THE IMPACT

OF EXTRACURRICULAR ACTIVITIES ON STUDENT LEADERSHIP DEVELOPMENT: A SYSTEMATIC REVIEW OF RECENT EVIDENCE

EL IMPACTO DE LAS ACTIVIDADES EXTRACURRICULARES EN EL DESARROLLO DEL LIDERAZGO ESTU-DIANTIL: UNA REVISIÓN SISTEMÁTICA DE LA EVIDENCIA RECIENTE

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ABSTRACT

This systematic review synthesizes recent evidence on the impact of extracurricular activities (ECAs) on student leadership development. Given the fragmented nature of existing research, this study aimed to clarify the overall effect of ECAs on student leadership and explore how different types of ECAs interact with student characteristics to influence leadership outcomes. A total of 9 studies published between 2020 and 2024 were identified through a comprehensive search of five electronic databases. The results indicate that most studies suggest a positive impact of ECAs on student leadership development. However, the magnitude and nature of this impact remain controversial, and the influence mechanisms vary. Some studies have explored the moderating role of student characteristics, but more research is needed in this area. Existing studies are limited by small sample sizes and over - reliance on self - reported data. Future research should focus on larger and more diverse samples, longitudinal research designs, and in - depth exploration of different types of ECAs. This review provides a foundation for educational institutions to design more effective leadership development programs and contributes to the advancement of knowledge in this field.

Keywords: Extracurricular activities, Student leadership, Systematic review.

RESUMEN

Esta revisión sistemática sintetiza la evidencia reciente sobre el impacto de las actividades extracurriculares (ACE) en el desarrollo del liderazgo estudiantil. Dada la fragmentación de la investigación existente, este estudio buscó aclarar el efecto general de las ACE en el liderazgo estudiantil y explorar cómo los diferentes tipos de ACE interactúan con las características estudiantiles para influir en los resultados de liderazgo. Se identificaron nueve estudios publicados entre 2020 y 2024 mediante una búsqueda exhaustiva en cinco bases de datos electrónicas. Los resultados indican que la mayoría de los estudios sugieren un impacto positivo de las ECA en el desarrollo del liderazgo estudiantil. Sin embargo, la magnitud y la naturaleza de este impacto siguen siendo controvertidas, y los mecanismos de influencia varían. Algunos estudios han explorado el papel moderador de las características estudiantiles, pero se necesita más investigación en este ámbito. Algunos estudios han explorado el papel moderador de las características estudiantiles, pero se necesita más investigación en esta área. Los estudios existentes se ven limitados por el pequeño tamaño de las muestras y la excesiva dependencia de datos autodeclarados. Las investigaciones futuras deberían centrarse en muestras más amplias y diversas, diseños de investigación longitudinales y una exploración exhaustiva de los diferentes tipos de ECA. Esta revisión proporciona una base para que las instituciones educativas diseñen programas

de desarrollo de liderazgo más eficaces y contribuye al avance del conocimiento en este campo.

Palabras clave: Actividades extracurriculares, Liderazgo estudiantil, Revisión sistemática.

INTRODUCTION

In the realm of education, the development of student leadership has gained increasing significance in recent years. Leadership, a complex and multi - faceted concept, is crucial for students' personal growth and future success. Student leadership, in particular, refers to the ability of students to influence and guide their peers, contribute to the school community, and develop skills necessary for lifelong success (Jiang & Espeso, 2023; Rina, 2019). At the same time, extracurricular activities (ECAs) have become an essential part of students' overall development, offering opportunities for students to engage in various pursuits beyond the formal curriculum (Hannah, 2020; Tibyaze, 2023).

The theoretical foundation for ECAs is based on Astin's theory of student involvement and Putnam's social capital theory (Astin, 2014; Siisiainen, 2003). Astin (2014), posits that student engagement in ECAs enhances personal and academic growth, while Putnam emphasizes the value of social networks in fostering individual development. These theories suggest that ECAs provide students with opportunities to build social capital, develop interpersonal skills, and engage in collaborative projects, all of which are beneficial for leadership development.

However, the existing research on the impact of ECAs on student leadership development is fragmented. Although numerous studies have explored this relationship, they vary widely in sample selection, research methods, and findings. This has led to an unclear understanding of the overall effectiveness of ECAs in enhancing students' leadership skills. For example, while some studies have found a positive correlation between ECA participation and leadership development (Kim, 2022; Mitchell, 2023), others have pointed out that the relationship is complex and influenced by various factors (Feraco et al., 2021).

