

Article

Comparative Study of the Attitudes and Perceptions of University Students in Business Administration and Management and in Education toward Artificial Intelligence

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Abstract: Artificial Intelligence (AI) is a disruptive technology that nowadays has countless applications in many day-to-day and professional domains. Higher education institutions need to adapt both to changes in their processes and to changes in curricula brought on by AI. Studying students' attitudes toward AI can be useful for analyzing what changes in AI teaching need to be implemented. This article uses an electronic survey to study the attitudes of Spanish students in the fields of economics and business management and education. A learning experience was also implemented with a small subset of students as a hands-on introduction to AI, where students were prompted to reflect on their experiences as users of AI. The results show that students are aware of AI's impact and are willing to further their education in AI, although their current knowledge is limited due to a lack of training. We believe that AI education should be expanded and improved, especially by presenting realistic use cases and the real limitations of the technology, so that students are able to use AI confidently and responsibly in their professional future.

Keywords: artificial intelligence; university; higher education; business administration and management; education



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1. Introduction

Artificial intelligence (AI) is a term that was coined in 1956 by John McCarthy, who defined it as “the science and engineering of making intelligent machines, especially intelligent computer programs”. The first steps of this technology were taken in the 1940s and 50s, but it was not until the 21st century that it reached its full potential, and especially from the 2010s until today, it has experienced exponential growth both in terms of computational power and popularity [1]. More modern definitions describe artificial intelligence as a combination of technologies that bring together data, algorithms, and computing power [2] or, as the Spanish national strategy on AI puts it, “the science and engineering that allows designing and programming machines capable of performing tasks that require intelligence” [3].

In recent years, AI has become more present in people's daily lives, especially as recommendation algorithms have become more complex and commonplace in multimedia or online shopping platforms. These applications have a potentially low impact on the user; however, other uses of AI could have more significant control over our decision-making [4], such as in the case of autonomous vehicles [5]. AI now has applications in many specific domains and professions. For example, as part of China's national AI strategy, machine learning and cognitive computing used by the “206System” help court and public security personnel with evidence verification and trial argumentation [6,7]. In healthcare as well, new AI-driven initiatives are emerging, particularly those that apply machine learning algorithms to identify disease patterns without a priori hypotheses [8,9]. AI has also enabled

scientists and technologists to address the vast amount of biomedical, epidemiological, and socioeconomic data to support global efforts to combat COVID-19 [10]. In the field of nature conservation sciences, Wildlife Insights is an example of a Google-backed platform for hosting and analyzing wildlife sensor data [11]. The adoption of AI in the context of defense and security has been very significant as well [12]. AI has grown in importance within the educational community in recent years for its potential to support learning in various contexts [13], and it has great potential for reducing the barriers to access to learning, automating management processes, and optimizing methods to improve student performance and, as a result, learning outcomes [14]. The implications of AI in business can be seen in fields as diverse as digital financial assistants, which will go beyond answering questions and play a more active role in wealth management, smart payment solutions, and credit and insurance management [15], or in the use of social media in targeted digital marketing [16].

AI's disruptive force also impacts higher education institutions, which need to adapt to the changes in their administrative and educational processes that this technology can bring and include training in AI in their curricula beyond computer science-focused degrees so that students in their future professional careers will be able to respond to the demands of the labor market [17]. AI's impact on universities can be studied from many different perspectives, from strategy and policy to teaching practices. Some studies have tackled this topic by focusing on students' perceptions of AI as a disruptive technology in their fields of study. In particular, several studies have analyzed medical students' perceptions and knowledge and how they affected their likeliness to choose a career in radiology due to the growing number of AI applications in this field in the UK [18], Canada [19], and Germany [20]. This article builds on these previous works and replicates some of their methods in order to compare their observed results to the attitudes and perceptions of Spanish university students in other fields of knowledge.

The research problem tackled in this article is to analyze the attitudes of university students at the Faculty of Economics and Business Management and the Faculty of Education of the University of Salamanca (Spain) regarding artificial intelligence. The concrete research objectives are to study (1) the students' vision of the importance of AI in their professional future; (2) their understanding of this technology; (3) their confidence in being able to utilize AI tools in their profession, and (4) their perception of the AI-related education they may have received. Our hypothesis is that there may be differences between students of the two different branches of knowledge in terms of the factors that are being studied, as well as between students who have received some training in AI and those who have not. Our postulation is that receiving AI education may lead students to have a more positive perception of the possible impact of AI on their future professional careers.

2. Materials and Methods

We employed both quantitative and qualitative methods, with the former based on the statistical analysis of survey results and the latter based on descriptive analysis of students' written discourse.

2.1. Quantitative Methods

This study was conducted at the University of Salamanca. The main instrument used was an electronic survey (Google Forms), which is an adaptation to the Spanish case of the survey designed by Sit et al. for their study on the attitudes and perceptions of medical students about AI in the UK [18], with additional modifications based on the survey of Social Perception of Science and Technology of Spanish Foundation for Science and Technology (FECYT) [21] from the strategic reports of the European Commission on big data and artificial intelligence [2,22]. This survey underwent several rounds of iterations, and a final validation was performed with a pilot test group of 18 economics and business management students and 14 education students in February 2023. During the months of March and April, contact was made with several professors with a request to

circulate the survey to their students. Students were also invited directly to complete the survey through the Faculty of Economics website. Only individuals with a valid University of Salamanca email address were able to participate. Participation in the survey was completely voluntary, and no personal information about the students was collected; all responses were anonymized. At the start of the survey, it was made explicitly clear to participants that their responses were anonymous, and informed consent was confirmed.

