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- 1.- Análisis de la Disposición Espacial de Contenido en entornos de Realidad Aumentada y su Efecto en la Carga Cognitiva de los Usuarios** [*Analysis of the Spatial Layout of Content in Augmented Reality Environments and its Effect on Users' Cognitive Load*] **7**  
Luis Eduardo Bautista, Fernanda Maradei, Gabriel Pedraza
- 2.- Evaluación de actitudes hacia la ciencia, tecnología, ingeniería y matemáticas (STEM) para fomentar la creatividad en la educación secundaria** [*Assessing Attitudes Toward Science, Technology, Engineering, and Mathematics (STEM) for Enhancing Creativity in Secondary Education*] **39**  
Mujib Mujib, Mardiyah Mardiyah
- 3.- Distinción entre textos de guion escritos por humanos y generados por IA: un estudio preliminar con estudiantes de Cine** [*Distinction between Screenplay Texts Written by Humans and Generated by AI: a Preliminary Study with Film Students*] **70**  
Javier Luri-Rodríguez, Elio Quiroga-Rodríguez
- 4.- Efecto mediador del autocontrol sobre la autoestima y el uso de Instagram en adolescentes. Relaciones con el rendimiento académico y el estrés tecnológico** [*Mediating effect of self-monitoring on self-esteem and Instagram use in adolescents. Relationships with academic performance and technological stress*] **87**  
Francisco José Rubio-Hernández, Adoración Díaz-López, Vanessa Caba-Machado, Elena González-Calahorra
- 5.- Phubbing: edad y presencia en línea como condiciones necesarias** [*Phubbing: Age and Online Presence as Necessary Conditions*] **103**  
Antonio Matas-Terrón
- 6.- IA generativa versus profesores: reflexiones desde una revisión de la literatura** [*Generative AI vs. Teachers: insights from a literature review*] **119**  
Andres Chiappe, Carolina San Miguel, Fabiola Mabel Sáez Delgado
- 7.- ¿Coinciden la comunidad científica y la sociedad sobre el uso de la Inteligencia Artificial en educación?** [*Do the scientific community and society agree on the use of Artificial Intelligence in education?*] **139**  
Sonia Martín-Gómez, Ángel Bartolomé Muñoz de Luna
- 8.- La utilidad percibida del ChatGPT por parte del alumnado universitario** [*Perceived usefulness of ChatGPT by university students*] **159**  
Pablo Javier Ortega-Rodríguez, Francisco Javier Pericacho Gómez
- 9.- La hora del Booktok: caracterización de nuevos vídeos para la promoción lectora en el móvil** [*Booktok Time: Characterization of New Videos for Mobile Reading Promotion*] **180**  
José Rovira-Collado, Francisco Antonio Martínez-Carratalá, Sebastián Miras
- 10.- A Cómo potenciar el pensamiento crítico en la universidad a través de competencias en línea: evaluación de la información y la netiqueta: Un análisis en futuros docentes según el sexo** // Critical thinking and skills in evaluating online information, a 21st century challenge: A gender analysis of prospective teachers **199**  
Magalí Denoni Buján, Ana Cebollero Salinas

# The perceived educational usefulness of ChatGPT among university students

La utilidad didáctica percibida del ChatGPT por parte del alumnado universitario

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## ABSTRACT

Artificial Intelligence is changing the approach to education. This article aims to determine the perceived educational usefulness of ChatGPT among university students. The instrument used is the UTAUT2 Scale, which measures the use of new technologies, based on eight factors: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, habit and use intention. The sample consists of 152 students from the Universidad Autónoma de Madrid [Autonomous University of Madrid] (79.2% girls, 20.8% boys), with an average age of 21.3 years. The results show that experience of use is the factor that most influences facilitating conditions, hedonic motivation and habit. The five factors influencing the perceived usefulness of ChatGPT are habit, facilitating conditions, performance expectancy, hedonic motivation and price value. These findings suggest the need to develop digital literacy activities regarding the use of ChatGPT from a critical perspective, to encourage the responsible use of this technology and to provide guidance to students on writing instructions that generate an accurate response.

