

Perspectives on the use of generative artificial intelligence ChatGPT and its relationship with academic training in university students

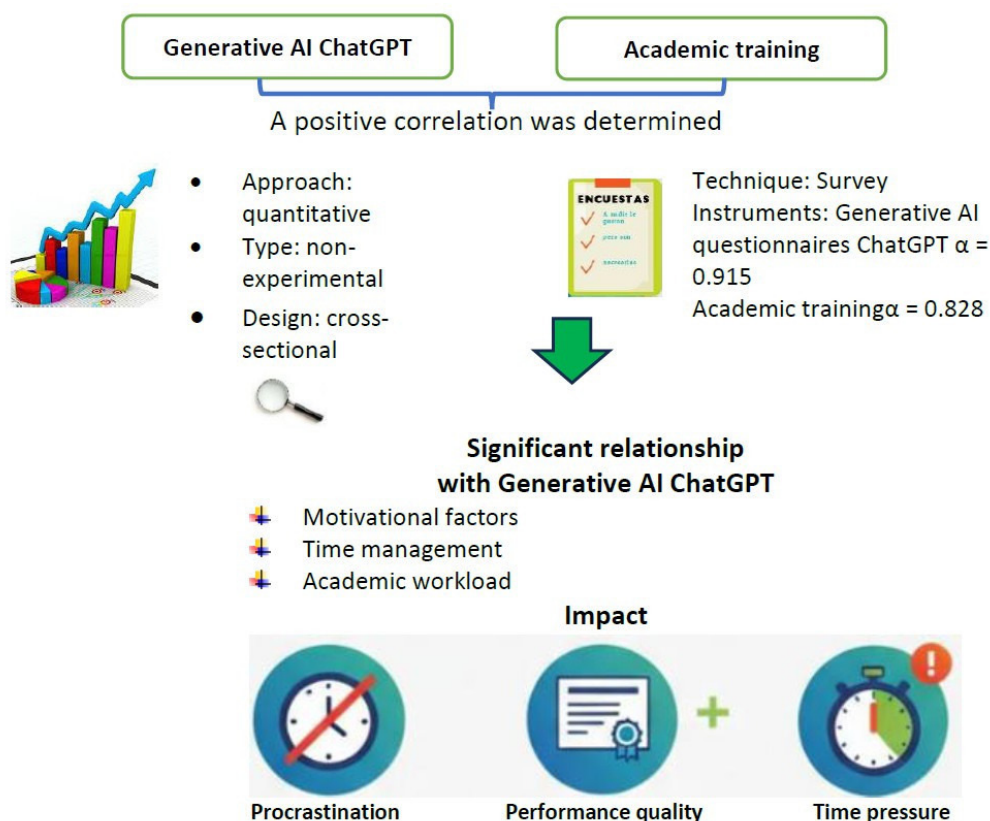
Manuela Daishy Casa-Coila¹  María de los Ángeles Soto-Quispe¹  Julio Richarth Quispe-Pacco¹ 
Katia Daishy Ticona-Casa¹  Luz Guiliana Apaza-Tipo¹  Diego Jhoel Mamani-Romero¹ 

¹Universidad Nacional del Altiplano Puno. Puno, Perú.
E-mail: mcasa@unap.edu.pe

Graphical Abstract

Highlights

- The use of generative AI ChatGPT is integrated as a tool that influences students' learning processes and academic adaptation.
- Time management and academic workload are closely associated with habits and pressure levels in the university context.
- Motivational factors directly influence sensitivity to quality and academic achievement.
- Procrastination is associated with cognitive difficulties that may affect academic performance and study organization.



Abstract

The lack of regulation and guidance on the use of generative artificial intelligence (AI) ChatGPT in academic training may generate cognitive dependency, affecting the development of students' critical thinking. The objective of this study was to determine the relationship between perspectives on the use of generative artificial intelligence ChatGPT and the academic training of university students at the Faculty of Educational Sciences (FCEDUC) of the Universidad Nacional del Altiplano de Puno (UNAP), in 2025. The methodology adopted was characterized by a quantitative approach, non-experimental in nature, with a cross-sectional correlational design. The study involved 341 students with a mean age of 21 years, enrolled between the 1st and 10th semesters of the FCEDUC. Data collection employed the survey technique (questionnaire-based survey), using as instruments a questionnaire on the use of generative AI ChatGPT and another on students' academic training. The results indicated a correlation coefficient of $r = 0.258^{**}$, evidencing a positive and significant correlation between the use of generative AI ChatGPT and the academic training of university students, with $p < 0.01$. This suggests that the greater the use of generative AI ChatGPT tools, the greater the tendency toward improvement in aspects related to academic training.