In light of this, our initial hypothesis is that ECAs play a significant role in promoting students' leadership growth. However, the complex interplay between different types of ECAs, student characteristics, and leadership outcomes remains poorly understood. To address this gap, two key research questions are proposed: First, what is the overall impact of ECAs on students' leadership development? Second, do ECAs have differential impacts on the leadership development of diverse student groups?

To answer these questions, a systematic review was conducted following the PRISMA Declaration (Page et al., 2021). The review aimed to synthesize the existing evidence, identify common elements in different ECAs that promote leadership development, and explore the impact of ECAs on different dimensions of leadership under the influence of various factors. By doing so, this study hopes to fill the research gap, provide practical implications for educational institutions, and contribute to the advancement of knowledge in this field.

Leadership as a stand-alone term first appeared in the mid-19th century in studies of the political influence and political power of the British Parliament (Bass & Stogdill, 1990). Since the 20th century, many scholars in the fields of management, education, psychology and organizational behaviour have actively studied leadership. Leadership is a multifaceted behavior and process, making the implications of leadership intricate. Lleadership is the process of influencing the activities of an organized group in its efforts towards goal setting and goal attainment (Alsarrani et al., 2021). Northouse (2018), expands on that definition by defining leadership as the process by which an individual influences a group of individuals to achieve a common goal. It includes both task-oriented and people-oriented behaviors with the purpose of guiding, inspiring, and influencing others.

Student leadership is the application of general leadership principles within an educational context. Student leadership refers to the comprehensive ability of individual students to effectively practice their leadership roles and execute the leadership process, including inward-looking self-qualification and outward-looking work ability (Rina, 2019). The principal of Antelope School District Secondary School in the United States also summed up the teaching practice by pointing out that student leadership is the ability of a certain student or a certain number of students to create a reasonable way in the team so as to be able to get other students to participate in the joint achievement of the team's goals (Gai, 2015).

Students with a higher level of leadership are able to efficiently combine and optimist the team's internal and external resources towards better achieving the organizational as well as societal goals (Pierce et al., 2020). Among students, leadership can be understood as the ability of a student to influence and guide peers; to contribute positively to the school community; and to manifest the potential to effect positive change (Jiang & Espeso, 2023). Essentially, student leadership accentuates autonomy, responsibility, initiative, and the development of skills necessary for lifelong success. As Buto (2025), skills and capabilities such as perspective, social intelligence,

creativity, courage, open-mindeness, and self-control are the core components of Leadership capability (Buto, 2025).

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Extracurricular activities (ECAs) have become recognized as an essential element of students' overall development (Hannah, 2020), affording students opportunities to engage in a variety of pursuits that enhance their development beyond the confines of the formal curriculum (Tibyaze, 2023). ECAs encompass a wide range of activities, including but not limited to academic competitions, organizations, community service, and athletics (Van Le, 2024). Voluntary in nature, these activities are commonly coordinated and executed outside of standard school hours; they provide students with the opportunity to develop and nurture interests, talents, and inclinations that extend beyond the parameters of academic obligations (Tibyaze, 2023).

EAP is predicated on the notion that education ought to entail the growth of social, emotional, and interpersonal competencies that are indispensable for achievement in diverse domains, in addition to the acquisition of academic knowledge and skills (Ren et al., 2021). Students are afforded the chance to develop critical life skills, including but not limited to leadership, collaboration, communication, problem-solving, and time management, by actively EAP (Mitchell, 2023).

In the relationship between EAP and student leadership, some scholars pointed out that EAP is closely related to the improvement of student leadership (Fakhretdinova et al., 2021; Liu et al., 2023); EAP is positively related to student leadership development (Martinez et al., 2020). In EAP, you can get more leadership opportunities (Kim, 2022) and a voice in decision-making (De Prada Creo et al., 2021), provide practical opportunities which are basis for improving leadership, developing personality and adapting to society (McCarron et al., 2022), EAP is the prerequisite for cultivating students' leadership, responsibility and resilience (Munadi, 2023).