## RESUMEN

La Inteligencia Artificial está cambiando el enfoque de la educación. El objetivo de este trabajo es conocer la utilidad didáctica percibida del ChatGPT por parte del alumnado universitario. El instrumento utilizado es la Escala UTAUT2, que mide el uso de las nuevas tecnologías, a partir de ocho factores: la expectativa de rendimiento, la expectativa del esfuerzo, la influencia social, las condiciones favorables, la motivación hedónica, el valor del precio, el hábito y la intención de uso. La muestra está formada por 152 estudiantes de la Universidad Autónoma de Madrid (79.2% chicas, 20.8% chicos), con una media de edad de 21.3 años. Los resultados muestran que la experiencia de uso es el factor que más influye sobre las condiciones favorables, la motivación hedónica y el hábito. Los cinco factores que influyen sobre la utilidad percibida del ChatGPT son el hábito, las condiciones favorables, la expectativa de rendimiento, la motivación hedónica y el valor del precio. Estos resultados sugieren la necesidad de desarrollar actividades de alfabetización digital sobre el uso de ChatGPT desde una perspectiva crítica, fomentar el uso responsable de esta tecnología y dar pautas al alumnado sobre la escritura de instrucciones que generen una respuesta precisa.

## KEYWORDS · PALABRAS CLAVES

ChatGPT; Artificial Intelligence; Higher Education; UTAUT2; Perceived Usefulness; Digital Literacy; Educational Technology  
ChatGPT; Inteligencia Artificial; Educación Superior; UTAUT2; Utilidad Percibida; Alfabetización Digital; Tecnología Educativa

## 1. Introduction

Artificial Intelligence (hereinafter AI) is revolutionising society and transforming almost every aspect of our lives (López-Regalado et al., 2024; UNESCO, 2024). Its use in the field of education is generating substantial changes and stimulating debates on the possible ethical, academic and didactic implications for teachers and students (Giannini, 2023; Zhang, et al., 2023). The AI that has sparked an unprecedented revolution is the generative type, particularly since OpenAI released the free version of its tool ChatGPT at the end of 2022. Not for nothing did it reach 100 million users in the first few months (Tong & Zhang, 2023).

ChatGPT represents the initials of 'Generative Pre-trained Transformer'. It is an AI-based natural language model, developed by the company OpenAI. It can generate answers in realistic text that is similar to human text, with a hitherto unknown accuracy, speed, ease and coherence (Graf & Bernardi, 2023; Zhai, 2024). The educational significance of ChatGPT lies in the multiple uses that it holds for teachers and students. Thus, it has become a powerful tool, arousing great expectation and producing different perceptions and stances within the educational community (García, 2023; Román et al., 2024).

The area involving its impact and pedagogical significance is of major interest in terms of research. A field of study that is very recent but that is constantly expanding and growing. In general, there is broad agreement among researchers in stating that its use and pedagogical application, overall, provide opportunities, challenges, threats and challenges of different types and scope (UNESCO, 2023; Stokel & Van Noorden, 2023). In this way, it has been suggested that it could be an ally in teaching and learning processes, helping, for instance, in tasks involving research, development of critical thinking, problem-solving, support and personalised learning. However, it has also been indicated that it may have negative effects on didactic processes: by lessening effort, producing inappropriate behaviours, and undermining and weakening the teaching and learning processes (Baidoo & Owusu, 2023; Fialka et al., 2023; Kumar, 2023; Michel et al., 2023; Zhai, 2024).

Specifically in higher education, although, as mentioned above, the emergence of ChatGPT is very recent, its use has spread widely and almost instantly (Chan & Hu, 2023). As a result, there is not much evidence regarding the impact of ChatGPT in the university environment. Nevertheless, both within the academic community and in supranational bodies with a significant influence on education, such as UNESCO, the OECD or the World Bank, there is a clear and intense interest in analysing the implications of ChatGPT in higher education (Molina et al., 2024; UNESCO, 2023; Yun & Gwo, 2023).