Keywords: Artificial Intelligence. Learning. University Education. ChatGPT. Academic Training.

Associate Editor: Edison Barbieri

Reviewer: Eusebio Olvera Reyes 

Reviewer: José Alfredo Rodríguez Zapata 

Reviewer: Juan Amadís Socorro Ovalles 

Reviewer: Mariluz Serrano Ortiz 

Mundo Saúde. 2026;50:e18812025

O Mundo da Saúde, São Paulo, SP, Brasil.

<https://revistamundodasaude.emnuvens.com.br>

Received: 02 november 2025.

Accepted: 23 june 2026.

Published: 27 july 2026.

INTRODUCTION

Information and Communication Technologies (ICTs) have transformed education by broadening access to knowledge through digitalization. In the current information society, educational systems – especially at the university level – face the challenge of integrating emerging technologies such as artificial intelligence (AI) to strengthen the quality of education and foster learning¹. However, this incorporation demands the development of specific competencies that enable adequate and effective pedagogical use, preventing possible adverse effects on academic training and student well-being. In this context, the use of generative AI tools such as ChatGPT has raised concerns, as its inappropriate use may promote dependency on automated responses and limit the development of students' critical thinking².

AI is defined as the capacity of machines to learn from experience and adapt to new environments through techniques such as machine learning, enabling them to recognize patterns and make data-driven decisions³. This technological development has significantly transformed teaching strategies and methods in higher education, compelling universities to reconsider their pedagogical approaches and incorporate digital competencies that prepare future professionals for an increasingly automated and complex environment⁴.

Among these innovations, ChatGPT – developed by OpenAI and launched in late 2022 – represents a milestone in the advancement of large-scale language models⁵. This generative AI-based tool simulates human conversations and generates textual content interactively, which has driven its adoption across various educational contexts⁶. Its use has expanded rapidly, being employed both appropriately and inappropriately, generating an impact widely discussed in higher education.

The incorporation of generative AI ChatGPT into the university environment has aroused considerable academic interest, especially for its potential to

provide rapid and personalized feedback, as well as its capacity to support teaching and learning processes^{7,8}. In Latin America, recent studies have begun to document and implement its use in universities, evidencing both opportunities to improve academic performance and challenges related to its pedagogical integration^{9,10}. However, its implementation is still recent and requires more in-depth and contextualized analyses.

Despite these advances, gaps persist in the scientific literature regarding the real and lasting impact of generative AI ChatGPT on university training, especially in Latin American contexts. Although these technologies are recognized as reconfiguring teaching, research, and institutional management, their effectiveness and long-term implications for learning, student autonomy, and the teacher's role are not yet fully understood¹¹.

Furthermore, the use of generative AI ChatGPT raises several ethical and pedagogical concerns. Among these, the possible reduction of academic performance, the compromise of cognitive skills such as memory, and problems associated with procrastination stand out¹⁰. Additionally, debates emerge regarding privacy, technological dependency, and the authenticity of generated content^{12,13}, which reinforces the need to establish normative and institutional frameworks to guide its responsible use¹⁴.

In this regard, the present study aims to determine the relationship between perspectives on the use of generative AI ChatGPT and the academic training of university students, particularly in areas such as education and programming, considering their perceptions of learning. The hypothesis is that, while generative AI ChatGPT may enhance learning and the development of essential competencies, its unregulated use may generate adverse effects on academic performance and educational integrity. Therefore, it becomes fundamental to propose strategies for its ethical and efficient implementation^{15,16,17,18}.

METHODOLOGY

The research falls within the positivist paradigm, with a quantitative approach, non-experimental in nature, and a cross-sectional correlational design, in accordance with the reference¹⁹, as it allowed the description of knowledge regarding the use of generative AI ChatGPT and its relationship with the academic training of students at the Faculty of Educational Sciences (FCEDUC) of the Universidad Nacional del Altiplano (UNA), in Puno.

The population comprised 3,002 students. From this population, a stratified probability sample of 341 participants was selected, of whom 62% were female (213) and 38% male (128), with a mean age of 21 years. Participants belonged to four programs of the FCEDUC: Professional School of Secondary Education (EPES), Professional School of Primary Education (EPEP), Professional School of Physical Education (EPEF), and Professional School of Early Childhood

Education (EPEI).

The data collection technique used was the questionnaire survey. The instruments employed were the Generative AI ChatGPT Questionnaire, with a reliability of $\alpha = 0.915$, comprising 10 items and using the following scale: 1 = never; 2 = almost never; 3 = sometimes; 4 = regularly; 5 = almost always; 6 = always; and the Student Academic Training Questionnaire, with a reliability of $\alpha = 0.828$.

