

**ANALYSIS OF THE IMPLEMENTATION OF EMOTION AI AS AN EMOTIONAL
SUPPORT TOOL FOR UNIVERSITY STUDENTS**

**ANÁLISE DA IMPLEMENTAÇÃO DA EMOTION AI COMO FERRAMENTA DE
APOIO EMOCIONAL PARA ESTUDANTES UNIVERSITÁRIOS**

**ANÁLISIS DE LA IMPLEMENTACIÓN DE LA EMOTION AI COMO
HERRAMIENTA DE APOYO EMOCIONAL EN ESTUDIANTES UNIVERSITARIOS**

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ABSTRACT

Emotional artificial intelligence, or Emotion AI, has become one of the most disruptive changes in the field of technological education, allowing machines to recognize, analyze, interpret, and respond to human emotions. This technological advance has changed and transformed not only the way we act in the digital age, but also opens up new possibilities for application in environments where emotional well-being is crucial for individuals who are part of a job, study, and at the same time home life, such as students in the Accounting and Auditing program at the Faculty of Administrative Sciences of the Central University of Ecuador. The methodology applied was descriptive and explanatory, using a mixed approach and applying the deductive method. The information was processed in SPSS V25 in three phases for greater understanding. The instruments used were a survey of 60 students in their final semesters at the university, chosen for their proximity to the subject of study, and a literature review of 30 documents using the PRISMA methodology. The main results showed that 78% of students considered it likely or very likely that Emotion AI can contribute to improving emotional well-being in academic or work environments, and 63% of students indicated that academic and workloads affect their emotional state, with emotions such as stress and anxiety predominating. The main limitation facing this issue is the lack of awareness among teachers and authorities of the possible causes of student repetition.

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Keywords: Emotion AI. Workplace Emotions. University Students. Emotion Recognition. Workplace Burnout.

RESUMO

A inteligência artificial emocional Emotion AI tornou-se uma das mudanças mais disruptivas no campo da educação tecnológica, ao permitir que as máquinas reconheçam, analisem, interpretem e respondam às emoções humanas. Este avanço tecnológico mudou e transformou não só a forma de agir na era digital, mas também abriu novas possibilidades de aplicação em ambientes onde o bem-estar emocional é determinante para a pessoa que faz parte de um trabalho, dos estudos e, ao mesmo tempo, do lar, no caso dos estudantes do curso de Contabilidade e Auditoria da Faculdade de Ciências Administrativas da Universidade Central do Equador. A metodologia aplicada foi descritiva e explicativa, com uma abordagem mista e aplicando o método dedutivo. As informações foram processadas no SPSS V25 em três fases para maior compreensão. Os instrumentos utilizados foram uma pesquisa com 60 estudantes dos últimos semestres da universidade, por conveniência, devido à proximidade com o objeto de estudo, e a revisão bibliográfica de 30 documentos sob a metodologia PRISMA. Os principais resultados evidenciaram que 78% dos estudantes consideraram provável ou muito provável que a IA emocional possa contribuir para melhorar o bem-estar emocional em ambientes acadêmicos ou laborais e 63% dos estudantes indicaram que a carga acadêmica e laboral afeta seu estado emocional, predominando emoções como estresse e ansiedade. A principal limitação enfrentada por esta questão é o desconhecimento, tanto por parte dos professores e autoridades, quanto das possíveis causas da repetência escolar.

Palavras-chave: IA Emocional. Emoções no Trabalho. Estudantes Universitários. Reconhecimento de Emoções. Esgotamento Profissional.

RESUMEN

La inteligencia artificial emocional Emotion AI, se ha convertido en uno de los cambios más disruptivos en el campo de la educación tecnológica, al permitir que las máquinas reconozcan, analicen, interpreten y respondan las emociones humanas. Este avance tecnológico ha cambiado y transformado no solo la manera de actuar en la era digital, sino que también apertura nuevas posibilidades de aplicación en ambientes-entornos donde el bienestar emocional resulta determinante para la persona quien es parte de un trabajo, del estudio y a la vez del hogar en los estudiantes de la Carrera de contabilidad y Auditoría de la Facultad de Ciencias Administrativas de la Universidad Central del Ecuador. La metodología aplicada fue tipo descriptiva y explicativa bajo un enfoque mixto y aplicando el método deductivo, la información fue procesada en SPSS V25 en 3 fases para mayor comprensión. Los instrumentos utilizados fueron la encuesta a 60 estudiantes de los últimos semestres de la universidad por conveniencia por la cercanía con el objeto de estudio y la revisión bibliográfica de 30 documentos bajo la metodología PRISMA. Los resultados principales evidenciaron que el 78% de los estudiantes consideraron probable o muy probable que la Emotion AI puede contribuir a mejorar el bienestar emocional en entornos académicos o laborales y el 63% de los estudiantes señalaron que la carga académica y laboral afecta su estado emocional, predominando emociones como estrés y ansiedad. La principal limitación que enfrenta esta temática es el desconocimiento tanto de docentes y autoridades como posibles causas de repitencia estudiantil.