The final survey consisted of 3 main sections. First, general questions about the students, including their gender and information about their studies: level (undergraduate or graduate), degree, and current year they are studying. The second section included questions related to their current attitudes toward the importance and impact in terms of job displacement of AI in the students' future professional career, their understanding of AI's terminology and limitations, and their confidence in using AI tools in a routine and critical manner following graduation. These took the form of point Likert questions, whereby participants rated their agreement toward a presented statement. Finally, dichotomous questioning was used to determine if participants received teaching on AI, and if the answer was affirmative, further information was requested about the type, duration, and perceived quality of training received, which was measured on a scale of 1 to 5 from very poor to very good. The complete questionnaire is included in Appendix A.

Statistical analysis and visualization of results were performed using Microsoft Excel (ver. 2016) and Python (ver. 3.11.2, [23]) through JupyterLite (ver. 0.1.0) using the Pyodide kernel (ver. 0.23.2, [24]) and the Pandas (ver. 1.5.3, [25]), Numpy (ver. 1.24.2, [26]), Matplotlib (ver. 3.5.2, [27]), and SciPy libraries (ver. 1.9.3 [28]). Simple descriptive statistics are presented in percentages, as are the mean values, standard deviations, and distribution of Likert questions. An unpaired two-tailed Wilcoxon rank-sum test was performed to compare the responses relating to perceived competence in post-qualification use of AI tools and perceived risk of job displacement by AI tools in their field between the group of students who received teaching in AI versus the group of students that did not. A p value of less than 0.05 was considered statistically significant.

2.2. Qualitative Methods

The pilot test group of 32 students was also subject to an activity in the classroom conducted by the professors, who are members of the research team. This learning experience was designed as practical introduction to AI, with the goal of allowing the students to explore in an autonomous way the benefits and limitations of this technology as a powerful tool for their professional careers. Seeing the recent popularity of text-generating AI tools, the activity consisted of the students exploring a tool of this type and using it to help them write a personal blog to then prompt them to write about their thoughts on this kind of tool and about AI in general.

In recent years, many tools have been released that use Natural Language Processing (NLP) technology dedicated to processing and generating text (written or audio) for different purposes. Presently, the most famous NLP tool is ChatGPT [29]; however, for this learning experience, the research team chose WriteSonic [30], which is a website that groups a wider range of NLP tools: it provides a ChatGPT-like chatbot, but also tools for generating ideas, improving texts, writing full texts (blogs, articles, stories, etc.), platform optimization (Facebook, LinkedIn, YouTube, etc.), etc. The reason for this choice, besides WriteSonic offering a wider range of tools for the students to try, was that in February 2023, when this activity was designed, ChatGPT was experiencing intermittent access restrictions due to a peak in web traffic, so an alternative tool was chosen to guarantee the development of this activity. Both ChatGPT and WriteSonic are based on the Generative Pre-training Transformer (GPT) model [31], which is an artificial neural network with long-term memory, i.e., a deep learning model capable of recognizing patterns in data that can also learn through examples.

A brief introduction to AI and NLP models was given to the students, as well as an introduction to the functionalities offered by WriteSonic. The students were asked to

carefully read WriteSonic's terms of use and privacy policy before beginning its use and were given the option to opt-out of this activity if they did not agree. They were prompted to use any of WriteSonic's tools to write 2 entries about digitalization in their fields of study for their personal blog on the University of Salamanca's blog platform, Diarium. Then, they were prompted to reflect on their user experience and write a final entry about its advantages and limitations, as well as about the possible uses of this type of technology and the potential benefits and risks of the use of AI in their field.

The students' responses to this activity were analyzed with a qualitative discourse analysis methodology [32]. The analysis involved manually coding the students' written opinions using ATLAS.ti software [33]. We set, a priori, four main categories based on the prompts given to the students: benefits and limitations of AI tools similar to WriteSonic, and advantages and risks of the use of AI in their field. Based on these, the coding process yielded a larger set of a posteriori codes, which describe the most common concepts expressed by the students. This descriptive coding [34] gave us a second approach to the students' feelings, which complemented the quantitative analysis.

3. Results

A total of 143 responses from students of the Faculty of Economics and Business Management and 127 from the Faculty of Education were received. These were obtained using a probabilistic sampling strategy, which makes this a sufficiently representative sample. Their distribution by academic level and gender can be seen in Tables 1 and 2, respectively.

Table 1. Answer distribution by year and level.

	Undergrad Year 1	Undergrad Year 2	Undergrad Year 3	Undergrad Year 4	Graduate
Faculty of Economics and Business Management	31.5%	18.9%	30.7%	18.9%	0%
Faculty of Education	41%	11%	8.6%	4%	35.4%

Table 2. Answer distribution by gender.

	Male	Female	Prefer Not to Say
Faculty of Economics and Business Management	49%	51%	0%
Faculty of Education	20%	78.5%	1.5%

3.1. Quantitative Results

In our comparative analysis of the survey results of students from the two faculties, in regard to our first research objective, we highlight that, although both student profiles understand that AI will play an important role in their professional future, 85.82% of education students and 82.51% of economics and business management students, the latter perceive it to a somewhat higher degree: (mean value in a range from 1 to 5 for economics and business management students = $M_{EBM} = 4.16$; standard deviation for economics and business management students = $SD_{EBM} = 0.73$) and (mean value in a range from 1 to 5 for education students = $M_{Ed} = 4.14$; standard deviation for education students = $SD_{Ed} = 0.81$). Economics and business management students also perceive a greater threat from AI, as they consider in greater proportion that some professional profiles in their field will be replaced by AI during their professional life ($M_{EBM} = 3.74$; $M_{Ed} = 2.89$). These results regarding students' attitude toward AI can be seen in Figure 1.