Scientific literature emphasises the great potential that ChatGPT has for the university teaching/learning processes, related to improvement and time-saving when undertaking different tasks, the personalisation of various aspects connected to teaching/learning processes (clarification of doubts, reviewing work, and evaluation). However, it is also necessary to mention the risks and ethical dilemmas involved in its use. Firstly, the difficulty in evaluating the quality of sources, that is to say, the lack of reliability of the information provided in response to certain enquiries; secondly, the need to use ChatGPT responsibly in view of the different ethical problems that arise from using it. In short, the use of ChatGPT offers advantages and disadvantages in the university environment, opportunities and threats of different sorts: ethical, curricular, social, didactic, legal and psychological (Fesenmaier & Wöber, 2023; Klimova et al., 2024; Michel et al., 2023; Pedró, 2020; UNESCO, 2022; Yun & Gwo, 2023; Zhang et al., 2024).



There is an interesting study on the use and perception of ChatGPT in the university environment by Thi (2023). The results of this research show that, in general, students have a favourable opinion regarding the use of ChatGPT: to save time, and to provide information and personalised feedback. Likewise, some problems were identified, such as the impossibility of evaluating the quality and reliability of sources. In line with the aforementioned study, the work by Chan and Hu (2023) explores university students' perception of technologies involving generative artificial intelligence, such as ChatGPT, by means of a survey of 399 students from a range of disciplines in Hong Kong. The research revealed a generally positive attitude towards its use, due to the help it provided in teaching and learning processes, with acknowledgement of its potential for writing assignments, research and analysis. Additionally, this study generates a series of ideas and results that underline the conclusions obtained to a large extent from other works in this field: concern about inaccuracy, the reliability of sources, plagiarism, information privacy, or ethical questions of a different nature (Crawford et al., 2023; Crompton & Burke, 2023). In line with the aforementioned works, the study by Firat (2023) identifies one of the most frequent and substantial matters expressed in academic literature to date: the importance and necessity of continuing to conduct research into the potential opportunities and threats associated with the use of ChatGPT.

In this context, the Technology Acceptance Model (TAM), proposed by Davis (1989, p. 320), defines perceived usefulness as 'the degree to which a person believes that using a particular system would enhance his or her job performance'. On the basis of this model, the work by Kim et al. (2020) investigates university students' perceptions of AI teaching assistants in education. Based on TAM, the work by Venkatesh et al. (2003) designs and validates a model called the Unified Theory of Acceptance and Use of Technology (UTAUT) with five variables, which influence perceived usefulness: performance expectancy, defined as the degree to which a person believes that using a technology will help them to improve their professional performance; effort expectancy, defined as the ease of use of a technology; social influence, defined as the degree to which a person is influenced by the opinion of others in their environment about the use of a technology; facilitating conditions, defined as the degree to which a person believes that there is an infrastructure that supports the use of a technology; and use intention, which is a person's decision to use a technology. Another work by Venkatesh et al. (2012) proposes the UTAUT2 model, which includes three new factors: hedonic motivation or the pleasure derived from the use of a technology; price value or the importance placed on the cost of a technology; and habit of use, defined as the degree to which a person automatically uses this technology.

In terms of the relationship of the factors with use intention, the work by García de Blanes et al. (2022), which used the questionnaire with 304 university students, finds that habit of use influences use intention. The work by Cabero-Almenara et al. (2024b), which used the UTAUT2 model to predict the intention to use AI of 425 university students, finds that performance expectancy, effort expectancy, social influence, facilitating conditions and hedonic motivation influence the intention to use AI, which coincides with the results of the work by Xu et al. (2024). Other studies demonstrate the influence of performance expectancy and habit of use (Grassini et al., 2024), effort expectancy (Sánchez-Holgado & Arcila Calderón, 2024), facilitating conditions (Yildiz & Onan, 2024) and hedonic motivation (Acosta-Enriquez et al., 2024). The work by Alzahrani & Alzahrani (2024) reveals that social influence and hedonic motivation do not exert an influence on use intention. The work by Romero-Rodríguez et al. (2023), which aims to determine the acceptance of ChatGPT among university students, establishes that gender is not a determining variable, whilst the

experience of use is a conditioning factor. Along these lines, the work by Cabero-Almenara et al. (2024a) shows that age is not a significant factor in the intention to use ChatGPT.

