Impact of extracurricular activities on academic performance

Impacto de las actividades extracurriculares en el rendimiento académico

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Abstract

Within the current framework of Ecuadorian higher education, universities have integrated Extracurricular Activities (ECAs) as essential components of holistic student development. However, the implementation of these programs at institutions like the Technical University of Machala (UTMACH) has faced structural challenges, including fragmented strategic planning and low student motivation. Overcoming the historical ambiguity surrounding this construct, contemporary academic literature defines ECAs as voluntary, structured processes that transcend purely recreational, sporting, or cultural functions to directly influence academic performance and soft skill development. This correlational study analyzes the impact of ECAs on the academic achievement of UTMACH students during the 2025 academic year. Methodologically, a survey instrument was administered to a sample of 119 Economics students, and data were analyzed using Spearman's rho correlation coefficient. The findings indicate a strong positive correlation ($rs = 0.864$, $p < 0.05$), leading to the rejection of the null hypothesis. The results demonstrate a statistically significant interdependence: higher engagement in extracurricular

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activities correlates with a greater probability of attaining superior academic performance. These findings suggest that ECAs function as catalysts for academic success by strengthening transversal competencies.

Key Words: higher education, curricular activities, academic performance, comprehensive training, correlation

Resumen

En el contexto actual de la educación superior en Ecuador, las universidades ecuatorianas han integrado programas de Actividades Extracurriculares (AEC) como componentes esenciales de formación integral. Sin embargo, la implementación de estos programas en instituciones como la Universidad Técnica de Machala (UTMACH) ha enfrentado desafíos como la desarticulación en la planificación y una persistente falta de motivación en los estudiantes. Superando la ambigüedad histórica del constructo, la literatura académica define a las actividades extracurriculares como procesos voluntarios y estructurados que transcienden lo recreativo, deportivo y cultural para incidir en el desempeño académico. Las Actividades Extracurriculares (AEC), no solo cumplen funciones recreativas o culturales, sino que actúan como generadoras de competencias transversales que inciden directamente en el rendimiento académico. El presente estudio de alcance correlacional analiza el impacto de las actividades extracurriculares en el rendimiento académico en los estudiantes de la Universidad Técnica de Machala en el año 2025. Metodológicamente, se aplicó un cuestionario a 119 estudiantes de la carrera de Economía de la Universidad Técnica de Machala para determinar la correlación entre las variables mediante el coeficiente de Rho de Spearman. Los resultados indican que existe una correlación positiva alta de 0,864 y una significancia a 0,05, lo que permite rechazar la hipótesis nula. Los resultados evidencian la relación de interdependencia estadísticamente significativa: a mayor dedicación a actividades extracurriculares, mayor es la probabilidad de obtener un rendimiento académico superior.

Palabras clave: educación Superior, rendimiento académico, formación integral, correlación.

Introduction

The 21st century is characterized by the phenomenon of globalization and the advancement of Information and Communication Technologies (ICTs). By facilitating real-time communication, the internet has transformed social dynamics, particularly within the labor market. Given this scenario, the role of higher education institutions has acquired strategic relevance in developing human talent capable of achieving high-quality professional performance aligned with the demands of the global labor market (Bernate & Fonseca, 2023).

Consequently, Higher Education Institutions (HEIs) must ensure that their curricular designs are oriented toward solving environmental and regional problems (Granados Maguiño et al., 2025). In this manner, universities consolidate their position as organizations responsible for training professionals capable of proposing solutions to societal development challenges (Espinoza Freire & Guamán Gómez, 2018).

However, the transition to a diverse and demanding educational environment poses integration

barriers, resulting in high dropout rates during the first semesters of study in Latin American universities. This phenomenon is closely linked to students' lack of adaptation to institutional culture (Castro-Martínez & Machuca-Téllez, 2023). A primary concern within the university setting is low academic performance stemming from this lack of cultural adaptation. This issue not only manifests as deficiencies in the teaching-learning process of academic content but also presents an obstacle to developing the skills and competencies necessary for a complex labor market (Gabriel Tirajaya & Gabriel Tirajaya, 2025).