Palabras clave: Emotion AI. Emociones Laborales. Estudiantes Universitarios. Reconocimiento de Emociones. Burnout Laboral.

1 INTRODUCTION

The reality of many university students is marked by the need to combine academic responsibilities with work responsibilities, which generates a double burden of obligations and in this circumstance, which becomes more common in university education, leads to high levels of stress that affect academic performance and compromise the emotional well-being of university students. As a result of this circumstance, Emotion AI emerged given the situations that many university students go through, who by combining study and work, experience high levels of stress and affect their emotional well-being due to the double burden that this dynamic entails.

Today, artificial intelligence (AI) is changing the way we live, and it not only refers to the technological era, it has also begun to transform the way we understand and face educational, social and even emotional processes. One of the most interesting branches and honestly, with a lot of potential is the tool known as emotional AI or Emotion AI. According to Javier Hernández, a researcher in the Affective Computing Group of the Media Lab, emotional AI is a tool that allows a much more natural interaction between people and machines (Homedes, 2016). The way in which interaction with other human beings exists, gestures, faces, their body is surprising today and it is a kind of teaching to machines so that they can read our emotions (Somers, 2019) and that it can be replicated through facial expressions, postures, tone of voice, and even with what is written.

For Katherine Prendice, AI specialist and executive at the firm Softtek, this goes beyond processing words or trying to emulate gestures, through elements such as voice, facial expressions or behaviors, which means that machines process or in a certain way "feel" emotions, in order to detect what is the emotional state of the person with whom they interact in this way they can configure the type of response behavior in a way that can be that is more empathetic among the participants (Ríos, 2025). That is why Emotion AI is important, given its wide range of application, considering that emotions play a very important role in decision-making. (Martínez Miranda & Aldea, 2005)

Thus, for example, in the case of mental health, AI could help psychologists detect symptoms or disorders that patients hide or are unaware of. In the field of education, an AI teacher who can understand the emotional states of students and respond appropriately with improvement in the learning process and therefore its use in scenarios in combined scenarios. There are other fields of application such as entertainment, communication, psychology, etc. (Martínez Miranda & Aldea, 2005)

In this context, the application of this tool can lead to multiple benefits in the academic world, especially in university students, because they often do not express what they feel directly and this technology becomes a valuable opportunity to listen to them in a different way and try to improve the work experience together with the academic one.

For many students, especially those in demanding careers such as Accounting and Auditing, university is not their only responsibility. As they are studying higher semesters, even reaching the end of their career, several of them face working life, each with different activities and responsibilities, which could lead to fatigue or burn-out at work and education in different aspects.

According to the World Health Organization, occupational burnout syndrome is the product of the stress that the person faces in their workplace that could not be successfully controlled, which leads to a problem if at the same time the person studies (World Health Organization, 2019).

This is where technology can play an important role, not as a substitute for human help for emotional well-being, but as an accessible and constant complement. Tools based on emotional AI make it possible to capture moods from simple educational interactions: answers written on a form by students, participation in a virtual platform, or even a spontaneous academic forum, allowing higher education institutions to act in time if they detect emotional warning signs among their students. However, for all this to really work, it takes more than just technology: it takes knowledge and openness.

Students, teachers and authorities must understand how these tools work, how reliable they are and to what extent they could help, their usefulness is not understood, they could be applied to any context. According to the model that deals with technological acceptance proposed by Davis, it establishes that the person can use a technology like this, as long as it is easy to use and represents a perception of value in its use (Varela et al., 2010). In this sense, knowing the level of familiarity that students have with Emotion AI allows us to have a clearer idea of whether or not it is feasible to implement it as part of emotional support at university.

