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ARTIFICIAL INTELLIGENCE AND PERCEPTION OF USEFULNESS AMONG UNIVERSITY STUDENTS

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Artificial Intelligence, Perception, Utility, University Students, Academic, Leisure Time, Social Relationships

ABSTRACT

This study examined the perceptions of 140 university students regarding the advantages and disadvantages of artificial intelligence (AI) in three areas: academics, leisure time, and social relationships. The results revealed that students' views on AI varied according to gender and age. Women expressed more favourable views of AI in academics and social relationships, while men emphasised its impact on leisure time. Younger students (18-22 years) perceived AI more positively in leisure time and social interactions compared to older students. In conclusion, both age and gender significantly influence how university students perceive and engage with AI in different aspects of their lives.

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1. Introduction

In recent decades, artificial intelligence (AI) has evolved from being a futuristic concept into a ubiquitous technology that permeates multiple aspects of everyday life (Brynjolfsson & McAfee, 2014; Stone et al., 2016). Its rapid development has led to profound transformations in sectors such as industry, health, the economy and, most notably, in education and social interactions (Agrawal, Gans, & Goldfarb, 2018). AI is defined as the ability of machines to perform tasks that typically require human intelligence, such as pattern recognition, decision-making, and machine learning (Russell & Norvig, 2020; Vera et al., 2024).

This technological advancement is not only changing the way we access and process information, but it is also influencing how we interact with the world, with each other, and with technology itself (Floridi, 2014; Bostrom, 2014).

In the university context, the emergence of AI has had a dual impact: on the one hand, it expands the possibilities for teaching and academic management (Hwang et al., 2020; Zawacki-Richter, Marín, Bond, & Gouverneur, 2019), and on the other, it poses new challenges in terms of its ethical and critical integration into educational processes (O'Neil, 2016; Eubanks, 2018). For this reason, it is essential to understand university students' perceptions of the benefits and risks associated with AI, especially in key areas such as education, leisure, and social relationships, where the technology is already firmly established.

1.1. Perception of AI in academia

The use of AI in education is on the rise, with applications ranging from intelligent tutoring systems and adaptive learning platforms to automated assessment tools (Chen et al., 2020; Morán-Ortega et al., 2024; Roll & Wylie, 2016; Woolf, 2009). Recent studies have shown that students view AI favourably when it facilitates personalised learning and improves access to educational resources (Elizalde et al., 2025). For example, in a study conducted by Holmes et al. (2019), 68% of university students stated that AI-based tools helped them to organise their time more effectively and improve their academic performance. However, these same authors warned of a perceived technological dependence, with some students expressing concerns over the erosion of essential cognitive skills, such as independent problem solving and critical thinking (Carr, 2010; Spitzer, 2012; Torres-Gastelú & Torres-Real, 2025).

Furthermore, research carried out at European universities (García-Peñalvo, 2021) has revealed gender-based differences in AI perception of; notably, women tend to show greater confidence in educational AI, viewing it as a valuable support for study planning and monitoring. In contrast, some male students have expressed greater scepticism, which could be linked to broader cultural attitudes toward technology and learning.

1.2. AI and digital leisure: benefits and risks

In the field of leisure, AI has profoundly transformed of the landscape of digital entertainment, particularly within on streaming platforms, video games, and social media (Lobel, 2018; Lessig, 2006). The ability of algorithms to recommend personalised content has been well received by young users, who report greater satisfaction and the discovery of new interests (Anderson & Rainie, 2018; Pariser, 2011). According to a study by Anderson et al. (2021), 75% of surveyed university students highlighted the importance of recommendation systems in their daily consumption of digital entertainment, especially music and series.

However, this algorithmic dependency has also raised concerns about digital addiction and the loss of autonomy in content selection (Montag et al., 2021). Research such as that by Przybylski et al. (2017) has warned that excessive use of AI-driven leisure technologies can encourage compulsive behaviour patterns, negatively impacting psychological well-being and the ability to "disconnect" and manage free time (Kardefelt-Winther, 2014; Twenge, 2017).

1.3. AI and social relationships: mediations and ambivalences

The impact of AI on social relationships is an emerging field supported by a growing body of scientific research (Van Dijck, 2013; Boyd, 2014). AI intervenes in relationships through messaging chatbots, matchmaking algorithms on dating platforms, and systems that select and prioritise interactions on social networks (Finkel et al., 2012; Gershon, 2010). Studies such as Turkle (2017) highlight the ambivalence of these technological mediations: while some young people find AI facilitates connecting and maintaining relationships, others express concerns about the authenticity and depth of these bonds (Miller, 2008; Bauman, 2000).

