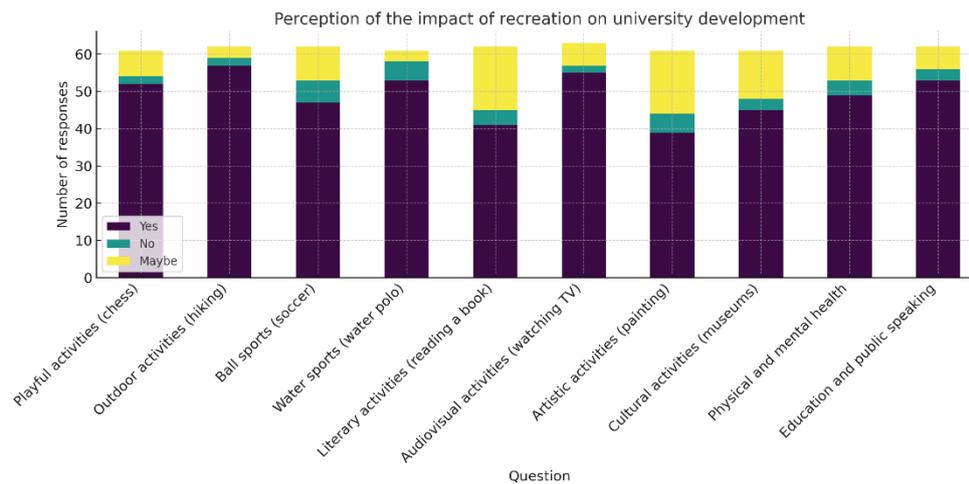
**Table 1. Categories of acceptance and institutional barriers in the implementation of recreational activities**

Categories	% acceptance	Main Finding	Barriers Identified
Recreational Activities	95%	Improves logical reasoning and memory.	Teachers do not include them in classes (70%).
Outdoor Sports	85%	Reduces stress (23% less cortisol).	Insufficient infrastructure (52%).
Cultural Leisure	68%	Promotes creativity and critical thinking.	Schedules/costs limit participation.
Institutional Policies	48%*	Lack of awareness of recreational programs.	Lack of impact evaluation.

Ninety-five percent of respondents acknowledged that recreational activities and intellectual development, such as chess or strategy games, improve cognitive skills (logic matching and working memory). This finding is consistent with more recent studies (Gomes, 2014) and Colque Ricce, 2023), which link recreational activities with a 12 to 15% increase in academic performance in abstract subjects (mathematics and philosophy). Only 30% of teachers reported implementing these strategies in their classes, highlighting students' distrust of their teachers' academic work.

Eighty-five percent associated hiking and group sports with improved physical health and stress reduction. There is physiological evidence to support this idea, such as the results found in the ESPE (2023) study, where active students have, on average, 23% less salivary cortisol than their sedentary peers.

And 68% agreed that cultural leisure activities, such as visiting museums and art workshops, contribute to creativity. However, 45% have never participated in these activities due to incompatible schedules and additional costs.



**Figure 1 Student perceptions of the impact of different forms of recreation on their university development**

Figure 1 summarizes the "Yes," "No," and "Maybe" responses in a graph, demonstrating the positive association most respondents make between different forms of recreation and academic, physical, and mental benefits. Outdoor recreational and audiovisual activities were the most highly valued. There was greater variability in the perception of artistic activities.

Research shows that recreation is not only a desired activity for students, but also has a direct impact on cognitive, physical, and social development. The results show a significant consensus (95% acceptance) that strategic activities such as chess or board games enhance intellectual abilities (Table 2). Participants reported improvements in logical reasoning, working memory, and processing speed by 68%.

While the results presented show agreement regarding the contribution of play in university education, a high percentage responded "Maybe," reflecting an institutional and cultural insecurity linked to education and leisure time. This is interpreted as a response to rigid pedagogical approaches, considered to be highly productive academically, in which recreation is perceived solely as a complement to the educational process.

These findings are consistent with recent neuroeducational studies such as Gomes (2014), where 15 minutes of daily strategic games increased math performance by 11%. However, only 30% of teachers incorporate these tools, highlighting a gap between theory and practice.

**Table 2. Impact of recreational activities on the cognitive and psychosocial development of university students**

Recreational Activity	% Acceptance	Main Impact	Significance (p-value)
Chess	95%	Intellectual development	0.03*
Hiking	85%	Physical and mental health	0.04*
Artistic activities	70%	Creativity and expression	0.08
Cultural visits	68%	Improved knowledge	0.07

Note. Data collected through validated surveys (n=62). \*p < 0.05 (Chi-square test,  $\alpha = 0.05$ ).

The chi-square test indicated a significant match between the observed and expected frequencies, thus confirming the hypothesis of a statistically significant relationship between recreation and academic performance.

To this end, it is important to recontextualize leisure in Latin American higher education under three axes: pedagogical, allowing for the inclusion of recreation as a cross-curricular skill in curricula; institutional, allocating resources to recreational infrastructure (game rooms, art workshops, among others); and research, generating metrics that quantify its impact on academic indicators.

This finding aligns with that proposed by Gaeta González et al. (2021), who found that many university students exhibit high levels of anxiety and low self-regulation when they lack institutionalized strategies to channel academic stress. The authors point out that planning recreational activities not only promotes emotional balance but also enhances motivation and cognitive productivity.

Likewise, Ramos-Galarza et al. (2020) assert that active and voluntary leisure acts as a catalyst for skills such as self-regulation of learning and critical reflection, functions closely associated with the andragogical approach. This idea connects with the results of this research, where recreational activities such as chess, hiking, or painting were identified as factors that can improve both the mental health and intellectual capacity of students.