In this sense, the research carried out allowed to analyze the level of knowledge about emotional Artificial Intelligence in students of the upper semesters, from fifth to ninth semesters, who have a double activity, as students and workers. In addition to evaluating the possibility of applying this emotional AI tool for the support and emotional well-being of the

students, it was necessary to concentrate the effort on understanding the real perceptions of those who participated.

The general objective was to analyze the implementation of Emotion AI as an emotional support tool in university students, as well as the specific objectives are:

- ✓ Identify how they perceive their emotional well-being
- ✓ Diagnose what level of knowledge they have about Emotion AI
- ✓ To determine with the results obtained if it is feasible and useful to implement this tool in the university environment as a key emotional support.

2 METHODOLOGY

2.1 METHODOLOGICAL CLASSIFICATION

In this study, the knowledge (level) that university students have about emotional intelligence was defined as an independent variable. On the other hand, the feasibility of the application of this tool being the dependent variable, and refers to how students perceive the usefulness, viability and acceptance of this useful resource in their educational context, for their learning, if they are realistic and practical to use and if they are willing to integrate them into their academic experience, These variables were measured through specific items in the survey, focused on both emotional experience and technological openness.

To achieve this, a mixed approach was applied to the population, with students in the fifth, sixth, seventh, eighth and ninth semesters of the Accounting and Auditing Career of the Faculty of Administrative Sciences, being the sample object of the research, through the implementation of a survey that allowed the collection and analysis of both quantitative and qualitative data.

In this research, it has been considered to use a mixed approach, with qualitative and quantitative content in order to obtain a broader, clearer and more explanatory understanding of the object studied. The research is included in a descriptive and explanatory level, at the same time the use of the deductive method, allowed to contrast the theoretical assumptions with the evidence in scientific literature of research from platforms such as Scopus, Scielo and Latindex Catalog.

The study follows the model of systematic analysis that starts from measurable and explainable variables (Hernández Sampieri & Fernández Collado, 2014).

2.2 RESEARCH VARIABLES

- Independent variable: Students' level of understanding of Emotion AI.
- Dependent variable: Implementation of Emotion AI as an emotional support tool.

2.3 METHODOLOGICAL DESIGN

In order to develop the research, it is considered to carry out several activities encompassed in three phases that allow the study to be carried out in an orderly and rigorous manner:

Phase 1 - Approach: The research problem is delimited and in the same way the objectives that guide the analysis, corresponds to the delimitation of the object of study and the theoretical bases are established.

Phase 2 - Conduction: Data collection by:

- Online questionnaire through the application of a structured questionnaire using the Google Forms application as the main tool for obtaining data.
- Documentary review: The PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) flowchart was designed to classify, understand and know different points of view of other authors on the topic under investigation.

In this phase, by combining the two instruments of information collection, it is guaranteed that it is solid and reliable when contrasted.

Phase 3 - Presentation: Finally, the processing of data found according to the questionnaire, the analysis and writing of results obtained through the SPSS V25 program is executed.

2.4 DELIMITATION OF THE POPULATION AND SAMPLE

To establish a representative sample for the study, the formula corresponding to finite populations was applied in order to know the representative group of students of the Accounting and Auditing career who simultaneously develop work and academic activities.

The population considered for the research is based on students who study between fifth and ninth semesters at the Central University of Ecuador, giving a total of 420 people, according to data obtained from the Integral University Information System (SIIU).

Based on this information, a confidence level of 95% and a margin of error of 5% are assumed, as mentioned. The following formula was used: (Sampieri, 2014)

$$n = \frac{N*Z^2*P(1-P)}{e^2(N-1)+Z^2*P(1-P)} \quad (1)$$

Where:

Table 1

Population Data

Symbol	Description	Data
n	Sample Size	X
N	Total Population	420
Z	Trust Value	1.96
p	Expected Ratio	0.5
q	Complement	0.5
e	Margin of error	0.05

Source: The authors.