Similarly, recent research at North American universities (Auxier & Anderson, 2021) showed that while 60% of students believed that AI facilitated social contact, 40% remained concerned about the loss of face-to-face communication and the increase in superficiality in relationships. Furthermore, women in this study were generally more open to AI applications in social contexts, in line with previous findings that suggest a greater willingness among women to integrate emerging social technologies.

1.4. Sociodemographic variables and perception of AI

The literature identifies variables such as gender and age as significant influences on AI perception (Venkatesh et al., 2003; Morris & Venkatesh, 2000). In generational terms, young adults between the ages of 18 and 24, who have grown up immersed in digital culture, typically demonstrate greater acceptance and confidence in AI, while older groups express more cautious or critical attitudes (Pew Research Centre, 2021; Prensky, 2001). These differences can be partly explained by familiarity and degree of exposure to technology, as well as by values and previous experiences with the digital environment.

With regard to gender, as mentioned above, evidence suggests that women tend to perceive greater benefits in the use of AI for educational and social support, although they may also express greater ethical or emotional concerns, which indicates a more nuanced approach to technology (Cheryan et al., 2017; Gilligan, 1982).

Despite the increase in research on AI and its social impact, there remains a lack of holistic frameworks that simultaneously consider academic, recreational, and social perceptions of AI. This is especially relevant in the university setting, where interaction with these technologies is multifaceted and constantly evolving.

Therefore, this study aims to analyse the perceptions of Social Sciences students regarding the benefits and risks of AI in the academic, leisure, and social spheres. In addition, it seeks to explore how these perceptions vary according to key sociodemographic variables such as gender and age, thus contributing to a deeper understanding that can inform responsible and contextualised educational strategies and technological integration policies.

2. Methodology

2.1. Participants

The research was carried out with 140 university students enrolled in Social Sciences degrees at the University of Alicante (UA). All participants were pursuing degrees such as Sociology, Social Work, Advertising and Public Relations, and Social Education.

The sample was made using non-probabilistic convenience sampling, with the voluntary collaboration of students during the development of subjects related to technology, digital society, and educational innovation. This ensured a baseline familiarity with the use and presence of artificial intelligence in various contexts.

In terms of gender distribution, the sample was divided relatively evenly: 68 men (48.6%) and 72 women (51.4%). Three age groups were also established to facilitate comparative analysis: the first group, aged 18 to 22, consisted of 60 students (42.9%); the second group, aged 23 to 27, comprised 50 students (35.7%); and the third, aged 28 to 32, included 30 students (21.4%). This

diversity allowed us to observe possible variations in the perception of artificial intelligence based on generational differences within the university environment.

2.2. Instruments

To collect data, an *ad hoc* questionnaire consisting of 20 items was designed and administered, aimed at exploring university students' perceptions of the benefits and risks associated with AI in three fundamental dimensions: academia, leisure, and social relationships. The questionnaire was developed based on a review of recent literature on the social and educational impact of AI, as well as previous studies focusing on attitudes toward emerging technologies in university contexts.

Each item was formulated as a statement to which participants had to respond on a 5-point Likert scale, where 1 indicated "Strongly disagree" and 5 "Strongly agree". This scale allowed us to capture both positive and negative perceptions of AI in the different areas considered.

The questionnaire was structured into three thematic blocks:

- The Academic Block (items 1 to 7): Explored aspects related to the use of AI as a learning support tool, its role in improving academic efficiency, and personalisation, as well as possible negative implications such as the erosion of critical thinking or the risk of dependency.
- The Leisure Block (items 8 to 13): Examined perceptions of the use of AI in recreational and entertainment activities, such as content recommendations, video games, virtual assistants, and music and video platforms, as well as the potential diminishment of spontaneity in personal decisions.
- The Social Relationships Block (items 14 to 20): Focused on the influence of AI on interpersonal communication, social networks, and mediation in emotional relationships (e.g., through matchmaking algorithms), alongside the perception of risks to the authenticity and quality of human bonds.

The instrument was validated by experts, who assessed the clarity, relevance, and consistency of the items with the study objectives. A pilot test was also conducted with a small group of students to ensure comprehension of the items and the appropriateness of the scale. The final questionnaire showed good psychometric properties, achieving an internal consistency index (Cronbach's alpha) of 0.87, which indicates high reliability.