This second instrument contained 19 items orga-

nized across six dimensions: academic workload (4 items), time pressure (4 items), reward sensitivity (2 items), quality sensitivity (2 items), procrastination (4 items), and memory loss (3 items). Both instruments presented high reliability.

The questionnaires were adapted from the study by Abbas, Jam, and Khan¹⁰. Prior to administration to the full sample, a pilot study was conducted with 40 students to assess the internal consistency of the instruments using Cronbach’s alpha coefficient.

Table 1 - Reliability of the generative AI ChatGPT and academic training instruments in university students at the FCEDUC of UNA Puno, 2025.

Reliability statistics	Cronbach's Alpha	Number of items
Cronbach's Alpha Generative AI ChatGPT Questionnaire	0.915	10
Cronbach's Alpha Academic Training Questionnaire	0.828	19

Table 2 - Normality test of generative AI ChatGPT use and academic training through skewness and kurtosis statistics in university students at the FCEDUC of UNA Puno, 2025.

Variable	N	Mean	Skewness	Standard error	Kurtosis	Standard error
Use of generative artificial intelligence	341	2.8208	0.297	0.132	1.023	0.263
Academic training	341	3.3270	-0.241	0.132	1.582	0.263
Valid N (listwise)	341	-	-	-	-	-

Table 2 and Figures 1 and 2 present the descriptive statistics for the study variables “Use of generative artificial intelligence” and “Academic training” in a sample of 341 students. The skewness values (0.297 and -0.241) and kurtosis values (1.023 and 1.582) fall within the acceptable range of normality (± 2), indicating that both variables present an approximately normal distribution.

In this regard, the results demonstrate that the data follow a normal distribution and therefore possess parametric characteristics suitable for the application of inferential statistical analyses. Accordingly, the Pearson correlation coefficient was used to test the proposed hypothesis regarding the relationship between perspectives on the use of generative AI and the academic training of university students.

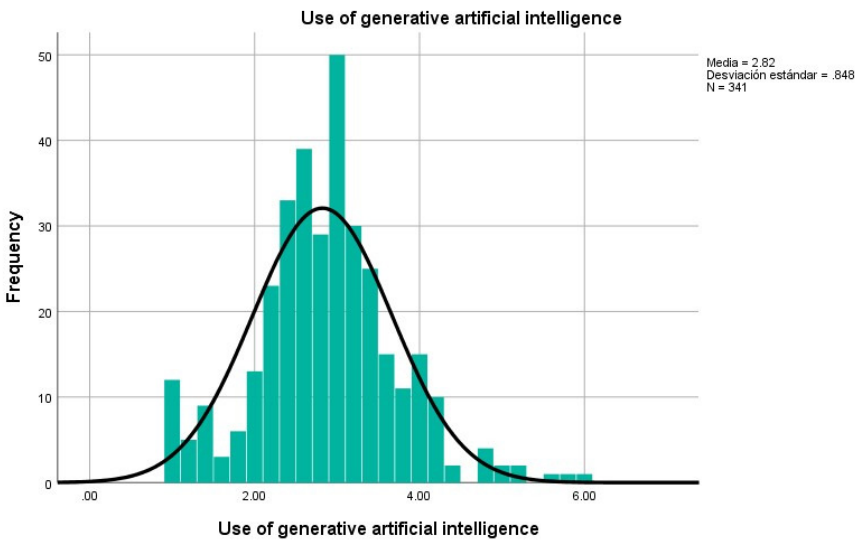


Figure 1 - Skewness and kurtosis of generative AI ChatGPT use in university students at the FCEDUC of UNA Puno, 2025.