Data substitution in the formula:

$$n = \frac{420*1.96^2*0.5(1-0.50)}{0.05^2(420-1)+1.96^2*0.5(1-0.5)} \quad (2)$$

$$n = \frac{403.368}{2.0079}$$

$$n \approx 200.89$$

$$n = 201 \text{ estudiantes}$$

As a result, the study sample determined 201 students. However, when applying convenience sampling, it was decided to use 30% of the sample, which is equivalent to 60 students due to the proximity to the population. This decision is made due to the time available, resources and accessibility to students of the Accounting and Auditing career. These selection criteria made it possible to maintain statistical objectivity without the need to impair the quality or validity of the results obtained.

2.5 TECHNIQUES AND TOOLS FOR OBTAINING INFORMATION

A structured questionnaire was used as a source of primary data, which was developed based on the objectives of the study to establish that the information is valid and considered objective.

The questionnaire had 16 questions structured under the Likert Scale through Google Forms, which were divided into three sections:

- **Section 1:** In this part, five questions were generated on sociodemographic data such as gender, age, semester and workload.
- **Section 2:** Questions six through eleven assessed the level of emotional state of the students surveyed.
- **Section 3:** Questions twelve to sixteen measured the implementation of this tool as emotional support.

Through the use of the Likert scale, it was possible to know the perception of the agreement or disagreement that a student has regarding an ideology. This scale has a rating of 1 to 5, where 1 is strongly disagree and 5 strongly agree. (Muguira, 2016)

In the research, two phases were carried out to obtain data that were through the class stays in the months of April and May 2025:

- **Phase 1:** Regarding the quantitative method, the questionnaire was distributed through authorized networks to guarantee exclusive access to students of the Accounting and Auditing career of the UCE. This process took a period of 20 consecutive days to reach 100% of the established sample, which was 60 students who are in the fifth to ninth semester who worked and maintained academic activities simultaneously.
- **Phase 2:** The qualitative approach used the systematic review of literature through the PRISMA methodological application. 30 studies were established as selected and it was based on documenting what other authors did on aspects similar to this study and research characteristics. (tesisdoctoralesonline.com, 2024)

This review was carried out through databases such as academic journals, institutional repositories, Google Scholar platforms, ScienceDirect, among others, the information verification process was based on search, identification, eligibility and inclusion. To carry out the systematic review, the following fields had to be taken into account: title of the article, author, year of presentation, journal or source, link to the location of the article. This information is available in the PRISMA flowchart. The criteria that determined inclusion as well as exclusion in the research are presented in Table 2:

Table 2

Inclusion - exclusion criteria

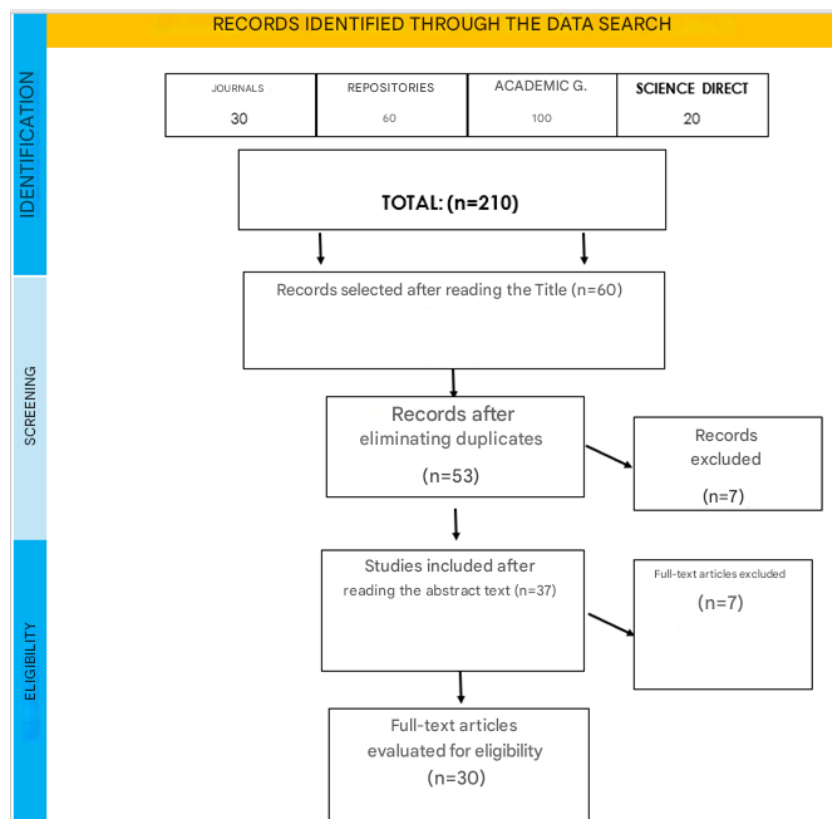
INCLUSION CRITERIA	EXCLUSION CRITERIA
Articles or studies must have a focus on emotional artificial intelligence	Articles or studies published before 2019
Articles or studies must be submitted between 2019 and 2025	Articles or studies that do not address the topic of emotional AI
Articles or studies must be theoretical and have practical application	Articles or studies that are in languages other than Spanish or English
Articles or studies must relate to work, educational, and business contexts	
Articles or studies must be in the language of Spanish or English	