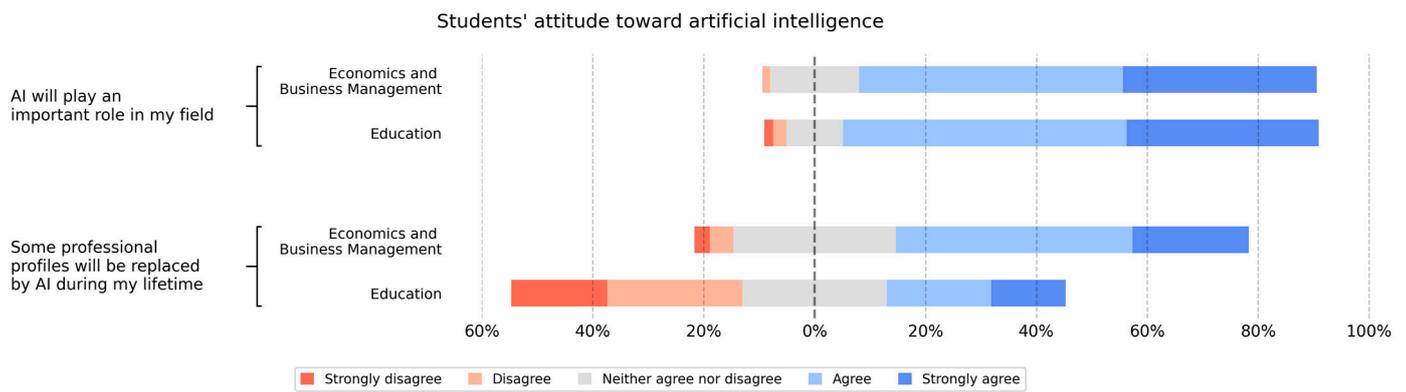


Figure 1. Students’ attitude toward artificial intelligence.

Furthermore, this perception is correlated with the course being studied, as can be seen in Figure 2, which shows the mean values for each year. This means that the perception of this benefit becomes greater as students advance in their undergraduate and graduate studies.

Distribution by year and level of average answer to Likert question (1–5) regarding the statement "AI will play an important role in my field"

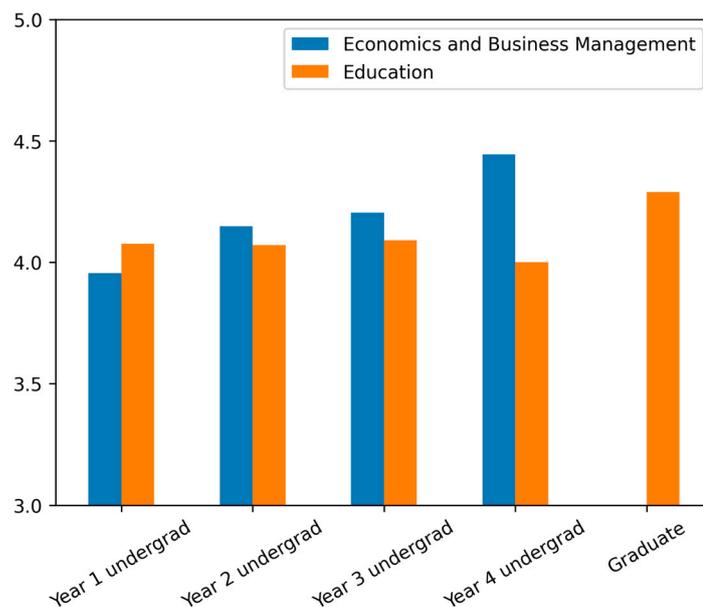


Figure 2. AI will play an important role in my field.

Regarding the degree of knowledge that students have about artificial intelligence, which corresponds to our second research objective, Figure 2 shows that the surveyed population is not familiar with this technology. The majority of participants, 59% of economics and business management students and 70% of education students, are not comfortable with AI concepts, as related to the statement “I am comfortable with the nomenclature related to artificial intelligence” ($M_{EBM} = 3.27$; $SD_{EBM} = 0.95$) ($M_{Ed} = 2.99$; $SD_{Ed} = 1.13$). Only 11 economics and business management students and 16 education students (11 graduate students and 5 undergraduate students) indicated high ratings regarding this question, as can be seen in Figure 3.

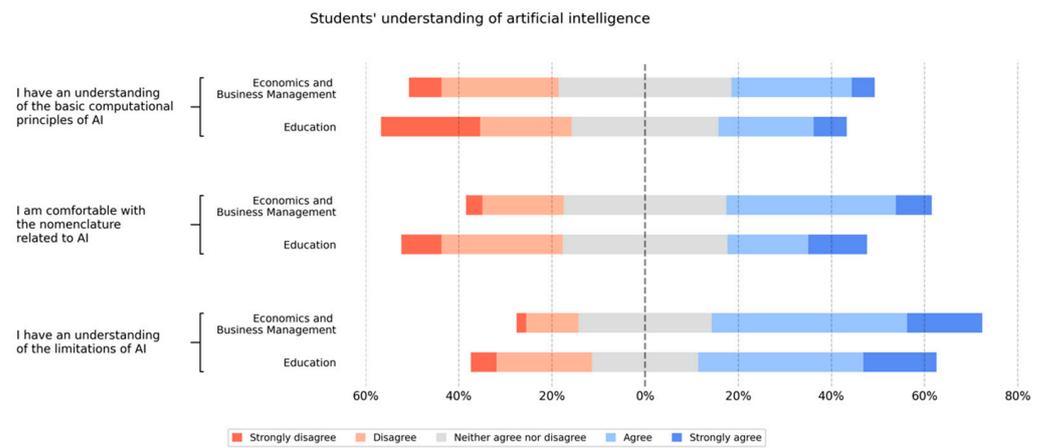


Figure 3. Students’ understanding of artificial intelligence.