To address this, higher education institutions have implemented strategies to increase inclusivity and formal access, embedding curricular activities into their institutional offerings. These initiatives aim to create spaces for holistic individual development, strengthen comprehensive training, reduce persistent educational disparities in the region, and promote greater equity in student performance (Sánchez Moncayo et al., 2023).

Extracurricular activities (ECAs), despite possessing a defined structure that integrates recreational and educational approaches designed to meet social demands, are conducted outside regular class schedules and are not evaluated through traditional grading systems (Macay-López et al., 2022). According to Martínez Vicente and Barroso (2020), the essential difference between curricular and extracurricular activities lies in the core of formal education; curricular activities are mandatory, conducted during school hours, and comprised of formal tasks. Conversely, extracurricular activities are classified into sports and recreational categories, with an ideal average of two hours per week. Although they boost motivation and achievement, they require personalized planning to ensure they serve as a healthy complement rather than an overload. These initiatives offer the flexibility demanded by the economic and social development of nations, particularly Ecuador (Ordóñez Cuenca et al., 2022).

Ecuadorian universities have developed programs incorporating extracurricular activities, though some institutions face difficulties due to various factors, such as a lack of strategic planning, unawareness, or a lack of student interest (Macay-López et al., 2022). Nevertheless, the implementation of extracurricular activities is justified by the regulatory framework provided by the Organic Law of Higher Education (LOES). This regulation emphasizes the relevance of these activities within the education system, enabling institutional transformation and balancing academic excellence with policies that promote high-quality professional training (Martínez Vicente & Valiente Barroso, 2020).

Within this scenario, universities have shown a growing interest in developing extracurricular activities as strategies for holistic student support. This is particularly relevant in provinces with a strong productive and industrial vocation, such as El Oro, where professional training curricula must directly respond to market demands. The higher education landscape in the Province of El Oro comprises both public and private institutions, notably the Technical University of Machala (UTMACH) and the Metropolitan University of Ecuador (UMET). Together, these institutions account for an approximate enrollment of 15,000 students, representing 2% of the region's total student population (Tandazo-Rey et al., 2025).

The Technical University of Machala, an institution that has educated generations of new professionals across diverse fields of knowledge since 1969, aims to contribute directly to the sustainable growth and development of the coastal province of El Oro. To achieve this, the university promotes extracurricular activities—specifically sports and recreation—with the explicit purpose of strengthening the student community and fostering physical, social, and emotional skill development (Ávila Jiménez et al., 2024).

Consequently, the impact of extracurricular activities on academic performance has emerged as a critical topic in contemporary educational research, where holistic training aims to transcend traditional instructional boundaries. Within this context, the following research question ari-

ses: What is the impact of extracurricular activities on academic performance? Accordingly, the objective of this study is to analyze the impact of extracurricular activities on the academic performance of students at the Technical University of Machala during the 2025 academic year.

Literature Review

Theoretical Conceptualization of Extracurricular Activities

Díaz-Iso et al. (2020) conducted a systematic review of 50 studies published between 2000 and 2018, analyzing the concept of extracurricular activities (ECAs) in higher education. According to these authors, the term has historically suffered from conceptual ambiguity, often being limited to sports, recreation, and cultural events. However, the analyzed academic literature consistently establishes that the defining characteristics of ECAs are their voluntary nature and their structured integration into student training. Although developed outside the classroom to complement the formal curriculum, these activities foster personal identity and social benefits. Furthermore, the researchers emphasize that ECAs exert a significant impact on academic performance by improving student attitudes and increasing academic motivation, while simultaneously facilitating student adaptation to university life and strengthening their sense of institutional belonging.

According to Benavides Villareal (2023), extracurricular activities represent alternative educational settings that, despite being managed under institutional oversight, are non-mandatory and rely fundamentally on student volition. These activities transcend the mere reinforcement of academic content, serving as an essential element for holistic development by addressing students' ontological dimensions and recognizing them as multidimensional individuals through the productive use of free time. Nevertheless, for extracurricular activities to achieve their intended developmental objectives, they must be seamlessly integrated into the administrative and curricular structures of higher education institutions. A lack of strategic curricular planning, combined with an excessive emphasis on traditional academic quality standards, often generates operational challenges—such as scheduling conflicts and monotonous programming—that ultimately restrict the realization of their benefits.