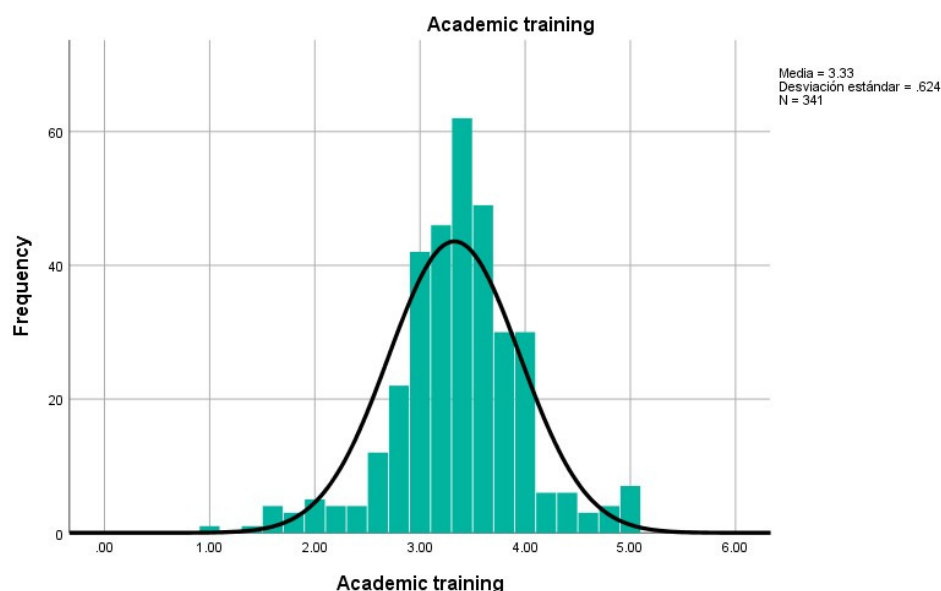


Figure 2 - Skewness and kurtosis of academic training in university students at the FCEDUC of UNA Puno, 2025.

RESULTS

Table 3 demonstrates the existence of a positive and significant relationship between the use of generative AI ChatGPT and the academic training of university students (Pearson's $r = 0.258$; $p < 0.01$), characterizing a weak positive correlation. This indicates that the greater the use of generative AI ChatGPT tools, the greater the slight tendency toward improvement in aspects related to academic training, although the magnitude of the correlation is low. The bilateral significance level (0.000) supports the statis-

tical reliability of the results.

The value of $R^2 = 0.067$ indicates that academic training explains 6.7% of the variance in generative AI ChatGPT use, representing a small-magnitude effect, although statistically significant ($p < 0.001$). This result suggests the existence of a positive relationship between the two variables; however, academic training explains only a limited proportion of AI use behavior, indicating that other factors not contemplated in the analysis also exert important influence.

Table 3 - Correlation between generative AI ChatGPT use and academic training in university students at the FCEDUC of UNA Puno, 2025.

	Use of generative AI ChatGPT	Academic training
Use of generative artificial intelligence ChatGPT		
Pearson correlation	1	0.258**
Significance (bilateral)		0.000
N	341	341
Academic training		
Pearson correlation	0.258**	1
Significance (bilateral)	0.000	
N	341	341

** . Correlation is significant at the 0.01 level (bilateral).

This result evidences that generative AI ChatGPT constitutes a relevant support for university academic training. Its statistical significance confirms that its contribution is not the result of chance, but represents a real — though moderate — effect in the strengthening of

formative processes. In this regard, its strategic integration as a complementary tool may optimize learning, strengthen digital competencies, and enrich the academic experience, without replacing traditional pedagogical methods.

Table 4 - Correlation matrix of the dimensions of generative AI ChatGPT and academic training in university students at the FCEDUC of UNA Puno, 2025.

Correlations	1	2	3	4	5	6	7
Use of generative artificial intelligence (1)	1	0.248**	0.222**	0.032	0.088	0.229**	0.170**
Academic workload (2)	1	2	3	4	5	6	7
Time pressure (3)	1	0.248**	0.222**	0.032	0.088	0.229**	0.170**
Reward sensitivity (4)				1	.782**	.128*	.186**
Quality sensitivity (5)					1	.149**	.194**
Procrastination (6)						1	.668**
Memory loss (7)							1

** . Correlation is significant at the 0.01 level (bilateral).

Table 4 presents the correlation matrix, evidencing significant relationships among the variables and dimensions investigated in the study on generative AI ChatGPT use by university students.

It is observed that the strongest correlations occur between the reward sensitivity and quality sensitivity dimensions ($r = 0.782$; $p = 0.000$), followed by the procrastination and memory loss dimensions ($r = 0.668$; $p = 0.000$), as well as academic workload and time pressure ($r = 0.693$; $p = 0.000$). Also noteworthy is the correlation between time pressure and procrastination ($r = 0.542$; $p = 0.000$).

These results indicate that, among university students, factors related to time management, academic demands, and motivational patterns are strongly associated, and may influence their study habits and academic performance.

On the other hand, at a moderate level, correlations are observed between academic workload and procrastination ($r = 0.428$; $p = 0.000$), as well as between generative AI use and academic workload ($r = 0.248$; $p = 0.000$). Furthermore, generative AI use

is related to quality sensitivity ($r = 0.229$; $p = 0.000$) and time pressure ($r = 0.222$; $p = 0.000$), suggesting that students use these tools not only to reduce academic workload, but also to improve the quality of their work and to cope with academic deadlines.

These findings demonstrate that the relationship between generative AI ChatGPT use and academic training is significant and is structured around academic and cognitive aspects – such as study workload organization, content comprehension and analysis, problem-solving, and the strengthening of critical thinking – although with lower-magnitude associations compared to motivational factors and procrastination.