Source: The authors.

This procedure is detailed in the PRISMA flowchart below (Figure 1)

Figure 1

Prism Matrix Articles



Source: The authors.

According to the above, the 30 articles could be analyzed for analysis that focused on carrying out a comparative and descriptive study that was related to the survey carried out on the 60 students of Accounting and Auditing. This information is summarized in Table 3 below:

Table 3

Articles selected through the PRISMA methodology

No.	ARTICLE TITLE	CONTENTS OF THE ABSTRACT
1	"Evaluation of the Emotional State of the employees of the company FenixCorp-ADS through the use of Machine Learning"	It directly addresses the emotional assessment of employees using AI techniques, which is consistent with the goal of developing an index based on Emotion AI.
2	"Automated systems for recognizing emotions at work in the European regulation on artificial intelligence"	Useful to understand the regulatory frameworks that condition the use of Emotion AI in work environments
3	"The use of Artificial Intelligence in customer service and its influence on the emotional relationship with the brand"	It can provide useful insights for designing indicators of emotional perception.
4	"Assessment of work stress using emotional recognition and heart rate techniques"	It assesses stress using emotional biometrics, fully aligned with the index approach.
5	"Emotional multimodal framework in the context of dynamic environments"	Article to 2020 and directly addresses emotional AI, in addition, it has studies applied to several people
6	"Emotional Intelligence vs. Artificial Intelligence: The interaction of human intelligence in evolutionary robotics"	Article to 2022 and directly addresses emotional AI, in addition, it has studies applied to several people
7	"From natural emotions to artificial emotionality"	Article to 2021 and directly addresses emotional AI, in addition, it has studies applied to several people
8	"Integration of computer tools and logotherapy: evaluation of the impact on university students with emotional and existential conditions"	Article to 2024 and directly addresses emotional AI, in addition, it has studies applied to several people and has a context applied to the educational field of students
9	"Development of empathy through Socio-emotional Artificial Intelligence"	Article to 2022 and directly addresses emotional AI, in addition, it has studies applied to several people

10	"Artificial Intelligence and Deep Learning for the emotional and motivational management of the classroom"	Article to 2022 and focused on emotional AI, in addition, it has studies applied to several people in the educational field
11	"Analysis using artificial intelligence of the emotions of autistic students in social interaction with the NAO robot"	Article to 2024 and directly addresses emotional AI, in addition, it has studies applied to a student with autism in the academic field
12	"Prototype of facial recognition for the emotional evaluation of the teaching staff of the School of Engineering, of the Catholic University of Ecuador Ibarra campus"	Article published in 2025 and aims to be able to apply emotional AI in the education sector.
13	"The use of artificial intelligence tools within human resources: an analysis for the recruitment process in cautela s.A. And sensority (2015-2020)"	Article published in 2021 aimed at the work context, specifically the recruitment of personnel through the development of a tool.
14	"Implementation of an AI to detect people's moods in order to rate the customer service performance of companies"	Article published in 2023 aimed at the work context applying emotional AI tools during the interaction of companies with customers
15	"Facial emotion recognition using deep-learning models"	Article published in 2020, study on the application of models and algorithms for emotional facial recognition.
16	"Emotional intelligence in students of the Accounting and Auditing Career of the Faculty of Administrative Sciences, Business Management and Informatics, State University of Bolívar and its influence on academic performance"	Article published in 2021, although the environment is not work, it does focus on measuring emotional intelligence, which is a necessary basis for designing any index of emotional well-being, including with AI.
17	"Emotional intelligence and work environment in the human resources department of a public institution of higher education in the city of Chihuahua"	Article published in 2022, is directly relevant to the work environment and can feed the construction of the index, especially by linking emotions with the organizational climate.
18	"Relationship between emotional intelligence and the work environment from the administrative field and human talent management"	Article published in 2024 points out the relationship between emotional factors and the work environment.
19	"Emotional Intelligence and its Influence in the Workplace"	Article published in 2022, addresses how emotional AI affects work teams