Plúa-Baque et al. (2022) contend that extracurricular activities are an essential component of university life. Although they constitute experiences conducted outside the mandatory curriculum, they are executed under the administration of higher education institutions. These activities encompass academic events, such as conferences and symposia, as well as cultural and sporting initiatives, all designed to complement students' professional training through continuous learning and the cultivation of competencies, skills, and abilities not fully addressed by the formal curriculum. Consequently, these activities facilitate spontaneous student participation, which directly influences emotional well-being as well as academic and professional success.

Academic Performance

University students frequently employ diverse learning strategies that directly influence their academic performance and guarantee their competitiveness within the labor market (Betancourt-Pereira, 2020). Among the quantitative indicators of this competitiveness, academic performance stands out as paramount. This process is reinforced by holistic training and the practical application of knowledge in daily practice, both of which are essential to achieving solid academic outcomes (Ávila Jiménez et al., 2024). Furthermore, the utilization of ICTs significantly impacts academic performance; students' digital competencies serve as essential mechanisms to enhance technical skills, which are closely aligned with individual personal factors (Romero Espinosa et al., 2024).

According to Ahuananchi Añazco et al. (2025), academic performance is a complex variable influenced by diverse factors and evaluated through student achievement relative to established

curricular objectives. However, academic performance should not be restricted merely to quantitative grades or cumulative averages. Instead, it is necessary to examine the student's capacity to meet academic demands, navigate environmental factors, adapt to the university setting, and efficiently fulfill institutional responsibilities.

Concurrently, Gabalán Coello and Vásquez Rizo (2017) define academic performance as the numerical grades assigned to students upon course completion. Nevertheless, they note that this metric is the outcome of a multifactorial phenomenon driven by variables such as class attendance and student motivation; thus, academic performance serves as a reflection of the student's broader longitudinal academic history. Conversely, Plúa-Baque et al. (2022) conceptualize academic performance as a social construct developed from economic theoretical frameworks, which synthesizes the cumulative institutional experiences students undergo within educational establishments.

Synthesizing these varied definitions, academic performance is best understood as a social construct that serves as a quantitative indicator of competitiveness. It is shaped by a multitude of intersecting factors that ultimately validate the professional competence and market readiness of future graduates.

Methodology

The present study adopts a quantitative approach. As noted by Hernández-Sampieri et al. (2016), in quantitative research, the investigator "poses a delimited and concrete study problem through specific questions" (p. 236). This methodological framework enables the formulation of conclusions derived from the statistical analysis of collected and processed data, as well as the identification of trends between the analyzed variables (Cely et al., 2023).

The scope of this research is cross-sectional and correlational-causal. Its purpose is to establish relationships between two variables within a specific context, subsequently quantifying and analyzing their correlation based on hypotheses that attempt to predict the value of a dependent variable based on the values of the related independent variables (Hernández-Sampieri et al., 2016). In this study, the operationalized variables are extracurricular activities (independent variable) and academic performance (dependent variable). This cross-sectional, correlational-causal research is framed within the positivist paradigm and a quantitative approach. Data collection occurred at a single point in time, which facilitated the analysis of the impact of extracurricular activities on the academic performance of students at the Technical University of Machala during the 2025 academic year.

The reasoning method employed is deductive. This method begins with a comprehensive review of theoretical concepts and general propositions regarding extracurricular activities and academic performance. Subsequently, specific cases from the local context of Machala are analyzed to apply this theoretical framework to the interpretation of the empirical data obtained (Hernández-Sampieri et al., 2016).

The data collection techniques included a literature review to analyze secondary sources regarding extracurricular activities. Additionally, a survey was administered, which is defined as a "technique designed to obtain data from multiple individuals whose opinions are of interest to the researcher" (Hernández-Sampieri et al., 2016).