Table 1. Questionnaire on perceptions of the usefulness of AI

Item	Block	Statement
1	A	AI has helped me better understand certain topics in my studies.
2	A	The use of AI tools improves productivity in academic tasks.
3	A	AI poses a risk to students' critical thinking.
4	A	I am concerned that the use of AI may encourage plagiarism in academic work.
5	A	AI tools should be formally integrated into university curricula.
6	A	Excessive use of AI in academia may compromise the quality of university education.
7	A	I trust that AI can provide accurate and useful information for my academic tasks.
8	B	AI has enhanced my experience on music, video, and gaming platforms.
9	B	AI-based recommendations help me discover content more tailored to my preferences.
10	B	I am concerned that AI limits my exposure to diverse content on entertainment platforms.
11	B	The use of AI in video games improves gameplay and user experience.
12	B	I spend more time on entertainment platforms since they integrated personalised AI.
13	B	AI is fostering more addictive than healthy engagement patterns.
14	C	I have used AI (such as chatbots or virtual assistants) to improve my communication skills.
15	C	I am concerned that the use of AI could displace certain forms of human interaction.
16	C	I believe that AI can facilitate connections with people who share my interests.
17	C	The use of AI filters and algorithms on social media negatively affects my perception of reality.
18	C	I find it useful to have AI that helps interpret emotions or enhance empathy in conversations.
19	C	AI-based technologies influence how I interact with my social environment.
20	C	AI can distort human relationships if not properly regulated.

Key: A: Academic sphere; B: Leisure and entertainment; C: Social relations

Own source

2.3. Procedure

The data collection process was carried out during the second semester of the academic year within the Social Sciences department at the University of Alicante. After a brief explanation of the study's objectives and the strictly anonymous and voluntary nature of participation, the questionnaire was distributed in digital format via a secure survey platform.

Informed consent was obtained from all students prior to the administration of the instrument, adhering to ethical guidelines for research involving human subjects. The estimated time to complete the questionnaire was approximately ten minutes. Once the responses were collected, the data were coded and exported for statistical analysis using SPSS software (version 27).

Initially, basic descriptive statistics (mean, standard deviation, frequencies, and percentages) were calculated for each item and for the three primary blocks of the questionnaire: academic, leisure, and social relationships. Subsequently, aggregate means for each block were computed, which provided a summary of the overall perception of AI in each thematic area.

2.4. Statistical Analysis

To examine the existence of significant differences in AI perception based on sociodemographic variables, independent samples t-tests were applied. This analysis allowed for a comparison of the means obtained between men and women, as well as between the different established age groups: 18 to 22 years, 23 to 27 years, and 28 to 32 years.

For age comparisons, bivariate pairwise t-tests were utilized (comparisons between two groups at a time), given the limited number of groups and balanced sample sizes. A statistical significance level of $p < .05$ was adopted as the criterion for determining the existence of statistically significant differences. In addition, t-values were calculated and results were interpreted based on their direction (positive or negative) and magnitude in order to explore not only the existence of differences, but also their meaning (for example, whether one group perceives greater benefits or more risks than another).

Furthermore, Cohen's d was calculated to determine the effect size of statistically significant comparisons. Finally, the underlying assumptions of the t-test—specifically normality of distributions and homogeneity of variances between groups—were verified using the Kolmogorov-Smirnov and Levene statistics, respectively. The data did not exhibit any substantial violations of these assumptions.

3. Results

The analysis of the data revealed distinct patterns in the perception of the impact of AI across the three dimensions: academic, leisure, and social relations. Moreover, significant variations emerged in relation to the sociodemographic variables of gender and age group.

3.1. Overall perception of AI in different areas

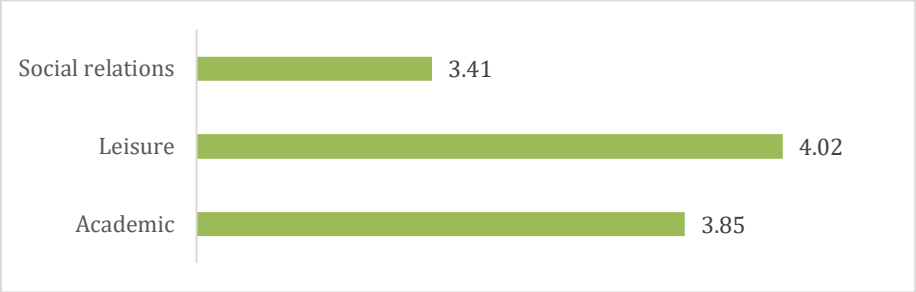
The general descriptive analysis showed that university students tended to perceive AI in a predominantly positive light across all three evaluated areas, although with some nuances.

The leisure block obtained the highest mean score ($M = 4.02$), indicating a high level of acceptance of AI within entertainment platforms, video games, and personalised recommendations.