72.72% of economics and business management students and 70.86% of education students think that AI training will be beneficial or very beneficial for their careers ($M_{EBM} = 3.99$; $SD_{EBM} = 0.84$), and ($M_{Ed} = 3.91$; $SD_{Ed} = 0.98$). Most respondents think that all students should receive this training, although this appreciation is clearer in economics and business management students than in the education students ($M_{EBM} = 4.26$; $SD_{EBM} = 0.79$) and ($M_{Ed} = 3.94$; $SD_{Ed} = 0.94$), as can be seen in Figure 4.

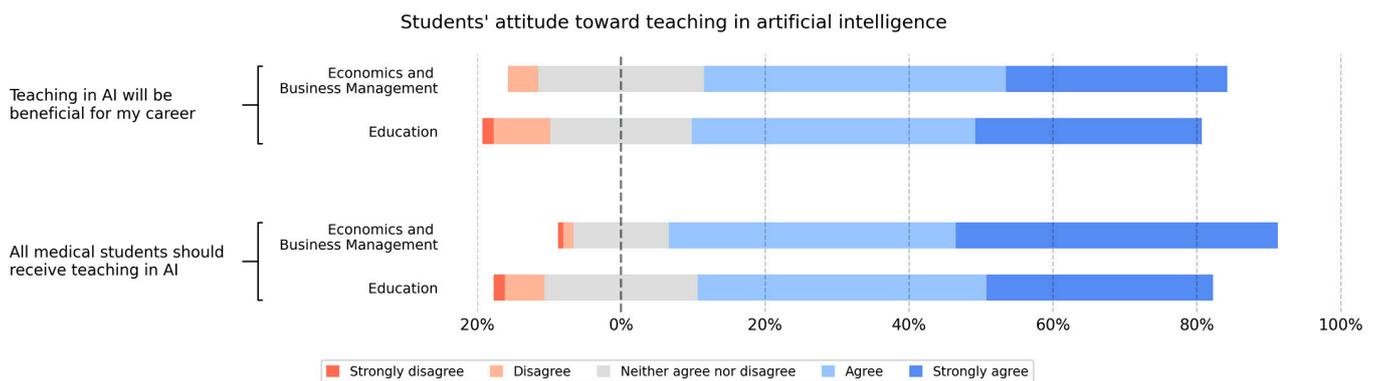


Figure 4. Students’ attitude toward teaching in artificial intelligence.

Regarding our third research objective, in relation to the students’ confidence in their post-graduation readiness to work with AI, the results seem to be mostly neutral on average ($M_{EBM} = 3.20$; $SD_{EBM} = 1.02$) ($M_{Ed} = 2.93$; $SD_{Ed} = 1.18$), although generally skewing toward positive values. However, the results in this section have a high dispersion, as can be seen in Figure 5, which is even greater for Education students.

Although there are no significant differences between economics and business management students and education students regarding their perception of their AI readiness ($M_{EBM} = 3.20$; $M_{Ed} = 3.25$), there is a negative correlation with the current year of their studies for both profiles ($Correlation_{EBM} = -0.13$; $Correlation_{Ed} = -0.36$), that is to say that at higher levels, students consider that at the end of their studies they will not have a better knowledge or confidence in using AI, as can be seen in Figure 6.

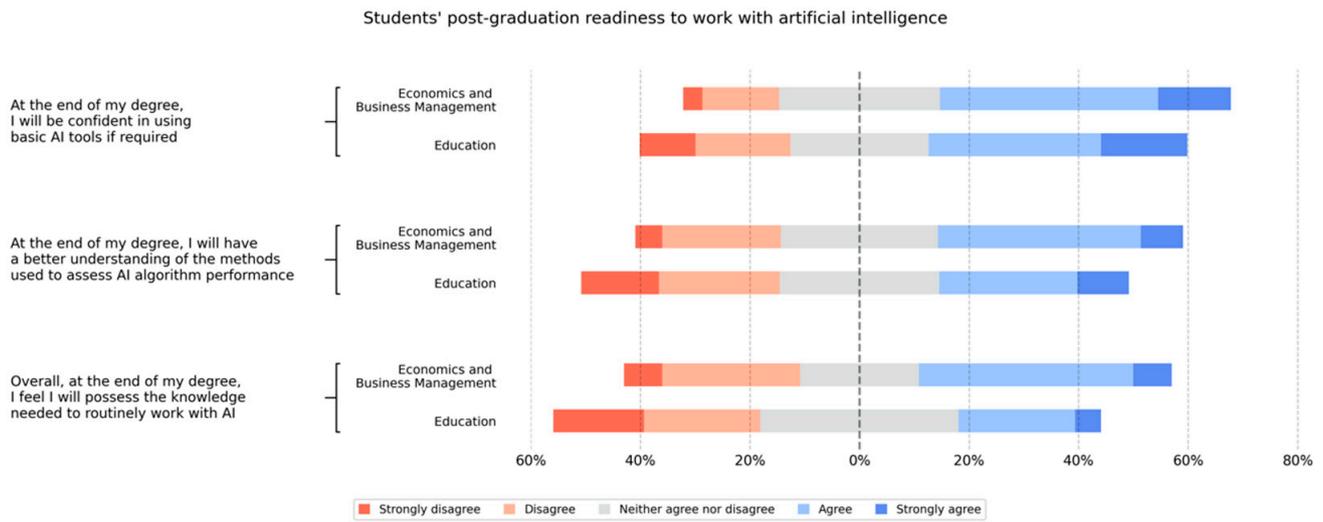


Figure 5. Perceived preparedness in the critical use of AI.