Data collection was carried out during the second semester of the 2025 academic year using a survey instrument consisting of five (5) closed-ended, multiple-choice questions. These items were designed to evaluate the motivations for and time dedicated to extracurricular activities in relation to academic performance. To measure the variables, an ordinal scale was designed to establish the average time dedicated to extracurricular activities (ECAs), motivation, and academic performance. Content validity was determined through expert judgment, while the reliability of the instrument was estimated using Cronbach's

alpha coefficient, applied to a pilot test composed of five (5) individuals with characteristics similar to the target population but excluded from the final sample.

The study population comprised 593 Economics students at the Technical University of Machala. From this population, a sample of 119 students was derived, representing 20% of the total. A simple random sampling method was utilized; this technique ensures that "all elements of the population have the same probability of being chosen to be part of the sample" (Hernández-Sampieri et al., 2016, p. 116). Finally, the methodological design is non-experimental, as the studied variables were not manipulated, nor were external conditions controlled. The data were observed and analyzed in their natural context, allowing for a faithful understanding of the socio-economic reality of the city of Machala (Hernández-Sampieri et al., 2016).

Results

This section presents the empirical findings derived from the survey instrument administered to the sample of 119 students at the Technical University of Machala

Table 1.
Descriptive statistical results

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
(Hours of AEC)	5.51	5.00	3.46	0	20
Academic Performance	16.20	16.00	2.15	10	20

The descriptive statistical analysis, presented in Table 1, indicates that for the sample of 119 students, the average time dedicated to extracurricular activities is 5.51 hours per week, with a range spanning from 0 to 20 hours. Concurrently, the academic performance variable shows a mean score of 16.20 points, characterized by low dispersion around the average. This suggests a relatively homogeneous distribution among the grades of the evaluated cohort.

How many hours per week do you dedicate to extracurricular activities?

Table 2.
Time of the AEC

OPTION	%
A) Less than 2 hours	25
B) Between 2 and 5 hours	45
C) Between 6 and 10 hours	30
TOTAL	100

The analysis of the results presented in Table 2 reveals a trend toward balanced time management among students, who successfully harmonize academic training with holistic development. The majority trend indicates that 45% of respondents dedicate between 2 and 5 hours per week to extracurricular activities. Additionally, a significant segment of 30% reports dedicating between 6 and 10 hours per week, which constitutes a key factor in evaluating the incidence of extracurricular engagement on academic performance. Finally, the remaining 25% of the sample allocates less than two hours per week to these activities. Overall, these response trends demonstrate a structured balance between formal academic training and extracurricular involvement.

Why do you participate in extracurricular activities?

Table 3.
Motivation

OPTION	%
A) Personal interest	30
B) Applying for scholarships or building a resume	45
D) Institutional requirement	25
TOTAL	100

The analysis of the results in Table 3 reflects a predominant trend among 45% of the surveyed students, who participate in extracurricular activities to strengthen their professional profiles and increase their opportunities for securing academic scholarships. This student perspective aligns closely with the theoretical framework maintaining

that extracurricular activities complement holistic development through continuous learning and the cultivation of competencies, skills, and abilities. Furthermore, this career-oriented trend surpasses both personal interest (30%) and compliance with institutional mandates (25%). Consequently, it can be inferred that students conceptualize extracurricular activities not merely as spaces for recreation and culture, but rather as strategic investments in soft skills that directly influence both academic performance and future employability

What is your overall grade point average?

Table 4.
Grade point Average

OPCIÓN	%
A) Unsatisfactory	20
B) Satisfactory	35
D) Excellent	45
TOTAL	100

The analysis of the results in Table 4 reflects a predominant trend toward academic excellence, where 45% of the surveyed students demonstrate an excellent grade point average (GPA). This indicates a highly competitive academic environment at the Technical University of Machala. However, there is a remaining gap of 55% of students whose averages fall within the satisfactory or unsatisfactory ranges. These findings align with the assertions of Díaz-Iso et al. (2020), who argue that extracurricular activities significantly impact academic performance by fostering motivation toward study. Furthermore, these initiatives facilitate student adaptation to university life and strengthen their overall sense of institutional belonging.