The academic block followed with a mean of $M = 3.85$, which reflects a favourable assessment of AI as a learning aid, albeit with certain reservations.

In contrast, the social relations block yielded a more moderate average ($M = 3.41$), suggesting more ambivalent perceptions regarding the role of AI in interpersonal communication and emotional relationships.

Figure 1. Perception of the usefulness of AI



Own source

3.2. Differences according to gender

When comparing responses by gender using Student's t-test, statistically significant differences were observed in two of the three blocks. In the academic sphere, women (M = 3.93) scored significantly higher than men (M = 3.76), yielding a statistically significant result (t = -2.10; p = 0.037). This suggests that female students view the role of AI as an educational tool more favourably, potentially associating it with higher expectations in terms of support for organisation, independent study, or resource accessibility.

In the social relationships block, significant differences were also identified (t = -2.40; p = 0.018), with women again showing a more favourable perception (M = 3.52 compared to M = 3.29 for men). This result may stem from greater sensitivity to AI's potential of to mediate or facilitate social interactions, although it could also be interpreted as higher tolerance for digitised or algorithm-mediated forms of sociability.

In contrast, within the leisure block, the difference between men (M = 4.10) and women (M = 3.95) did not reach statistical significance (t = 1.85; p = 0.067), although a slight trend emerged with men rating AI more positively in this domain. This could reflect a greater affinity among men for certain forms of digital leisure.

Table 2. Perception of AI in different areas according to gender

Block	*Men (n=68)*	*Women (n=72)*	*t*	*p*	*Cohen's d*	*Sig. Diff.*
Academic	3.76	3.93	-2.10	0.037	0.35	p < .05
Leisure	4.10	3.95	1.85	0.067	N/A	p > .05
Social Relations	3.29	3.52	-2.40	0.018	0.40	p < .05

Own source

3.3. Differences according to age group

The analysis by age group revealed more pronounced differences, particularly in the leisure and social relationships blocks. In the leisure block, participants in the youngest group (18–22 years old) obtained significantly higher means than the other two groups. Specifically, statistically significant differences were observed between the 18–22 and 23–27 age groups (t = 2.00; p = 0.048), as well as between the 18–22 and 28–32 age groups (t = 3.25; p = 0.0015). These findings indicate that younger students hold a more positive view of AI in entertainment, likely due to lifelong exposure to personalized digital tools.

A similar pattern occurred in the social relations block, where the 18–22 age group also scored higher than their older counterparts. Differences were significant compared to both the 23–27 age group (t = 2.30; p = 0.023) and the 28–32 age group (t = 3.10; p = 0.0023). This suggests a broader acceptance among younger individuals of AI's role in managing social and emotional bonds, whether through matchmaking algorithms, virtual assistants, or social media recommendations.

In contrast, in the academic block, no statistically significant differences were detected across the three age groups, suggesting a relatively homogeneous perception regarding of AI's utility in education, regardless of the student's stage of life or academic level.

Table 3. Perception of AI in different areas according to age
Own source

	Groups	t	p	d	Diff. Next
A. Academic Block	18--22 vs 23--27	1.10	0.270	N/A	> .05
	18--22 vs 28--32	-0.25	0.800	N/A	> .05
	23--27 vs 28--32	-1.22	0.230	N/A	> .05
B. Leisure Block	18--22 vs 23--27	2.00	0.048	0.33	< .05
	18--22 vs 28--32	3.25	0.001	0.54	< .05
	23--27 vs 28--32	1.35	0.05	N/A	< .05
C. Social Relations Block	18--22 vs 23--27	2.30	0.023	0.38	< .05
	18--22 vs 28--32	3.10	0.0023	0.51	< .05
	23--27 vs 28--32	0.85	0.390	N/A	> .05

4.

Discussion

The findings of this research provide a detailed overview of the perspectives held by Social Science students regarding AI within three fundamental areas of their daily lives: academia, leisure, and social interaction. In general, participants showed a positive inclination toward the use of AI, although the intensity and nuances of this attitude varied depending on the domain considered and the sociodemographic characteristics of the individuals.

First, the high regard for AI in the leisure sector is particularly noteworthy. This result is consistent with previous studies indicating young people's growing familiarity with and dependence on digital platforms that use AI algorithms to provide personalised suggestions, such as Netflix, Spotify, and TikTok (López-Pérez & Rodríguez-Sánchez, 2022; Morán-Ortega et al., 2024). The favourable view in this area may be attributed to direct experience with the perceived advantages of AI, such as efficiency, adaptation of content to individual tastes, and improved user experience. Interestingly, younger students (aged 18 to 22) scored significantly higher than their older peers; this suggests a generational effect, where those raised in a digital-first environment incorporate algorithmic intelligence more fluidly into their habits.