Distribution by year and level of average answer to Likert question (1–5) regarding the statement "Overall, at the end of my degree, I feel I will possess the knowledge needed to routinely work with AI"

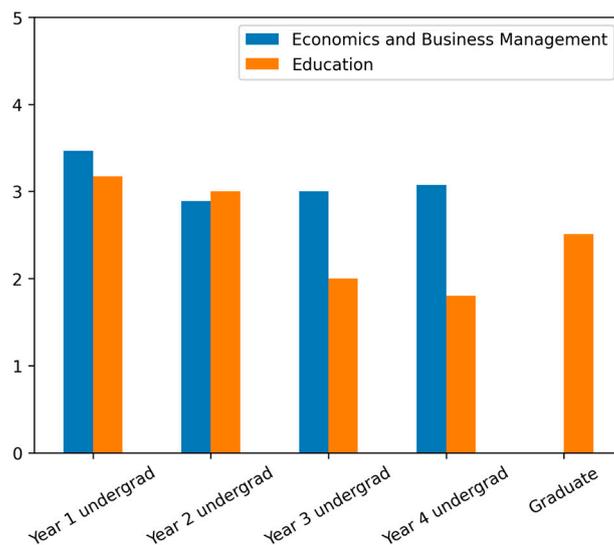


Figure 6. Correlation between the students' readiness for working with AI and their year/level of studies.

Our fourth research objective related to analyzing the teaching about AI that the students might have received. Only 17.6% of economics and business management students received any teaching in AI (Figure 7a), and 14 of them, just over half, received such teaching as part of their compulsory curriculum between 0 and 10 h; the rest were self-taught in AI. In the sample of education students, there were 25 students who received some teaching on AI (19.68%, Figure 7a); 12 of them were at the graduate level; the rest were first-year undergraduate students who received between 0 and 10 h of training in AI as a compulsory part of their studies. A total of 28% of the education students were self-taught. For all the students, the distribution of the type of training received can be seen in Figure 7b. It is of note that the majority of university training on AI was part of the students' compulsory curriculum, and only three students received AI training as elective or extracurricular classes. The quality of the teaching in AI is perceived as generally good by the economics and business management students ($M_{EBM} = 3.46$, $SD_{EBM} = 0.92$) and by the education students ($M_{Ed} = 3.56$, $SD_{Ed} = 1.07$), which is a positive observation as a whole, although

the highest frequency answer for economics and business management students qualified the teaching as “neither good nor bad” (Figure 7c).