Although the conclusion that extracurricular activity participation promotes the development of student leadership

skills has been recognized by many scholars, the mechanism of their action is also affected by other factors. Such as, participating in organized extracurricular activities at school can more positively promote students' development than participating in unorganized extracurricular activities (Ab Ghani et al., 2020), different types of extracurricular activities may have different effects on students' cognitive development, self-confidence, interpersonal relationships, moral standards, etc (Portela-Pino et al., 2021). Dye (2011), found that there is a correlation between students' participation in extracurricular activities and leadership traits, but different organizations or activities have different effects on the development of students' leadership traits. To sum up, different types of extracurricular activity participation provide different experience modes and has different impacts on students' leadership development.

The existing research on the impact of extracurricular activities on students' leadership development presents a fragmented picture. While numerous studies have explored this relationship, they vary widely in sample selection, research methods, and findings. This has led to an unclear understanding of the overall effectiveness of extracurricular activities in enhancing students' leadership skills.

In light of this, our initial hypothesis posits that extracurricular activities play a significant role in promoting students' leadership growth, yet the complex interplay between different types of extracurricular activities, student characteristics, and leadership outcomes remains poorly understood. Given this research landscape, there are several key questions that require in - depth exploration:

First, what is the overall impact of extracurricular activities on students' leadership development? Despite the multitude of studies, there is a lack of consensus on the magnitude and nature of this impact. Different research designs, sample demographics, and measurement tools have yielded inconsistent results. Thus, it is essential to synthesize the existing evidence to determine the general effect of extracurricular activities on various aspects of students' leadership, such as leadership styles, skills, and self - efficacy.

Second, do extracurricular activities have differential impacts on the leadership development of diverse student groups? Students vary in terms of gender, grade level, cultural background, and educational environment. These differences may influence how students engage with extracurricular activities and, consequently, how these activities affect their leadership development. Therefore, it

is crucial to identify the specific ways in which extracurricular activities interact with student characteristics to impact leadership development.

Given that existing research has shown that extracurricular activities have a positive impact on student leadership development, the current focus should shift from confirming this relationship to exploring its underlying mechanisms and nuances. On the one hand, it is necessary to integrate the research results and explore the common elements of different extracurricular activities in promoting leadership development; on the other hand, despite the positive research results, there are still cognitive gaps, and these results need to be further interpreted to explore the impact of extracurricular activities on different dimensions of leadership, and how these impacts vary under the influence of factors such as students' initial leadership level, major, and career aspirations. By systematically reviewing the empirical evidence to address these issues, we aim to fill the research gap, provide practical implications for educational institutions, and contribute to the advancement of knowledge in this field.

MATERIALS AND METHODS

To attain this purpose, the systematic review approach adhering to the PRISMA Declaration (Page et al., 2021) was implemented, which was executed in two steps. The initial task was to identify the research for inclusion in the review, and the subsequent task was to extract the information for further analysis. The article selection method had four stages: identification, screening, eligibility, and selection (Figure 1). A descriptive statistical analysis was conducted on the publishing and methodology of the selected papers.

The first phase of this systematic review was to search for documents between January 2020 and December 2024, with purposive sampling of articles based on the criteria. A comprehensive search was conducted in five electronic databases (Google Scholar, ERIC, PsycINFO, Scopus, and Web of Science Core Collection). These databases were selected for their multidisciplinary coverage of education, psychology, and social science literature. The search strategy used Boolean operators and controlled vocabularies (such as MeSH terms) with the following keyword combinations:

("extracurricular activit*" OR "after-school program*")

AND ("student leadership" OR "youth leadership" OR "leadership development")

AND ("impact" OR "effect*" OR "influence*").

Fig 1. Flow chart with the article selection process
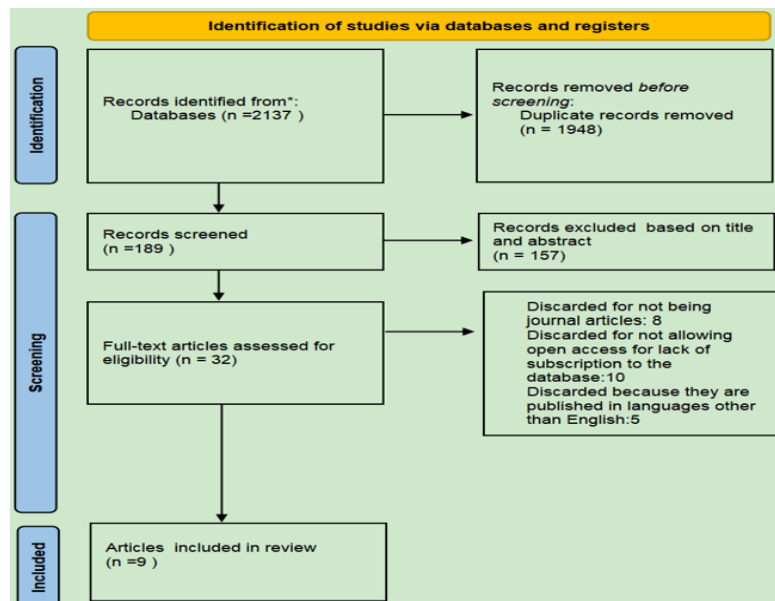
Source: Own elaboration.