In the academic context, while perceptions were also favourable, scores were slightly more moderate. This finding may reflect a more cautious stance toward the benefits and risks of using AI in the learning process (Chen et al., 2020; Woolf, 2009; Roll & Wylie, 2016). Despite recognising its advantages, participants expressed concerns regarding the erosion of essential skills or an over-reliance on external technologies for completing academic tasks. The discrepancy in scores between men and women in this domain—where women exhibited a more favorable attitude toward AI—can be interpreted through a gender lens linked to differing expectations regarding the organizational support these tools provide. Furthermore, this may reflect a greater propensity among female students toward digital educational methodologies. (Elizalde et al., 2025; Torres-Gastelú & Torres-Real, 2025).

With regard to social relationships, the results revealed a more ambivalent perception. While participants acknowledged certain advantages of AI in facilitating social interaction, latent concerns surfaced regarding authenticity of bonds, privacy, and the potential deterioration of interpersonal communication. This ambivalence is consistent with studies that highlight how technological mediation transforms the essence of human relationships, especially among young people (Morán-Ortega et al., 2024; Turkle, 2017). It is significant that women and younger students expressed a more positive attitude in this area, which could indicate greater adaptation to digitised social dynamics and greater tolerance toward unconventional forms of interaction.

The generational divide represents another relevant finding consistent across all three analysed areas. Younger students not only exhibited greater enthusiasm for AI in leisure and social relationships, but also demonstrated a more receptive attitude in general toward its integration into everyday life. This suggests that, beyond mere chronological age, differing conceptualisations of technology emerge from different life experiences: those who have grown up with AI as a constituent part of their digital environment tend to incorporate it more seamlessly and synergistically into their daily habits (Elizalde et al., 2025; Vera et al., 2024).

These findings carry significant implications for both higher education and the formulation of public policies related to the ethical and pedagogical use of AI. In the academic context, it is essential to foster critical digital literacy extends beyond mere technical instruction. Instead, it must promote ethical reflection, intellectual autonomy, and informed decision-making (Torres-Gastelú & Torres-Real, 2025). Additionally, the results suggest the need for universities to guide students in understanding how AI transforms not only information access, but also socialisation processes and leisure time —areas that have traditionally received less institutional attention.

However, this research is subject to certain limitations that should be considered when interpreting the results. First, the sample was restricted exclusively to Social Science students at a single university, which limits the generalisability of the conclusions. Furthermore, although the *ad hoc* questionnaire was validated and demonstrated strong internal reliability, future research could benefit from incorporating internationally validated instruments. Finally, it is suggested that further qualitative studies be conducted to gain a deeper understanding of the representations, discourses, and emotions that students associate with AI.

5. Conclusions

In summary, this study reveals that university students perceive artificial intelligence as a tool with multiple advantages, particularly within the areas of leisure and education. The positive assessment of AI for recreational activities and academic support reflects a growing acceptance of these technologies in the daily lives of young university students. However, the more ambivalent perception regarding its influence on social relationships highlights a critical awareness of the associated risks, such as the potential impact on the authenticity and quality of human interactions.

The differences found according to gender and age group suggest that women and younger students exhibit a more favourable attitude toward AI. This emphasizes the need to account for these sociodemographic variables when designing educational and social strategies for the integration of AI-driven technologies.

The results carry significant weight for higher education and technology policy-making. Within the university setting, it is essential to implement training programmes that transcend technical also instructions to encourage critical reflection on their social and ethical impacts. This approach will contribute to the development of responsible digital competencies and promote a balanced, conscious engagement with AI, thereby mitigating risks such as technological dependence or the erosion of cognitive skills.

Furthermore, considering the ambivalent perception in the area of social relations, it is recommended to facilitate spaces for dialogue and debate that address how AI transforms human interaction. This would raise students' awareness of the opportunities and limitations of these emerging modes of sociability.

For future research, it would be beneficial to broaden the population spectrum by incorporating students from diverse academic disciplines and different geographical and cultural contexts. This would allow for a more nuanced analysis of how contextual variables influence AI perceptions. It is also advisable to complement quantitative methods with qualitative approaches, such as interviews or focus groups, which allow for in-depth exploration of the subjective and emotional representations linked to AI.

Finally, given the rapid evolution of AI-based technologies, it is important to conduct longitudinal studies that monitor shifts in perceptions and attitudes over time, thus facilitating the constant updating of educational and social strategies adapted to new digital realities.

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