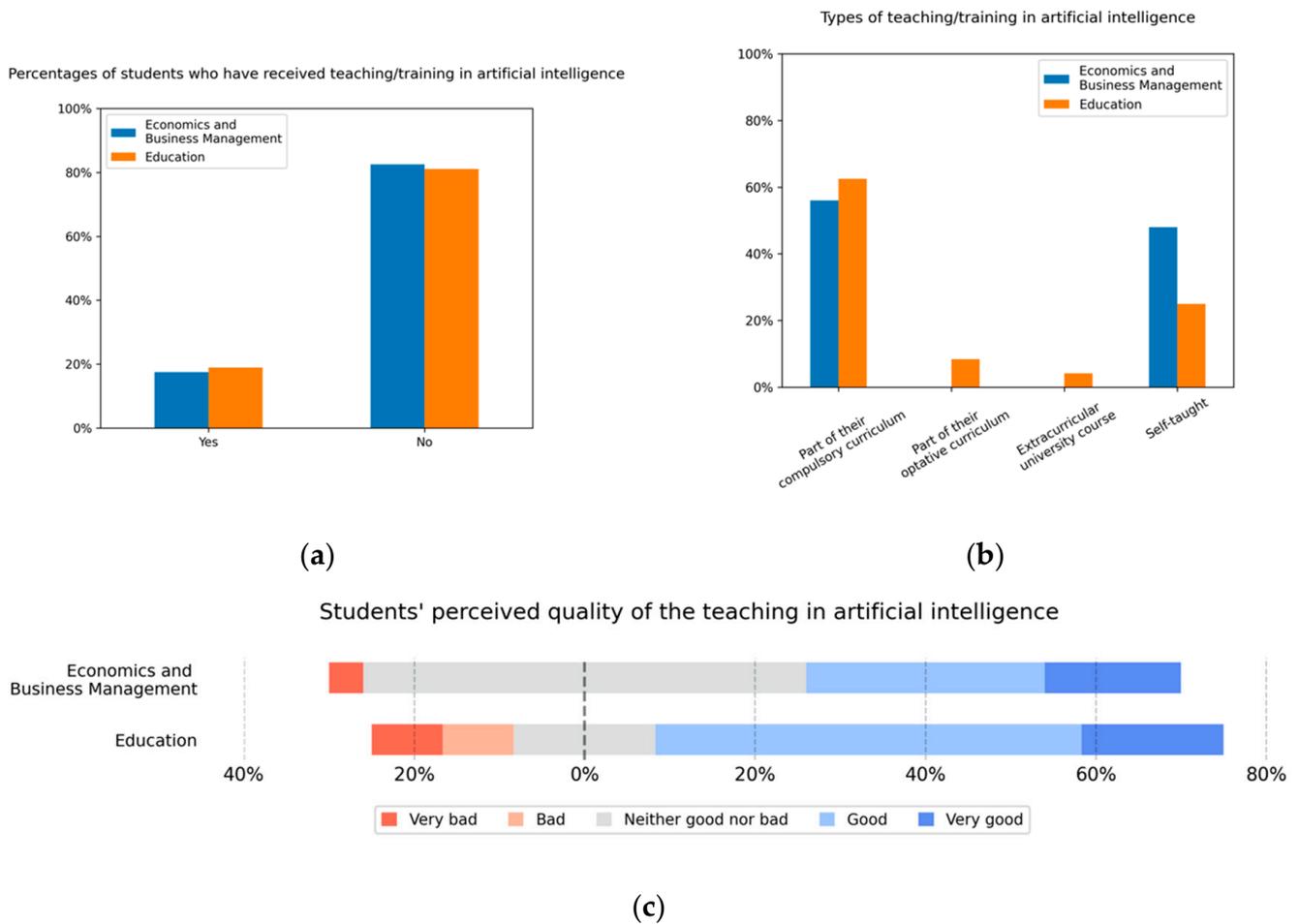
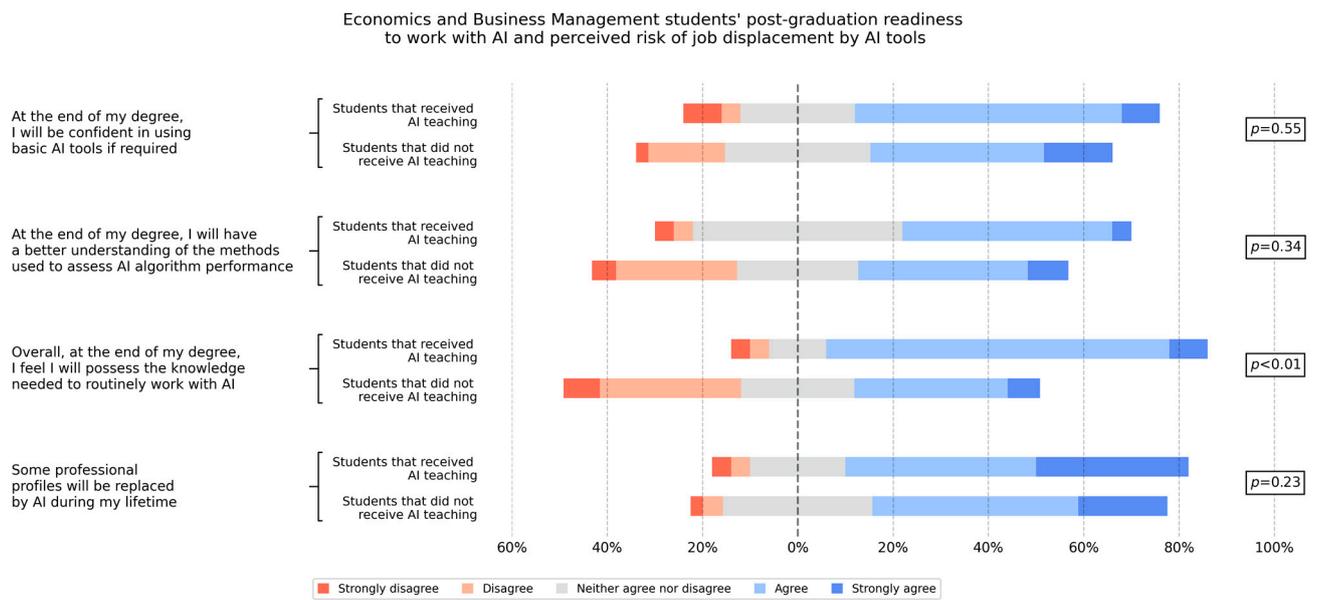
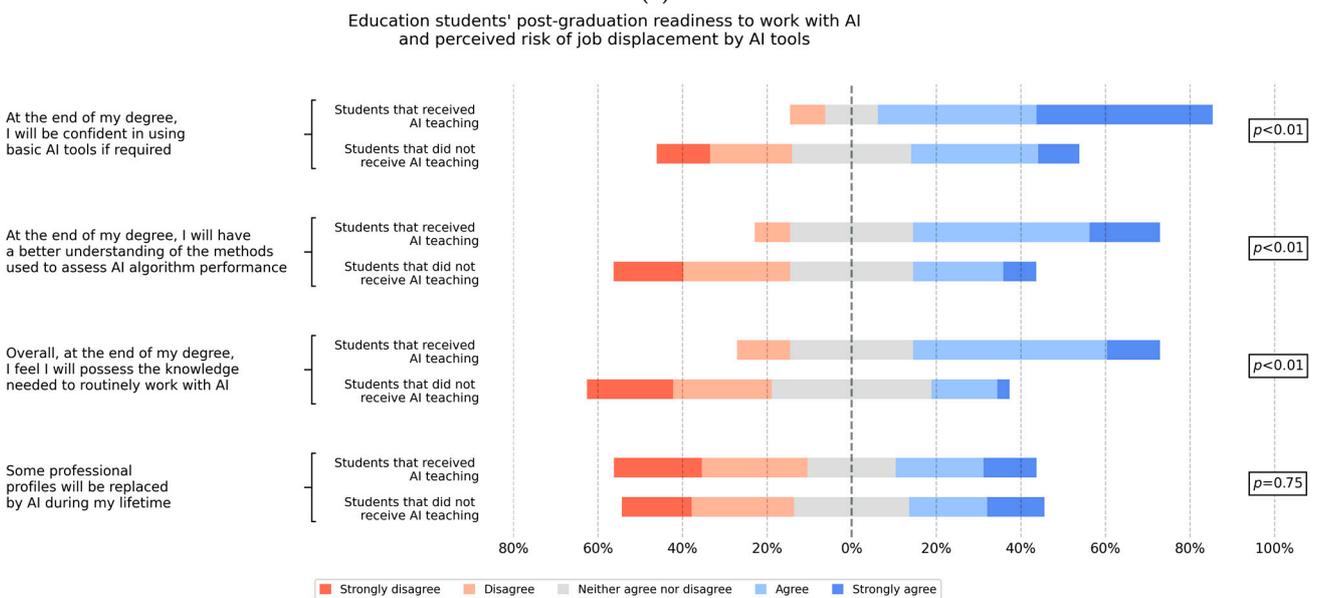


Figure 7. Perceived quantity and quality the AI teaching/training received by students: (a) percentages of students who have received any teaching in AI; (b) type of training received in AI; (c) perceived quality of the teaching in AI.