20	"The impact of emotional intelligence on human talent management and its relationship with the organizational and financial performance of the company"	Article published in 2025, this approach makes it possible to link emotional intelligence with measurable results, which is useful for validating or enriching an AI-based index.
21	"Emotional intelligence and work commitment in MSMEs in Ecuador"	Article published in 2023, focuses on a specific type of organization, but the analysis between emotions and commitment is useful for emotional well-being in teams
22	"Influence of Emotional Intelligence on Work Experience: Analysis of Its Effects on Teamwork Competence and Authentic Leadership"	Article published in 2023, relevant to working with teams, leadership and emotions as key factors.
23	"Emotional Artificial Intelligence at Work: Implications for Workplace Surveillance, Emotional Labor, and Emotional Privacy"	Article published in 2023 meets all the criteria: it is current, it addresses emotional AI in the work aspect
24	"Data Subject Perspectives on the Use of Emotional Artificial Intelligence in the Workplace: A Relational Ethical Perspective"	Article published in 2023, considers the ethics-related aspect of the use of emotional AI at the workplace level
25	"Emotional AI and the Future of Wellbeing in the Post-Pandemic Work Environment"	Article published in 2024, this study directly addresses the application of emotional AI in post-pandemic workplace well-being, it meets all the criteria, which is why it is included.
26	"AI and Employee Well-Being: How Artificial Intelligence Can Monitor and Improve Mental Health in the Workplace"	Article published in 2024, discusses emotional AI and how it can influence the mental health of workers.
27	"Human Digital Twin in Industry 5.0: A Holistic Approach to Worker Safety and Well-Being Using Advanced Artificial Intelligence and Emotional Analytics"	Article published in 2024, offers an applied vision of emotional AI in Industry 5.0 to improve workplace well-being, meeting all criteria, therefore, it is included.
28	"Emotional Artificial Intelligence: Transforming Human-Machine Interaction"	The article directly concentrates on the topic of Emotion AI in the labor sector, which makes it relevant and up-to-date,

29	"Emotional Artificial Intelligence: Integrating Emotional Intelligence with Artificial Intelligence in the Digital Workplace"	This article is current (2023) and directly addresses the interaction between artificial intelligence and emotional intelligence, focusing on the emerging concept of Emotion AI in the workplace. Its approach relates to the goal of understanding Emotion AI in organizational contexts, so it is pertinent and relevant to the topic.
30	"Emotional Analysis with AI Integration in Organizational Change Projects in Family Businesses"	Recent article that addresses emotional AI in companies, with practical application and study in real contexts.

Source: The authors.

As the reader can realize, there are studies on emotional intelligence (Emotion AI) and its application in different fields of study such as: work, education. projects, human talent, etc. Each article refers to the importance of analyzing emotions and how they affect work and educational performance, so the proposal of this research analyzes its possible implementation in university students who face several challenges that can affect their general performance.

2.6 ETHICAL ASSESSMENTS

The ethical principles for disclosing information are basic to disclose the information presented and results are objective (Piñeiro-Martín et al., 2023), for this three important points were established within the research:

Consent: Questionnaire participants were informed about the purpose of the research so that there is voluntariness and they feel safe because it is confidential.

Anonymity: Participants did not have to provide names or personal data.

Exclusive use: The data obtained is used only for academic, research and analysis purposes.

3 RESULTS

As could be seen in Table 3, general data were obtained that characterized the study population, as detailed in section 1, which have reflected the following results: in the age range, it stands out that 56 of the respondents' students are young people between 18 and 25 years old, 3 of the respondents' students are young adults between 26 and 30 years old,

and one respondent responded that he is older at the age of 31. Regarding the results of the gender of the respondents, it reflects the following: 31 students responded that they are female, while 29 students responded that they are male.

Regarding the level or semester that the student is studying, the following was reflected: 7 students of the respondents are in the fifth semester, 13 students of the respondents are in the sixth semester, 30 students of the respondents are in the seventh semester and 10 students of the respondents are in the ninth semester of the Accounting and Auditing Career of the Central University of Ecuador.