Furthermore, the results suggest that AI may function as a strategic resource to assist in managing academic demands. However, its impact is mediated by behavioral patterns related to the degree of student autonomy, self-regulation, time management, and willingness to integrate technological resources into deeper and more meaningful learning processes in the university context.

Table 5 - Multiple linear regression analysis of generative artificial intelligence ChatGPT use on academic training of university students at the FCEDUC of UNA Puno, 2025.

Model	B	Std. Error	Beta	t	Sig.	Lower limit	Upper limit
Academic workload	0.161	0.073	0.162	2.195	0.029	0.017	0.305
Time pressure	0.040	0.082	0.038	0.487	0.626	-0.121	0.200
Reward sensitivity	-0.083	0.082	-0.087	-1.021	0.308	-0.244	0.077
Quality sensitivity	0.074	0.081	0.078	0.916	0.360	-0.085	0.234
Procrastination	0.123	0.074	0.128	1.670	0.096	-0.022	0.268
Memory loss	0.003	0.058	0.003	0.049	0.961	-0.111	0.116
Age	0.033	0.014	0.124	2.332	0.020	0.005	0.061

a. Dependent variable: Use of generative artificial intelligence.

The results of the linear regression model demonstrate that the use of generative AI ChatGPT among university students is associated with different academic and personal variables.

Among the analyzed predictors, academic workload ($B = 0.161$; $p = 0.029$) and age ($B = 0.033$; $p = 0.020$) showed statistical significance, indicating that higher levels of academic demand and older age are related to a greater tendency to use these tools. In both cases, the 95% confidence intervals do not include the value zero, reinforcing the robustness of the results.

On the other hand, the variables time pressure, quality sensitivity, procrastination, and memory loss did not achieve statistical significance ($p > 0.05$) and cannot be considered robust predictors of generative AI use in this model.

In the specific case of reward sensitivity, the negative coefficient ($B = -0.083$; $\beta = -0.087$; $p = 0.308$) suggests that, theoretically, a one-unit increase in this variable would be associated with a 0.083-unit reduction in generative AI ChatGPT use. The negative sign indicates an inverse relationship, suggesting that students more oriented toward immediate rewards would tend to use these tools slightly less – possibly because their use requires exploration, initial learning, and perceived benefits in the medium term. However, as the result was not statistically significant and the confidence interval includes both positive and negative values (-0.244 to 0.077), this association may be attributed to sampling chance and should not be interpreted as conclusive evidence.

The results indicate that generative AI ChatGPT

use is more closely related to functional and contextual demands – such as academic workload – than to individual characteristics of self-regulation or cognitive style. This finding suggests that students resort to these tools primarily as an optimization strategy when they perceive academic overload, using them to automate tasks, save time, and increase productivity.

The positive effect of age may reflect a more instrumental perception of technology among individuals with greater experience, who tend to integrate it strategically to meet academic and professional demands. In contrast, the absence of significant association with procrastination, memory, or reward sensitivity suggests that generative AI use does not necessarily depend on self-regulation deficits or an impulsive search for immediate gratification, but on a pragmatic evaluation of its usefulness.

These results provide relevant evidence for understanding that the adoption of generative AI is more associated with adaptive needs and criteria of perceived efficiency than with dispositional traits of individuals. This finding has important implications for future explanatory models and for the development of interventions aimed at promoting strategic and ethical use of these technological tools. When properly integrated into the educational process, they can strengthen student autonomy, creativity, and analytical capacity. Likewise, responsible guidance on their use can contribute to preventing technological dependency, academic plagiarism, and the dissemination of incorrect information, fostering critical, reflective, and socially responsible university training.

DISCUSSION

The results of this study contribute to the existing scientific literature by evidencing a positive and significant relationship between the use of generative AI ChatGPT and the academic training of university students ($r = 0.258$; $p < 0.01$), albeit with weak intensity. These findings are consistent with prior research reporting a growing interest among students in incorporating artificial intelligence into the academic context, and highlight the need for reliable tools adapted to different areas of knowledge, especially those related to informatics¹³.

Similarly, other studies indicate that AI use fosters academic performance, motivation, and students' attitudes toward learning^{9,20}, highlighting benefits such as content comprehension, pedagogical innovation, and personalized learning. How-

ever, critical positions also exist, as some students consider that ChatGPT AI use does not significantly contribute to the development of their academic skills and express distrust regarding teachers' preparedness to integrate these technologies into instruction³.

In this context, AI consolidates itself as an element of educational and social transformation that demands constant adaptation²¹. Thus, understanding its relationship with academic training becomes fundamental to guiding educational policies, strengthening curricular design or flexible curricula, and promoting appropriate, strategic, and responsible use of AI in higher education²². Concurrently, studies on AI and virtual reality have evidenced a significant generational gap in knowledge

of these technologies, although the perception of their usefulness has been predominantly positive, with limitations related to infrastructure and academic training highlighted²³.