Eligibility criteria

To enhance the preliminary findings and incorporate the most pertinent ones about the study's issue, a set of criteria was evaluated. The selection of works adhered to the following inclusion criteria:

(a)   Relevance to the objective, as the paper should focus on the relationship between extracurricular activities and student leadership that the objective of the study is to analyze. Students included elementary school to undergraduate level. Research papers that dealt with the topic of adult leadership were excluded.

(b)   Empirical research. Journal articles from scholarly sources were included. All materials pertaining to grey literature, doctoral theses, conference proceedings, editorial notes, and chapters were eliminated.

(c)   Language of publication: English, eliminating any papers published in other languages.

(d)   Current affairs with publications from 2020 to 2024, utilizing the last five years of scientific output, guarantees the relevance of the analyzed concepts, hence omitting publications earlier to 2020.

(e)   Research with complete text availability. Individuals who were inaccessible in their entirety, either due to lack of access or absence of a subscription to the database, were excluded.

Selection of documents

Figure 1 illustrates the PRISMA-compliant selection process: initial database searches yielded 2,137 records, reduced to 189 after deduplication. Title/abstract screening excluded 157 studies, primarily due to focus on academic outcomes (n=89) or adult populations (n=41). Full-text assessment of 32 articles resulted in final inclusion of 9 studies meeting all criteria. Inter-rater reliability during screening phases was calculated using Cohen's κ coefficient (κ=0.82), indicating strong agreement.

RESULTS AND DISCUSSION

The results of the selected studies, which analyzed the relationship between extracurricular activities and student leadership, are shown in Table 1. In order to extract information from this review, this paper coded the following methods: (1) author and year of publication, (2) country, (3) research objectives, (4) relationship between leadership and participation, and (5) main results.

The existing research landscape regarding the impact of extracurricular activities on students' leadership development is indeed fragmented, as indicated by our initial exploration. While numerous studies have delved into this relationship, they exhibit significant variations in sample selection, research methods, and findings, leading to an unclear understanding of the overall effectiveness of extracurricular activities in enhancing students' leadership skills.

A majority of the reviewed studies suggest a positive impact of extracurricular activities on students' leadership development. For example, Mitchell (2023), found that students participating in extracurricular activities at Japan's Reizei University scored higher in both transformational and transactional leadership. Kim (2022), reported that engaged students had higher leadership ability scores in individual, group, and community values. Similarly, Farhana et al. (2024), showed that extracurricular activities play a crucial role in shaping leadership abilities like courage, responsibility, and teamwork among Islamic boarding school students. Sumague (2023), also indicated a significant positive influence of club and organization participation on leadership development with high - rated mean scores. Ab Ghania et al. (2020), confirmed a significant positive correlation between students' extracurricular participation and leadership ability.

However, the magnitude and nature of this impact remain a subject of debate. Feraco et al. (2022), pointed out that while extracurricular activities have a positive effect on soft skills including leadership, their direct impact on cognitive ability, self - regulation learning, and motivation is not obvious, and the relationship between leadership and academic achievement is indirect (Table 1).

Table 1. List of authors.