Finally, in our comparison between students who had received AI training and those who had not, we find that, in education students, there is a statistically significant difference in their confidence for using AI in their future careers, with students with AI training showing more confidence on all three of the questions in this section, as seen in Figure 8. In regard to economics and business management students, they only showed a statistically significant difference on the question regarding the statement “Overall, at the end of my degree, I feel I will possess the knowledge needed to routinely work with AI”, where students with training showed higher scores. We did not find a significant difference in the other questions, although the scores are relatively high in general. Finally, regarding the students’ perceived risk of job displacement by AI tools, we do not see a difference between students with and without AI training, neither for economics and business management students nor for education students.



(a)



(b)

Figure 8. Comparison of AI readiness and perceived risk of job displacement between students who did and did not receive training in AI: (a) economics and business management students' post-graduation readiness to work with AI and perceived risk of job displacement by AI tools; (b) education students' post-graduation readiness to work with AI and perceived risk of job displacement by AI tools.

3.2. Qualitative Results

As for the opinions reflected in their personal blog entries after the learning experience using WriteSonic, the process of descriptive coding yielded a total of twelve a posteriori codes, three for each of the four a priori categories defined in our methodology, which can be seen in Figure 9.

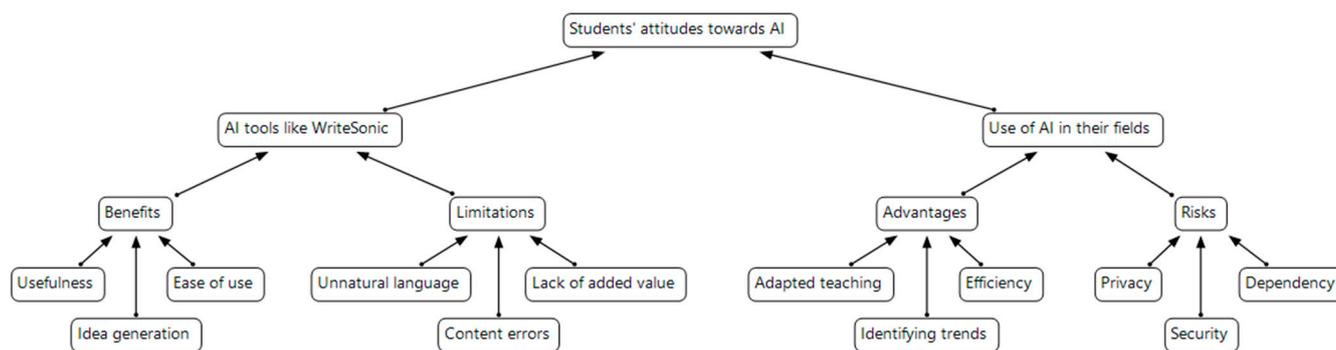


Figure 9. Final code map from the description coding of students' reflections. Leave nodes correspond to the resulting a posteriori codes.

In regard to the perceived benefits of AI tools such as WriteSonic, students find them easy to utilize and think that they can be very useful, especially to help them generate ideas quickly.

They also perceive certain limitations, such as having to rely on the veracity of the generated text and the fact that the tone of the text may seem unnatural to the reader. They even detect that sometimes the text contains errors or does not add value, and therefore a subsequent manual revision is necessary.

As for their reflections on AI in general, students perceive its potential benefits, for example, to analyze data, identify trends and patterns, and make decisions more quickly and efficiently, or as a tool for teaching that can allow learning that is adapted to the needs of each student.

However, they also perceive the risks of misuse and its possible effect on people's privacy and security. In addition, it could generate dependency in students and decrease their ability to solve problems on their own.

Therefore, with this experience in the classroom, students show that they understand the scope of artificial intelligence, are able to perceive the potential of this technology, but are also aware of its limitations and risks, and they are mindful of making careful use of AI tools.

4. Discussion

In our comparative analysis of the survey results, we highlight that 85.82% of education students and 82.51% of students in economics and business management understand that AI will play an important role in their professional future, in the same range of the percentage obtained by Sit et al. [18], who observed that 88% of respondents in their study on medicine students believed that AI will play an important role in healthcare in the future. However, they highlighted in their results that they found clear statistical differences in the perceived preparedness in the critical use of AI between students who had received AI teaching against those who did not, whereas this difference was not so clear in our findings, especially in economics and business management students. Furthermore, we did find that receiving training in AI did not impact the students' perceived risk of some professional profiles in their field being replaced by AI tools. However, it must be noted that Sit et al.'s study focused heavily on the medical field of radiology and students' being less likely to choose a career in this field due to the increasing development of AI tools for this purpose in recent years. We can speculate that students' awareness of such clear applications of AI in their field, paired with limited knowledge about this technology and its limitations, are the most important factors in their perception of it as a threat to their profession. Students' attitudes and knowledge about AI could also be greatly influenced by reporting in mainstream media, as previous studies have shown [20]. These may also be the reasons why economics and business management students show a higher perception of job displacement risk in our results, even higher than UK medical students in Sit et al.'s study.

It should be noted that our results show that students' interest in AI is greater than their knowledge about this technology, which is in agreement with the findings of FECYT national studies [21]. Therefore, the focus of future lines of work should be placed on AI training, so that all students, who will soon become future professionals in their respective fields, have access to more information about these technologies. As Sánchez-Holgado et al. [35] put it, "more informed citizens will be consumers of scientific and technological information" and, given the relevance that this technology may continue to have in the near future, universities should be a source of information for their students on how AI will influence their field of study.

Therefore, we agree with Sit et al. [18] that AI education should be expanded and improved, especially by presenting realistic use cases and the real limitations of the technology, so that students are able to use AI confidently and responsibly in their professional future. We believe it is necessary to develop appropriate strategies to improve the knowledge and use of AI; thus, we also agree with Flores-Vivar and García-Peñalvo [36] that it is necessary to design and develop algorithmic literacy plans in the teaching of any field of knowledge that include the learning of AI (from its technological explanation to the ethical and philosophical issues of its impact) and that should be flexible, open, inclusive, and in continuous evolution; in line with the framework established by UNESCO [37], which includes learning with AI (using AI tools in the classroom), learning about AI (its technologies and techniques), and preparing for AI (allowing all citizens to understand the potential impact of AI on human life).