On the other hand, results regarding the analyzed dimensions demonstrate that generative AI ChatGPT use presents positive and significant correlations with academic workload, procrastination, and memory loss. These results corroborate prior research indicating that, when students face greater academic demands and time constraints, they tend to resort more frequently to tools such as ChatGPT to expedite tasks and optimize their academic performance¹⁰. Similarly, the association with procrastination and memory loss reinforces studies warning of possible negative effects arising from excessive dependency on generative AI.

However, the correlations found were weak, suggesting that generative AI use does not depend exclusively on academic or behavioral factors, but also on variables not contemplated in this study, such as digital competencies, critical thinking, or specific training for the use of these tools. Furthermore, reward sensitivity presented a very low relationship with AI use, differing from prior studies in which this variable negatively influenced ChatGPT use¹⁰. A possible explanation is that students use AI primarily in an instrumental and practical manner to meet immediate academic demands, rather than being motivated by rewards or personal gratification.

Additionally, the strong relationship observed between academic workload and time pressure evidences that both dimensions are closely associated in the university context. Similarly, the high correlation between reward sensitivity and quality sensitivity suggests that students who value quick results also tend to prioritize the quality of information obtained. Likewise, procrastination presented a high correlation with memory loss, indicating that the frequent postponement of academic activities may be related to difficulties in information retention and processing.

These results may also be compared to research demonstrating that the frequency of ChatGPT AI use is moderately associated with perceived usefulness and improvement of academic work, indicating that its educational value resides primarily in the speed and clarity of responses, more than in analytical depth or learning personalization⁸. Furthermore, other studies point to the existence of a gap between teachers and students regarding knowledge and use of AI, reinforcing the need to

promote critical and formative competencies that enable the adequate integration of these tools into the educational process⁶.

Regarding educational implications, the results suggest that integrating generative AI tools into higher education offers relevant benefits, including rapid access to information, support for academic task completion, immediate feedback, and optimization of study time. Prior studies highlight that these technologies favor learning personalization, intelligent tutoring, and the generation of educational content²⁴. Similarly, some authors argue that the interaction between students and artificial intelligence can stimulate creativity and strengthen processes of academic innovation²⁵.

However, important challenges also emerge. The observed relationship between ChatGPT use, procrastination, and memory loss evidences the need to promote balanced and critical use of these tools. Furthermore, several studies warn of risks associated with excessive dependency, biases present in produced results, and possible ethical problems related to plagiarism and academic authenticity^{24,26}. In this regard, it becomes fundamental that educational institutions develop clear policies on the use of generative AI, incorporate digital literacy programs, and promote pedagogical strategies aimed at developing critical thinking and the responsible use of these technologies²⁷.

Another study highlights that the majority of research focuses on tools such as ChatGPT and Gemini, leaving other collaborative applications in the background. Furthermore, it is frequently assumed that users are proficient in prompt construction, although they rarely receive formal training on how to use them appropriately²⁸. This scenario evidences the need to equip both students and teachers with specific digital competencies to exploit the educational potential of AI in an ethical and effective manner.

Among the main limitations of this study, the fact that the sample was composed of students from only one faculty stands out, which restricts the generalization of results to other university contexts or areas of knowledge. Furthermore, the study was based on self-perception measures, which may generate response biases related to social desirability or participant subjectivity. Finally, some of the correlations found presented low magnitude, indicating that other personal, technological, and educational factors may influence generative AI ChatGPT use and should be explored in future investigations.

CONCLUSION

The research findings evidence that the use of generative artificial intelligence ChatGPT maintains a positive and significant relationship with the academic training of university students, demonstrating its potential as a complementary resource in learning processes. The results indicate that its use favors time organization, motivation, and coping with academic demands – aspects associated with higher levels of efficiency and autonomy in studies.

In the educational context, these results underscore the need for universities to promote strategies

for the pedagogical and ethical integration of artificial intelligence tools, considering that their responsible use currently constitutes one of the main topics of discussion and attention in higher education at the international level.

Furthermore, it is recommended that future research deepen the investigation of the effects of prolonged generative AI use on academic performance, critical thinking, and self-regulation of learning, incorporating broader and more diversified samples as well as different university contexts.