The scientific and teaching community are deeply involved in analysing a crucial question: What exactly do ChatGPT and generative AI mean for teaching/learning processes and research? (UNESCO, 2024). Over time, the use of ChatGPT and other, emerging alternatives will become more sophisticated and increasingly frequent (Mollick & Mollick, 2023). Therefore, as the evidence so far seems to suggest, AI is here to stay (Molina et al., 2024). Despite the growing interest and research concerning ChatGPT in the area of higher education, given that it is so recent, much still remains to be done in order to understand its real impact. Without a doubt, it poses challenges and undeniable possibilities (Giannini, 2023), suggesting a need to adopt policies and measures to improve student literacy in the use of AI.

## 2. Objective and hypothesis

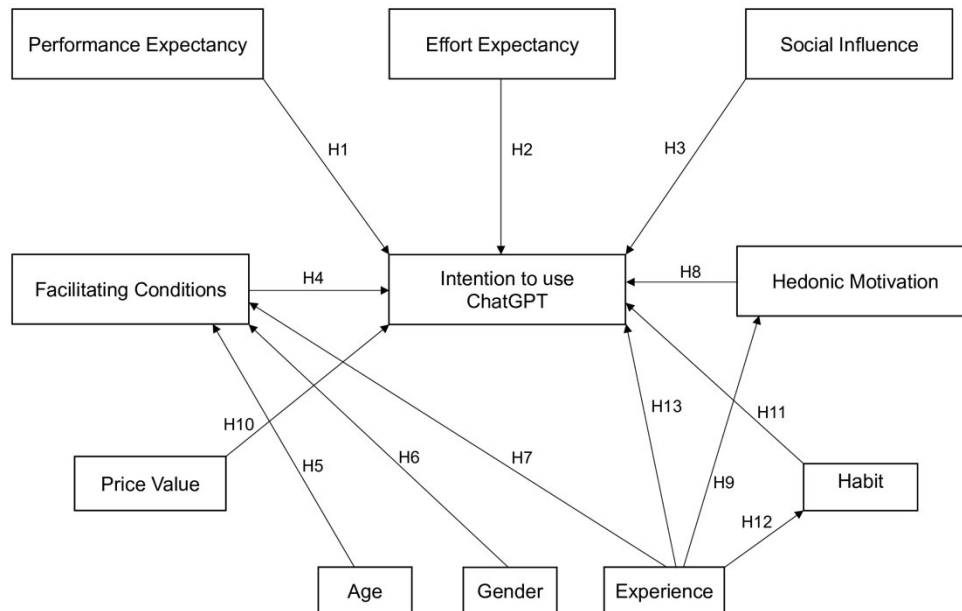
This work aims to contribute to understanding the use of ChatGPT in the university environment, specifically among students on the bachelor's degree course in Primary Education and the bachelor's degree course in Preschool Education in Spain. The objective of this research is to determine the perceived didactic usefulness of ChatGPT among students at the Universidad Autónoma de Madrid [Autonomous University of Madrid], based on the use of the UTAUT2 model (Figure 1), which produces 13 hypotheses.

Hypothesis 1. Performance expectancy regarding ChatGPT influences the intention to use it.

- Hypothesis 2. Effort expectancy influences the intention to use ChatGPT.
- Hypothesis 3. Social influence influences the intention to use ChatGPT.
- Hypothesis 4. Facilitating conditions influence the intention to use ChatGPT.
- Hypothesis 5. Student age influences the facilitating conditions to use ChatGPT.
- Hypothesis 6. Student gender influences the facilitating conditions to use ChatGPT.
- Hypothesis 7. Student experience of use has an influence on facilitating conditions.
- Hypothesis 8. Student hedonic motivation to use ChatGPT influences use intention.
- Hypothesis 9. Student experience of use has an influence on hedonic motivation.
- Hypothesis 10. The price value of ChatGPT influences use intention.
- Hypothesis 11. Habit of use has an influence on use intention.
- Hypothesis 12. Student experience of use has an influence on habit of use.
- Hypothesis 13. Student experience of use has an influence on use intention.

**Figure 1**

*Structural model to be confirmed*



### 3. Methodology

This work is part of a quantitative design (McMillan & Schumacher, 2008), as it aims to determine the characteristics of a population in a specific context relating to the issue under study. We have chosen a descriptive method using surveys, in which a questionnaire is applied, an instrument composed of a set of closed questions about a specific theme.