The statistical analysis reveals a strong positive correlation 0.864 between the variables. This indicates that within the studied sample, a greater amount of time dedicated to extracurricular activities is associated with a higher probability of attaining excellent academic performance. Based on the empirical data presented in Table 5, the significance level is less than 0.05; thus, the null hypothesis is rejected. This confirms the existence of a statistically significant interdependence within the sample of 119 surveyed students, thereby demonstrating that extracurricular activities exert a measurable impact on academic performance.

Table 5.
Level of correlation or interdependence between variables

Spearman's Rho	Correlations		
		Extracurricular Activities	Academic Performance
	Extracurricular Activities		
	Correlation Coefficient	1	0,864
	Sig. (bilateral)		0
	N	119	119
	Academic Performance		
	Correlation Coefficient	0,864	1
	Sig. (bilateral)	0	
	N	119	119

Discussion

The results of this study demonstrate a significant interdependence between participation in extracurricular activities (ECAs) and the academic performance of Economics students at UTMACH. When contrasting these findings with the postulates of Díaz-Iso et al. (2020), it is validated that these activities are not isolated elements, but rather structural components that enhance academic motivation. The empirical evidence reflects that the 45% of surveyed students who dedicate an average of 2 to 5 hours per week to ECAs achieve excellent academic performance, thereby confirming a balance between formal education and extracurricular complementarity.

Furthermore, while the results show that motivation is a central element driving student participation in these activities, Benavides Villareal (2023) posits student volition as the primary factor. The findings indicate that within the academic context of UTMACH, this volition is closely linked to professional competitiveness. This outcome aligns with theoretical perspectives asserting that these experiences serve as an essential complement to

holistic training by fostering competencies and soft skills that enhance future employability.

Obtaining a Spearman's rho coefficient of 0.864 with a significance level of 0.000 provides a robust scientific foundation for the empirical results obtained at UTMACH, leading to the rejection of the null hypothesis. This finding highlights those extracurricular activities transcend traditional boundaries of sports and culture, proving that they function as mechanisms for adaptation to the university environment while mitigating attrition risks associated with low institutional integration.

When contrasting these results with broader empirical evidence, similarities emerge with the work of García-Vinces et al. (2024) at the Technical University of Manabí (UTM), who also identified that participation in extracurricular activities directly influences academic performance. However, these results differ from the findings of Rodríguez-Mejía et al. (2025), which suggest that the impact of sports participation is superior to the overall effects observed in the UTMACH study.

Conclusions

First, this study determines that participation in extracurricular activities (ECAs) exerts a significant impact on the academic performance of students at UTMACH. The empirical findings demonstrate that moderate engagement in these activities dynamically enhances levels of academic excellence. Consequently, it is imperative to structurally integrate the 55% of Economics students at UTMACH whose current academic performance falls within the satisfactory or unsatisfactory ranges into these programmatic offerings.

Second, the findings evidence that students perceive extracurricular activities as highly positive components of their higher education training. Notably, 45% of the surveyed students indicated that their primary motivation for participating in these initiatives is to secure academic scholarships or enhance their professional profiles. Attendance at academic events—such as conferences, forums, and seminars—not only cultivates the competencies of future graduates but also serves as a platform that boosts the institutional visibility of both the students and the university, ultimately functioning as a quantitative indicator of academic excellence.

Third, extracurricular activities must be designed to simultaneously foster academic motivation and cultivate competencies aligned with global labor market competitiveness metrics. By optimizing the use of students' free time, these programs can be effectively leveraged as institutional mechanisms to narrow persistent academic achievement gaps.

Based on the finding that 55% of UTMACH Economics students present average or below-average academic performance, it is recommended that university leadership design and implement an integrated framework that explicitly links extracurricular engagement with formal academic curricula. This can be operationalized through a micro-credential or academic credit-recognition system for students who actively participate in athletic competitions, artistic endeavors (such as theater), and cultural initiatives (such as vocal performance competitions).

Furthermore, UTMACH should establish strategic alliances and formal agreements with regional sports and cultural organizations to diversify its institutional offerings. This expansion must be accompanied by rigorous administrative planning to guarantee that extracurricular programming does not interfere with core instructional hours. Finally, for future lines of research, longitudinal studies are highly recommended to track and evaluate the behavioral and academic trajectories of students across their entire undergraduate careers.

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