CRedit author statement

Project Administration: Casa-Coila, MD. Formal Analysis: Casa-Coila, MD. Conceptualization: Casa-Coila, MD. Data Curation: Ticona-Casa, KD. Writing – Original Draft Preparation: Casa-Coila, MD; Soto-Quispe, MA; Quispe-Pacco, JR; Ticona-Casa, KD; Apaza-Tipo, LG; DJMR. Writing – Review & Editing: Casa-Coila, MD. Investigation: Casa-Coila, MD; Soto-Quispe, MA; Quispe-Pacco, JR; Ticona-Casa, KD; Apaza-Tipo, LG; DJMR. Methodology: Casa-Coila, MD. Resources: Casa-Coila, MD. Software: Ticona-Casa, KD; DJMR. Supervision: Soto-Quispe, MA; Quispe-Pacco, JR. Validation: Casa-Coila, MD. Visualization: Casa-Coila, MD. Statistical Analysis: Casa-Coila, MD. Contribution to manuscript writing: Casa-Coila, MD. Author responsible for manuscript submission: Casa-Coila, MD.

All authors have read and agreed to the published version of the manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

REFERENCES

1. Ocaña-Fernández Y, Valenzuela-Fernández LA, Garro-Aburto LL. Inteligencia artificial y sus implicaciones en la educación superior. *Propósitos y Represent* [Internet]. 2019;7(2):536–52. Available from: <http://dx.doi.org/10.20511/pyr2019.v7n2.274>
2. Gonsalves C. Generative AI's Impact on Critical Thinking: Revisiting Bloom's Taxonomy. *J Mark Educ* [Internet]. 2024;48(1):4–19. Available from: <https://doi.org/10.1177/02734753241305980>
3. García OV. Uso y percepción de ChatGPT en la educación superior. *Rev Investig en Tecnol la Inf* [Internet]. 2023;11(23):98–107. Available from: <https://doi.org/10.36825/RITI.11.23.009>
4. Fajardo GM, Ayala DC, Arroba EM, López M. Inteligencia Artificial y la Educación Universitaria: Una revisión sistemática. *Mag las Ciencias Rev Investig e Innovación* [Internet]. 2023;8(1):109–31. Available from: <https://doi.org/10.33262/rmc.v8i1.2935>
5. Jackson J. Higher order prompting: Applying Bloom's revised taxonomy to the use of large language models in higher education. *Stud Technol Enhanc Learn* [Internet]. 2025;4(1):1–26. Available from: <https://doi.org/10.21428/8c225f6e.0915c17e>
6. Vilchis M. ChatGPT: Usos y oportunidades de la enseñanza-aprendizaje en Nivel Medio Superior. *Divers Académica* [Internet]. 2023;3(1):90–112. Available from: <https://diversidadacademica.uaemex.mx/article/view/21745>
7. Larico R. Impact of Chatgpt Generative Artificial Intelligence on University Teaching. *Chakiñan Ciencias Soc y Humanidades* [Internet]. 2025;25(25):317–41. Available from: <https://doi.org/10.37135/chk.002.25.14>
8. Castillo D, et al. ChatGPT como agente inteligente de retroalimentación académica : análisis correlacional de su percepción en estudiantes universitarios ChatGPT as an intelligent academic feedback agent : correlational analysis of its perception among. *Eur Public Soc Innov Rev* [Internet]. 2026;11:1–19. Available from: <https://doi.org/10.31637/epsir-2026-2132>
9. García-Martínez I, Fernández-Batanero JM, Fernández-Cerero J, León SP. Analysing the Impact of Artificial Intelligence and Computational Sciences on Student Performance: Systematic Review and Meta-analysis. *J New Approaches Educ Res* [Internet]. 2023;12(1):171–97. Available from: <https://doi.org/10.7821/naer.2023.1.1240>
10. Abbas M, Jam FA, Khan TI. Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students. *Int J Educ Technol High Educ* [Internet]. 2024;21(1). Available from: <https://doi.org/10.1186/s41239-024-00444-7>
11. Santos AI, Serpa S. Artificial intelligence and higher education. *Proc ICRES 2023– Int Conf Res Educ Sci* [Internet]. 2023;1866–74. Available from: <https://files.eric.ed.gov/fulltext/ED654305.pdf>
12. Vera F. Integración de la Inteligencia Artificial Generativa en la Educación Superior. *Rev Electrónica Transform* [Internet]. 2023;4(4):36–46. Available from: <https://www.revistatransformar.cl/index.php/transformar/article/view/108>
13. Balabdaoui F, Dittmann-Domenichini N, Grosse H, Schlienger C, Kortemeyer G. A survey on students' use of AI at a technical university. *Discov Educ* [Internet]. 2024;3(1). Available from: <https://doi.org/10.1007/s44217-024-00136-4>
14. Bernilla EB. Docentes ante la inteligencia artificial en una universidad pública del norte del Perú. *Educación* [Internet]. 2024;33(64):8–28. Available from: <https://doi.org/10.18800/educacion.202401.M001>
15. Keleş PU, Aydın S. University Students' Perceptions About Artificial Intelligence. *Shanlax Int J Educ* [Internet]. 2021;9(S1-May):212–20. Available from: <https://doi.org/10.34293/education.v9iS1-May.4014>
16. Sarrazola-Alzate A. Uso de ChatGPT como herramienta en las aulas de clase. *Rev EIA* [Internet]. 2023;20(40):1–23. Available from: https://www.researchgate.net/publication/371241060_Uso_de_ChatGPT_como_herramienta_en_las_aulas_de_clase
17. Riquelme CR, Pereira MA. Inteligencia artificial como herramienta de organización de actividades profesionales y personales. *Rev científica en ciencias Soc* [Internet]. 2024;6:01–6. Available from: <https://doi.org/10.53732/rccsociales/e601502>