#### 3.1. Participants

The participant sample in the study is composed of 524 students (78% women, 22% men) studying courses in the year 2023/2024, at the Faculty of Teacher Teaching and Education of the Universidad Autónoma de Madrid, for the qualifications of Bachelor's Degree in Primary Education (33%), Bachelor's Degree in Preschool Education (31%), Dual Degree in Preschool and Primary Education (21%) and Bachelor's Degree in Sport and Physical Activity Science (15%).

We used a proportional stratified random sample (Buendía et al., 1998), in which participants were chosen randomly, taking into account the proportion of men and women on each degree course: 172 students from the Bachelor's Degree in Primary Education (78% women, 22% men), 161 students from the Bachelor's Degree in Preschool Education (92% women, 8% men), 110 students from the Dual Degree in Preschool and Primary Education (95% women, 5% men) and 81 students from the Bachelor's Degree in Sport and Physical Activity Science (74% men, 26% women).

The real sample is composed of 152 participants (79.2% women, 20.8% men), with a mean age of 21.3 years old, of which 49 are studying the Bachelor's Degree in Primary Education, 45 the Bachelor's Degree in Preschool Education, 34 the Dual Degree in Preschool and Primary Education, and 24 the Degree in Sport and Physical Activity. The average frequency with which students use ChatGPT is several times a week (1 = Never, 2 = Several time a year, 3 = Once a month, 4 = Several times a month, 5 = Once a week, 6 = Several times a week, 7 = Every day).

### 3.2. Instrument

The instrument used is an adaptation of the UTAUT2 Scale (Venkatesh et al., 2003; 2012), a questionnaire that measures students' use of new technologies, based on eight factors:

- Performance expectancy. The degree to which the use of a technology will provide the user with benefits when performing different activities.
- Effort Expectancy. The degree of ease related to users' usage of technology.
- Social Influence. The degree in which users think that people in their environment (family and friends) believe that they should use a technology.
- Facilitating Conditions. The opinion of users regarding the resources available for using a technology.
- Hedonic Motivation. Motivation oriented towards the pleasure of using a technology.
- Price Value. The degree of importance that users attach to a technology, taking its benefits into account.
- Habit. The way that users tend to automatically use a technology.
- Behavioural Intention (Use intention). The degree in which users decide to use a technology.

Table 1 shows the items that comprise each factor on the scale.

**Table 1***Items on the UTAUT2 scale*

<b>Factor</b>	<b>Items</b>
1. Performance expectancy	1. ChatGPT is useful for me in my daily life 2. Using ChatGPT increases my chances of obtaining information for my university activities 3. Using ChatGPT helps me to perform university activities more quickly 4. Using ChatGPT increases my productivity
2. Effort expectancy	5. Using ChatGPT is easy for me 6. The information that ChatGPT provides for me is clear 7. Writing a prompt for ChatGPT is easy for me 8. Acquiring skills in the use of ChatGPT is easy for me
3. Social influence	9. My family think I should use ChatGPT 10. My friends think I should use ChatGPT 11. My university classmates think I should use ChatGPT 12. My teachers think I should use ChatGPT
4. Facilitating conditions	13. I have the necessary resources at home to use ChatGPT 14. I have the necessary knowledge to use ChatGPT 15. ChatGPT is compatible with other information sources for conducting university assignments 16. If I have trouble using ChatGPT, I can get help from my family
5. Hedonic motivation	17. I have fun using ChatGPT 18. I like using ChatGPT 19. I amuse myself using ChatGPT
6. Price value	20. The paid version of ChatGPT (22.60 euros a month) is reasonably priced 21. The paid version of ChatGPT offers more accurate answers than the free one 22. The paid version of ChatGPT provides advantages in keeping with its price (there is a good price-quality ratio)
7. Habit	23. Using ChatGPT has become a habit in my daily life 24. I am addicted to using ChatGPT 25. Using ChatGPT is essential for conducting university assignments
8. Behavioural intention (Use intention)	26. I compare the information obtained using ChatGPT with other information sources when I perform a university activity 27. I intend to use ChatGPT to clarify doubts that arise when I am performing a class activity 28. I intend to use ChatGPT to perform a class activity 29. I intend to use ChatGPT in my daily life

This scale includes four levels of responses (1 = Completely disagree, 2 = Disagree, 3 = Agree, 4 = Completely agree) for the first eight items, while item 9 includes the following categories (1 = Never, 2 = Several times a week, 3 = Once a day, 4 = Several times a day).