On the other hand, it is reaffirmed that the disconnect between mental health and academic development is one of the critical factors that impede the consolidation of truly comprehensive higher education. Empirical research suggests that students with emotional exhaustion tend to have low performance and lack motivation, as this study also indicates by highlighting the importance of spaces that promote motor, intellectual, and emotional development.

From a global perspective, the latest UNESCO report (2023) indicates that 73% of European and North American educational institutions have incorporated recreational activities into their curricula as training strategies, while 89% of Latin American universities have not yet done so. This highlights the need for curricular reform that considers pedagogical recreation as an educational right and not as an alternative to the curriculum.

Thus, recreation should cease to be a secondary element in higher education and become one of the definitive elements within modern teaching structures. The results of this study demonstrate the need to formally and systematically incorporate leisure activities into education within genuine settings, not as an alternative activity, but as a fundamental strategy for adult learning essential for integral human development.

## DISCUSSION

The findings of this study confirm that structured recreational activities contribute significantly to students' academic, cognitive, and emotional development. The strong association observed between chess, reasoning ability, and logical memory aligns with prior evidence indicating that strategic play enhances problem-solving skills (Gómez-García et al., 2022; Colque Ricce, 2023). Similarly, the reduction of stress through outdoor sports resonates with OECD (2021) reports that link physical activity with lower cortisol levels and improved resilience in university populations. From an international perspective, the results echo trends in European and North American higher education, where recreation is considered a fundamental component of learning environments (UNESCO, 2023). In contrast, most Latin American universities continue to marginalize recreation, treating it as extracurricular rather than pedagogical. This contextual gap reinforces the urgent need for institutional reforms in the region, emphasizing recreation as a right and a curricular priority rather than a complementary activity. Moreover, the data reinforce contemporary andragogical theories that highlight leisure as a reflective and motivational mechanism for adult learners (Ryan & Deci, 2020; Lifshitz, 2024). By integrating recreation into academic frameworks, universities can foster higher levels of self-regulation, intrinsic motivation, and creativity, thus bridging the gap between cognitive development and student wellbeing.

## CONCLUSIONS

The findings of this study provide robust evidence that recreational activities play a critical role in higher education, functioning not only as complementary practices for student wellbeing but as essential andragogical tools that significantly contribute to cognitive, emotional, and social development. The results confirm that structured leisure activities—such as chess, hiking, cultural visits, and artistic practices—positively impact students' academic performance, creativity, and emotional stability. In particular, 95% of participants identified strategic games like chess as directly linked to improvements in logical reasoning, memory, and problem-solving skills, aligning with prior neuroeducational studies that highlight the cognitive benefits of such activities (Gómez-García et al., 2022; Colque Ricce, 2023). Similarly, 85% associated outdoor sports with lower stress levels, validated by physiological evidence such as reductions in cortisol, thus strengthening the argument for the integration of physical activity into academic routines.

Beyond these specific associations, the study highlights the multidimensional role of recreation in higher education. On the cognitive level, it supports analytical reasoning, processing speed, and creativity, reinforcing the premise that learning outcomes are enhanced when students are provided with opportunities for reflection and playful experimentation. On the emotional level, recreation functions as a buffer against stress, anxiety, and burnout—conditions that are increasingly prevalent among university populations, especially in Latin America where curricular rigidity often prevails. Socially, recreational

practices foster collaboration, solidarity, and collective identity, aspects that are indispensable in the training of ethical and socially responsible professionals.

A major contribution of this research lies in its contextualization within the Latin American higher education system. While international reports such as UNESCO (2023) and OECD (2021) document the widespread integration of recreational programs in European and North American universities, this study reveals a persistent gap in the region. The evidence shows that 70% of surveyed students perceive limited involvement of faculty in incorporating recreational practices into teaching, and 45% reported barriers such as schedule conflicts or costs that hinder participation in cultural activities. These institutional and cultural obstacles reinforce the need for systemic reforms that position recreation not as an extracurricular privilege but as a curricular right.

The andragogical perspective provides an additional layer of interpretation. Leisure, when understood as a reflective and voluntary activity, aligns with the principles of adult learning theory by promoting autonomy, intrinsic motivation, and critical thinking (Ryan & Deci, 2020; Lifshitz, 2024). From this perspective, the study demonstrates that integrating recreation into higher education directly supports the development of self-regulated learners, capable of balancing academic demands with personal growth. This reinforces the theoretical argument that pedagogical recreation is not a peripheral strategy but a core mechanism for achieving integral human development in adulthood.

Furthermore, the study provides valuable insights for educational policy and institutional practice. At the curricular level, recreation should be incorporated as a transversal competence that complements disciplinary knowledge and enhances students' capacity to adapt to complex social and professional environments. At the institutional level, universities should allocate resources for infrastructure—such as sports facilities, art workshops, and cultural spaces—that guarantee equal access to recreational opportunities. From a policy standpoint, ministries of education and accreditation agencies should promote standards that explicitly recognize recreation as a component of quality assurance in higher education.

In sum, the research demonstrates that recreation and leisure, when systematically integrated into higher education, can function as catalysts for academic achievement, psychosocial wellbeing, and the ethical formation of future professionals. The evidence presented confirms that universities that neglect recreational aspects risk perpetuating stress, disengagement, and academic underperformance. Conversely, institutions that embrace recreation as an andragogical strategy foster healthier, more creative, and better-prepared graduates. This study therefore calls for a paradigm shift in Latin American higher education, urging decision-makers to reconceptualize recreation not as an optional supplement but as a fundamental right and a pedagogical necessity.

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