-
18. Calsin MA, Aedo M, Castro E. Impact of ChatGPT on Teaching: A Flipped Classroom Approach for Programming Fundamentals | Impacto de ChatGPT en la enseñanza: Un enfoque de aula invertida para fundamentos de programación. RISTI - Rev Iber Sist e Tecnol Inf [Internet]. 2023;2023(52):97–112. Available from: <https://doi.org/10.17013/risti.52.97-112>
19. Hernández-Sampieri R, Mendoza CP. Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta. Vol. 1, Mc Graw Hill. México: McGRAW-Hill Education; 2018. 714 p.
20. Alpizar LO, Martínez H. Perspectiva de estudiantes de nivel medio superior respecto al uso de la inteligencia artificial generativa en su aprendizaje. Rev Iberoam para la Investig y el Desarro Educ [Internet]. 2024;14(28):e628. Available from: https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2007-74672024000100628
21. Carbonell-García CE, Burgos-Goicochea S, Calderón-de-los-Ríos DO, Paredes-Fernández OW. La Inteligencia Artificial en el contexto de la formación educativa. Episteme Koin [Internet]. 2023;6(12):152–66. Available from: <https://doi.org/10.35381/e.k.v6i12.2547>
22. Torres LC, Basilio LI. Inteligencia artificial generativa en estudiantes de educación media estudiantes del centro de enseñanza técnica industrial (CETI). Cienc Lat Rev Científica Multidiscip. 2025;9(4):11316–53.
23. Ruiz FG. Impacto de la inteligencia artificial y realidad virtual como herramientas de aprendizaje en la educación superior. Eur Public Soc Innov Rev [Internet]. 2026;11. Available from: <https://doi.org/10.31637/epsir-2026-1628>
24. Rodríguez M, Marín J, Del Buono CM. Perspectivas de la inteligencia artificial en la educación universitaria: un análisis basado en la literatura académica. Areté, Rev Digit del Dr en Educ la Univ Cent Venez [Internet]. 2024;10(Edición Especial):175–93. Available from: <https://doi.org/10.55560/arete.2024.ee.10.12>
25. Valencia GE, Barragán R del L, Ledesma SC, Moraima P. Impacto de la inteligencia artificial generativa en la creatividad de los estudiantes universitarios. Technol Rain J [Internet]. 2024;3(1):e33. Available from: <https://doi.org/10.55204/trj.v3i1.e33>
26. Nassi-Calò L. El uso de la Inteligencia Artificial Generativa en la Comunicación Científica. Rev Lat Am Enfermagem [Internet]. 2025;33::e4559. Available from: <https://doi.org/10.1590/1518-8345.0000.4560>
27. Chica AF, Loján EL, Gonzalez OC, Rivas WB. Evaluación del Uso de la Inteligencia Artificial Generativa en la Universidad Técnica de Machala: Beneficios y Riesgos. Rev Científica y Avadémica [Internet]. 2025;5(2):1207–35. Available from: <https://doi.org/10.61384/r.c.a.v5i2.1200>
28. Chocobar E, Ubillús J, Cevallos G. ¿Sólo el ChatGPT? Diferentes herramientas de Inteligencia Artificial Generativa (GenAI) y sus usos: Una revisión de la literatura científica, 2021 – 2024. Rev Científica la UCSA, [Internet]. 2025;12(1):70–85. Available from: <https://doi.org/10.18004/ucsa/2409-8752/2025.012.01.070>
-

How to cite this article: Casa-Coila, M.D., Soto-Quispe, M.A., Quispe-Pacco, J.R., Ticona-Casa, K.D., Apaza-Tipo, L.G., Mamani-Romero, D.J. (2026). Perspectives on the use of generative artificial intelligence ChatGPT and its relationship with academic training in university students. O Mundo Da Saúde, 50. <https://doi.org/10.15343/0104-7809.202650e18812025I>. Mundo Saúde. 2026,50:e18812025.