The Cronbach's alpha of the scale was 0.89, which indicates an excellent level of internal consistency between the items.

## 4. Analysis and results

### 4.1. Analysis procedure

The analysis procedure consisted of three stages. In the first, multivariate normality was tested, in order to check whether the sample was normally distributed. To this effect, the Kolmogorov-Smirnov test was used (Sig. = .625), which confirmed that the distribution was normal as it was greater than .05. In the second stage, an Exploratory Factor Analysis (EFA) was conducted in order to accurately examine the factors of the variables observed, described in Table 1. In the third, a Confirmatory Factor Analysis (CFA) was conducted in order to compare the factors extracted and confirm the theoretical model, based on the hypotheses proposed.

Data analysis was conducted with the programmes IBM SPSS and Amos 29.

### 4.2. Results

**Table 2**

*Descriptive statistics of the Scale*

Item	Mean	S.D.
1. ChatGPT is useful for me in my daily life	2.26	.882
2. Using ChatGPT increases my chances of obtaining information for my university activities	2.25	.783
3. Using ChatGPT helps me to perform university activities more quickly	2.29	.794
4. Using ChatGPT increases my productivity	2.18	.887
5. Using ChatGPT is easy for me	2.43	.658
6. The information the ChatGPT provides for me is clear	1.99	.737
7. Writing a prompt for ChatGPT is easy for me	2.11	.702

Item	Mean	S.D.
8. Acquiring skills in the use of ChatGPT is easy for me	1.93	.835
9. My family think I should use ChatGPT	1.59	.982
10. My friends think I should use ChatGPT	2.83	.867
11. My university classmates think I should use ChatGPT	2.80	.921
12. My teachers think I should use ChatGPT	1.67	.937
13. I have the necessary resources at home to use ChatGPT	2.43	.697
14. I have the necessary knowledge to use ChatGPT	2.21	.751
15. ChatGPT is compatible with other information sources for conducting university assignments	1.89	.87
16. If I have trouble using ChatGPT, I can get help from my family	0.71	.794
17. I have fun using ChatGPT	1.51	.884
18. I like using ChatGPT	1.84	.729
19. I amuse myself using ChatGPT	1.55	.897
20. The paid version of ChatGPT is reasonably priced	1.32	.909
21. The paid version of ChatGPT offers more accurate answers than the free one	2.41.	.817
22. The paid version of ChatGPT provides advantages in keeping with its price (there is a good price-quality ratio)	2.01.	.620
23. Using ChatGPT has become a habit in my daily life	1.64	.887
24. I am addicted to using ChatGPT	1.05	.89
25. Using ChatGPT is essential for conducting university assignments	1.17	.804
26. I compare the information obtained using ChatGPT with other information sources when I perform a university activity	2.04	.837
27. I intend to use ChatGPT to clarify doubts that arise when I am performing a class activity	1.83	.804

Item	Mean	S.D.
28. I intend to use ChatGPT to perform a class activity	1.79	.803
29. I intend to use ChatGPT in my daily life	1.58	.924

We carried out an Exploratory Factor Analysis in order to concentrate the items for each of the eight factors. Factorial reduction was used by applying orthogonal rotation with the Varimax method, which is the most plausible factorial solution according to the nature of the data. In accordance with the Kaiser-Meyer-Olkin test (KMO) value of .908, which indicates an excellent relation of the correlation coefficients observed between the variables, and the significance index  $< .01$  obtained with Bartlett's sphericity test, it was confirmed that the factor analysis was applicable, appropriate and relevant.

Table 3 shows the results of the Exploratory Factor Analysis.