5. Conclusions

Our main findings are that the students of the analyzed faculties believe that AI will be impactful for their professions and are willing to further their education in AI, although their current knowledge and confidence in using this technology are very limited because most of them have not received any formal teaching in AI. They are able to perceive AI's potential as a useful tool as well as its limitations and the risks of misusing this technology.

In regard to our original hypothesis, we conclude that both groups have many similarities in their attitudes, although we observe some interesting differences between them, most saliently that economics and business management students perceive a higher risk of job displacement by AI tools in their field, even higher than that observed in medicine students in previous studies. We also observe that, for education students, having received prior teaching in AI correlates to a higher level of confidence in their ability to confidently use AI tools after graduating, even though this is not the case for economics and business management students. This factor did not play as big a role as we had assumed. We also observed intra-group differences that we had not anticipated, such as the fact that students at a higher level of study present a higher perception of the importance of AI in their professional future as well as, at the same time, a lower confidence in being able to work with AI in their professions.

We conclude from our results that students' interest in AI is greater than their knowledge about this technology. Given that AI will continue to have an increasing impact on students' personal and professional lives, we believe that training in AI should be offered to university students of all disciplines so that they can become better informed citizens and therefore be able to use this technology in a confident and responsible way.

Author Contributions: Conceptualization, C.A.-L., F.A.-M. and C.L.-E.; methodology, F.A.-M. and C.A.-L.; software, C.A.-L.; validation, C.A.-L. and C.L.-E.; formal analysis, C.A.-L. and C.L.-E.; investigation, F.A.-M. and C.L.-E.; resources, F.A.-M. and C.L.-E.; data curation, C.L.-E.; writing—original draft preparation, C.L.-E. and C.A.-L.; writing—review and editing, F.A.-M.; visualization, C.A.-L.; supervision, F.A.-M.; project administration, F.A.-M. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement: The study adhered to the ethical principles proposed by the Research Ethics Committee at the University of Salamanca (2020–2023) and respected the privacy and confidentiality of the participants involved.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are openly available in FigShare at <https://doi.org/10.6084/m9.figshare.23147468> (accessed on 25 May 2023).

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Complete questionnaire (in Spanish): Actitudes y Conocimiento sobre Inteligencia Artificial de Estudiantes de Gestión y Administración de Empresas/Educación.

* Indica que la pregunta es obligatoria

Consentimiento

¡Gracias por participar!

El objetivo de este cuestionario es tratar de comprender mejor sus puntos de vista y experiencias sobre el uso de la inteligencia artificial (IA) en el ámbito de la gestión y administración de empresas/educación.

Esta encuesta le llevará aproximadamente 3 minutos en completar.

Sus respuestas se almacenarán de forma segura y anónima. Solo los miembros designados del equipo de investigación podrán ver sus respuestas.

Nuestro objetivo es presentar los resultados agregados en una conferencia académica y una revista académica.

Al completar la encuesta, usted acepta lo anterior.

Información general

1. ¿Es estudiante de grado o de máster? *

Grado Salta a la pregunta 2
Máster Salta a la pregunta 3

Estudiante de grado

2. ¿En qué curso está matriculado? *

Si está matriculado en más de un curso, selecciona el más alto.

1°
2°
3°
4°

3. ¿Cuál es su género? *

Hombre
Mujer
Prefiero no decirlo
Otro:

Actitudes y conocimiento sobre IA

Por favor califique su acuerdo con las siguientes preguntas:

1 = Totalmente en desacuerdo, 2 = En desacuerdo, 3 = Neutral, 4 = De acuerdo, 5 = Totalmente de acuerdo

4. La IA jugará un papel importante en la gestión y administración de empresas/educación *

5. Algunos perfiles profesionales en la gestión y administración de empresas/educación serán reemplazados por IA durante mi vida *
6. Entiendo los principios computacionales básicos de la IA *
7. Me siento cómodo con la terminología relacionada con la inteligencia artificial *
8. Entiendo las limitaciones de la inteligencia artificial *
9. La formación en inteligencia artificial será beneficiosa para mi carrera *
10. Todos los estudiantes de gestión y administración de empresas/educación deberían recibir formación en inteligencia artificial *
11. Al final de mi formación, tendré confianza en el uso de herramientas básicas de inteligencia artificial para la gestión y administración de empresas/educación si fuese necesario *
12. Al final de mi formación, tendré una mejor comprensión de los métodos utilizados para evaluar el rendimiento de los algoritmos de IA para la gestión y administración de empresas/educación *
13. En general, al final de mi formación, creo que tendré los conocimientos necesarios para trabajar habitualmente con IA en la gestión y administración de empresas/educación *

Formación previa sobre IA

Por favor responda sí o no a las siguientes preguntas:

14. He recibido formación en inteligencia artificial *

Sí *Salta a la pregunta 17*

No *Fin del cuestionario*

Sí, he recibido formación en IA

15. ¿De qué tipo ha sido esta formación? *

Formación reglada como parte obligatoria de sus estudios

Formación reglada como parte optativa de sus estudios

Formación interna de la universidad como cursos de Formación Permanente Autoformación

Otro:

16. Indique la duración de la formación en número de horas *

Entre 0 y 10 horas

Entre 10 y 30 horas

Más de 30 horas

17. Califique la utilidad de la formación que ha recibido *

1 = Nada útil, 2 = No muy útil, 3 = Algo útil, 4 = Muy útil, 5 = Extremadamente útil

Fin del cuestionario

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