Author (year)	Country	Objective	Relationship between leadership and engagement	Main results
Mitchell (2023)	Japan	Compare the differences in leadership between students who participate in extracurricular activities and those who do not.	Corroborated	Students who participated in extracurricular activities scored higher on transformational and transactional leadership; extracurricular activities had a positive impact on leadership.
Kim (2022)	USA	Explore the impact of extracurricular activities on the development of students' leadership skills.	Corroborated	Students who participated in extracurricular activities scored higher on leadership skills in terms of individual, group, and community values; gender and grade had significant effects on leadership development.
McCarron et al. (2022)	USA	Examine the impact of students' pre-college leadership activities and perceived parenting behaviors on their college leadership abilities.	Corroborated	Sports leadership roles, community service, extracurricular activities, and positive parenting behaviors during high school can predict college students' leadership self-efficacy and college students' leadership development.
Farhana et al. (2024)	Indonesia	Analyze the impact of extracurricular activities on leadership skills of boarding school students.	Corroborated	Extracurricular activities play an important role in shaping students' leadership skills, especially in the areas of courage, responsibility and teamwork.
Sumague (2023)	Philippines	Examine the impact of student participation in clubs and organizations on student leadership development and whether participation in these activities can help students improve their leadership, communication, and social skills.	Corroborated	Participation in clubs and organizations has a significant positive impact on student leadership development.
Ab Ghania et al. (2020)	Malaysia	Explore the impact of extracurricular activities on students' leadership ability.	Corroborated	Students' participation in extracurricular activities is significantly positively correlated with leadership ability; students with higher participation levels perform better in leadership ability.

Source: Own elaboration.

Some studies have started to explore how student characteristics interact with extracurricular activities to affect leadership development. Kim (2022), discovered that gender and grade level have a significant influence on leadership ability development among college students. Yet, in general, more research is needed to fully understand how factors such as cultural background, educational environment, and initial leadership level interact with extracurricular activities to shape leadership outcomes.

Most of the existing studies suffer from certain limitations. A common issue is the small sample size or limited sample scope, such as Mitchell's (2023), study with only 65 students and Farhana et al. (2024), research confined to 56 students in a specific Islamic boarding school. This may undermine the generalizability of the results. Another limitation is the over - reliance on self - reported data or subjective evaluations, like the use of teacher's subjective assessment for academic achievement in Feraco et al. (2022), study, which may introduce bias.

In terms of future research, there is a strong call for larger and more diverse sample sizes, including different regions, cultures, and educational settings. Longitudinal research designs are also recommended to track students' leadership development over time. Additionally, a more in - depth exploration of different types of extracurricular activities (e.g., sports, art, community service) and how they specifically contribute to leadership development is crucial to fill the current research gap.

Through a systematic review, this study reveals the key role of extracurricular activities in the development of student leadership and provides important theoretical and practical implications for the field of education. Based on Astin's student engagement theory and Putnam's social capital theory, extracurricular activities not only provide students with opportunities to practice leadership skills but also promote the accumulation of social capital through the construction of social networks (Astin, 2014; Siisiainen, 2003). The study found that students who participated in extracurricular activities performed well in transformational leadership, teamwork, and social responsibility, which is highly consistent with the core elements of leadership (such as influence and goal orientation) (Northouse, 2021). In addition, extracurricular activities indirectly promote academic achievement by enhancing students' self-efficacy and motivation (Farhana et al., 2024; Kaliyeva et al., 2024). This finding expands the theoretical boundaries of the relationship between leadership and academic performance.

The research results have important practical guiding significance for educational institutions. First, schools should optimize the design of extracurricular activities, provide structured leadership development programs (such as student organizations, community service), and focus on the diversity of activity types to meet the needs of different students (Ab Ghani et al., 2020). For example, sports activities can strengthen teamwork, while academic competitions can help improve strategic thinking. Second, educators need to pay attention to individual differences among students, such as gender and cultural background, and design differentiated leadership development paths (Kim, 2022). For example, for female students, women's leadership workshops can be used to enhance their confidence and decision-making ability. In addition, schools should establish a long-term evaluation mechanism to track the long-term effects of student leadership development and provide data support for policy making.

Although this study provides important insights, it still has limitations. First, existing studies are mostly based on cross-sectional data, which makes it difficult to reveal the dynamic process of leadership development. In the future,

a longitudinal research design is needed to track the long-term changes of students from participating in activities to improving their abilities. Second, the impact of cultural background has not been fully explored. Future studies can compare the mechanisms of extracurricular activities in different cultural environments, such as comparing leadership development paths in Eastern collectivist and Western individualistic cultures. In addition, leadership measurement tools need to be further optimized, combining objective indicators (such as project outcomes) with subjective evaluations (such as peer feedback) to improve the reliability and validity of the research (Farhana et al., 2024).

This study systematically reviewed the literature to confirm the positive impact of extracurricular activities on student leadership development and revealed its complex mechanism of action. Future research needs to explore the interaction between activity types, student characteristics and leadership development to provide theoretical support for building more targeted educational intervention strategies. Educational institutions should make full use of the unique advantages of extracurricular activities to cultivate future leaders with global competitiveness.

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