**Table 3**

*Factor Analysis: Rotated component matrix*

Item	F1	F2	F3	F4	F5	F6	F7	F8
3	.902							
1	.887							
2	.867							
4	.854							
5		.850						
6		.835						
7		.822						
8		.803						
11			.845					
10			.811					
9			.801					



12	.792		
13		.801	
15		.783	
14		.727	
16		.691	
18			.754
17			.713
19			.654
29			.724
28			.682
26			.661
27			.639
23			.703
24			.683
25			.679
22			.675
21			.604
20			.582

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**Table 4***Total explained variance*

Component	Initial eigenvalues			Extraction sum of squared loadings		
	Total	% variance	% cumulative	Total	% variance	% cumulative
1	9.166	31.607	31.607	9.166	31.607	31.607
2	3.475	11.981	43.588	3.475	11.981	43.588
3	2.068	7.132	50.719	2.068	7.132	50.719
4	1.670	5.759	56.479	1.670	5.759	56.479
5	1.579	5.444	61.922	1.579	5.444	61.922
6	1.420	4.898	66.820	1.420	4.898	66.820
7	1.290	4.450	71.270	1.290	4.450	71.270
8	1.157	3.988	75.258	1.157	3.988	75.258
<b>29</b>	<b>.043</b>	<b>.148</b>	<b>100</b>			

8 factors have been extracted, explaining over 75% of the variance of the set of items.

Factor 1 saturates variables 1, 2, 3 and 4, which relate to performance expectancy.

Factor 2 saturates variables 5, 6, 7 and 8, which relate to effort expectancy.

Factor 3 saturates variables 9, 10, 11 and 12, which allude to social influence.

Factor 4 illustrates variables 13, 14, 15 and 16, which refer to facilitating conditions.

Factor 5 saturates variables 17, 18 and 19, which refer to hedonic motivation.

Factor 6 illustrates variables 26, 27, 28 and 29, which are related to use intention.

Factor 7 saturates variables 23, 24 and 25, which relate to habit of use.

Factor 8 illustrates variables 20, 21 and 22, which allude to price value.

To evaluate the goodness of fit of the model, the indices by Hu & Bentler (1999) were used: the chi-square statistic, dividing the chi-square by the degrees of freedom, the Goodness of Fit Index (GFI), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA) and the Standardised Root Mean Square Residual (SRMR) (Browne & Cudeck, 1989).

Table 5 shows the goodness of fit indices for the model, which indicate that the model fits the data well.

**Table 5**

*Model fit indices*

Fit indices	Values obtained	Recommended values
$\chi^2$	48.27	
df	18	
$\chi^2/df$	2.68	$\leq 3$
GFI	.934	
NFI	.939	$\geq .90$
CFI	.942	
RMSEA	.041	$< .05$
SRMR	.046	$< .08$

Table 6 shows the results of the Confirmatory Factor Analysis, which allow for testing of the hypotheses proposed.

**Table 6***Correlations of the Confirmatory Factor Analysis*

Hypothesis	Degree of correlation	Testing of hypotheses
1. Performance expectancy → Use intention	.596*	Accepted
2. Effort expectancy → Use intention	-.018	Rejected
3. Social influence → Use intention	.002	Rejected
4. Facilitating conditions → Use intention	.608*	Accepted
5. Age → Facilitating conditions	.824*	Accepted
6. Gender → Facilitating conditions	-.038	Rejected
7. Experience of use → Facilitating conditions	.835*	Accepted
8. Hedonic motivation → Use intention	.576*	Accepted
9. Experience of use → Hedonic motivation	.792*	Accepted
10. Price value → Use intention	.429*	Accepted
11. Habit → Use intention	.718*	Accepted
12. Experience of use → Habit	.903*	Accepted
13. Experience of use → Use intention	.851*	Accepted

Note: \* Sig. < .01

The results in Table 6 show the acceptance of ten of the thirteen hypotheses proposed, which demonstrates a Sig. level of < .01. It can be seen that experience of use is the factor that most influences four variables (facilitating conditions, hedonic motivation, habit and use intention). As well as this factor, the five factors that most influence use intention are habit, facilitating conditions, performance expectancy, hedonic motivation and price value. Thus, gender is not a significant factor and age influences facilitating conditions.

## 5. Discussion

The objective of this research was to determine the perceived didactic usefulness of ChatGPT among students at the Universidad Autónoma de Madrid. To this effect, we proposed thirteen hypotheses, which have been tested through factor analysis.

The results led to the acceptance of the first hypothesis, which states that the performance expectancy of ChatGPT influences the intention to use it, in such a way that the expected benefits of this technology influence students' favourable predisposition towards its use (Cabero-Almenara et al., 2024b). The second hypothesis was rejected, meaning that effort expectancy does not exert an influence on use intention, as was the third hypothesis, so that social influence is not an influential factor either (Alzahrani & Alzahrani, 2024).

The results made it possible to accept the fourth hypothesis, which states that facilitating conditions influence the intention to use ChatGPT, in such a way that the availability of resources and knowledge have an influence on the use of this technology (UNESCO, 2023; Yildiz & Onan, 2024). Likewise, the fifth hypothesis was confirmed, so that student age influences the conditions enabling the use of ChatGPT (Venkatesh, 2012). The sixth hypothesis was rejected, so student gender does not influence the facilitating conditions for the use of this technology.

The results led to the acceptance of the seventh hypothesis, which states that the student's experience of use exerts an influence on the facilitating conditions, in such a way that the knowledge acquired through using ChatGPT encourages the intention to use ChatGPT (Firat, 2023), which has an impact on performing assignments in the university environment (Xu et al., 2024). Furthermore, the eighth hypothesis was confirmed, meaning that students' hedonic motivation influences their use intention (Acosta-Enriquez et al., 2024; Chan & Hu, 2023).

The results made it possible to accept the ninth hypothesis, which states that students' experience of use influences their hedonic motivation to use ChatGPT (Chan & Hu, 2023), and also the tenth hypothesis, which states that the price of the paid version of this technology exerts an influence on the intention to use it (Venkatesh, 2012).

The results led to the acceptance of the eleventh hypothesis, so that habit influences the intention to use ChatGPT (Grassini et al., 2024; Thi, 2023). Similarly, the twelfth hypothesis was confirmed, which states that student experience of use has an influence on habit, as well as the thirteenth hypothesis, which established the influence of experience on use intention (Romero-Rodríguez et al., 2023).

## 6. Conclusions

This work has led to a series of conclusions and proposals with implications for educational practice.

First, experience of use exerts a major influence on the intention to use ChatGPT, which suggests that there is a need to promote activities at university that encourage responsible use of this technology among students, with help from teachers.

Second, the effect of facilitating conditions on use intention reveals the necessity of developing digital literacy activities about using this technology, from a critical perspective, for instance, by comparing the information from ChatGPT with other references and sources.

Third, the influence of hedonic motivation on use intention suggests the need to foster responsible use of ChatGPT as a complementary source of information when performing activities in the university environment.

Fourth, in view of the influence of habit on use intention, it is necessary to provide guidelines to students on how to use this technology effectively, for example, by writing a prompt or set of instructions that generate an accurate response.

Fifth, given the impact of ChatGPT on the university community, content on AI needs to be included in the curricula of degree courses related to education, as this is a technology that favours content creation for didactic purposes.

In conclusion, this work demonstrates the perceived didactic usefulness of ChatGPT among university students, thus helping to advance understanding of the factors that influence critical, responsible and accurate use of this technology.

### Author's Contribution

Conceptualisation, P.J.O.-R. y F.J.P.-G.; Data curation, P.J.O.-R.; Formal analysis, P.J.O.-R.; Investigation, P.J.O.-R. y F.J.P.-G.; Methodology, P.J.O.-R. y F.J.P.-G.; Project administration, P.J.O.-R. y F.J.P.-G.; Resources, P.J.O.-R. y F.J.P.-G.; Software, P.J.O.-R. y F.J.P.-G.; Supervision, P.J.O.-R. y F.J.P.-G.; Validation, P.J.O.-R. y F.J.P.-G.; Visualisation, P.J.O.-R. y F.J.P.-G.; Writing: original draft preparation, P.J.O.-R. y F.J.P.-G.; Writing: review editing, P.J.O.-R. y F.J.P.-G.; References: P.J.O.-R. y F.J.P.-G.

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