Additionally, in this section, results were obtained from two questions that reflect the professional situation and/or working condition in which the students find themselves, obtaining the following results: 33 students of the respondents answered that they are doing pre-professional internships, while 27 students of the respondents answered that they work.

On the other hand, results were also obtained of how many hours they dedicate to their workday, the results were as follows: 15 students of the respondents answered that they work or do internships of 1 to 4 hours, 43 students of the respondents answered that they work or do internships of 5 to 8 hours, while 2 students of the respondents answered that they work or do internships of 9 hours or more.

Table 4
Informative Data

ACCOUNTING AND AUDITING STUDENTS			
Section	Question	Options	Answer
Informative Data	Age	18-25 Years Old	56
		26-30 Years Old	3
		Over 31 Years Old	1
	Gender	Female	31
		Male	29
		Prefer not to say	0
	What semester are you currently in?	Fifth	7
		Sixth	13
		Seventh	30
		Eighth	0
		Ninth	10
	Is this currently the case?	Working	27
		Doing an internship/internship	33
How many hours a day do you dedicate to your workday?	1-4 hours	15	
	5-8 hours	43	
	9 and older	2	
TOTAL			60

Source: The authors.

Later, an analysis of the results of section 2 called emotional state was carried out, in which an analysis of the results for each semester that the students who are the object of this research are studying is given.

As can be seen in Tables 4 and 5, which contains the following results for the different questions: During your workday, do you feel emotionally comfortable and supported by your team?, where 3 fifth-grade students, 4 sixth-year students, 9 seventh-year students and 3 ninth-semester students answered that their emotional state with respect to the support of the work team is neutral, On the other hand, a student from both the fifth and sixth semester responded that they totally disagree with the support of their work team, also 2 ninth grade students, a student from both fifth and sixth semester responded that they disagree with the support of their team. Likewise, 16 seventh grade students, 4 sixth grade students and 4 ninth semester students indicated that they agree, reflecting that they feel comfortable and emotionally supported by the members of their work team. Finally, 3 sixth grade students, 5 seventh year students and 2 ninth semester students, responded that they are totally in agreement and emotionally comfortable and above all that they are supported by the members of their work team.

Regarding participating in the support team, they responded that they totally disagree, also 2 ninth grade students, a fifth and sixth semester student responded that they disagree with the support of their team. Likewise, 16 seventh grade students, 4 sixth grade students and 4 ninth semester students indicated that they agree, reflecting that they feel comfortable and emotionally supported by the members of their work team. Finally, 3 sixth grade students, 5 seventh year students and 2 ninth semester students, responded that they are totally in agreement and emotionally comfortable and above all that they are supported by the members of their work team.

With respect to the next question in this section, which corresponds to: Do you consider that your workload (studies + internships/work) affects your emotional state?, the following results were reflected in Tables 6 and 7: 3 fifth, 4 sixth, 9 seventh and 2 ninth semester students of the total of respondents responded that with respect to this question their emotional state due to the workload of studies and work is neutral, that is to say that these students are not affected by this situation of working and studying at the same time, on the other hand 8 seventh grade students, 4 sixth grade students, 3 ninth year students and one fifth semester student agree that the workload affects their emotional state, Likewise 12 seventh year students, 5 sixth grade students, 4 ninth year students and one fifth semester

student totally agree that the workload affects their emotional state, that is to say that with this question it can be intuited that the students with the greatest affectation in their emotional state by the work and student load are those of the seventh semester reflecting that they can have several emotional changes and it could be mentioned that the emotion that the most prominent is the stress.

Continuing with the analysis of results, it is reflected that a fifth-semester student and another ninth-semester student disagree, that is, they are not emotionally affected by the workload, finally, only a fifth-semester student is totally in disagreement, which reflects that he is the only student who does not allow himself to be affected by his emotions.

In the following question: How often do you experience positive emotions (such as motivation, enthusiasm or satisfaction) during your workday?, the results indicate that 17 seventh graders, 6 ninth graders, 5 fifth graders and 5 sixth semester students sometimes experience several emotions that are positive at the same time and feel motivated, with great enthusiasm and satisfaction in their job.

Subsequently, 10 seventh graders, 5 sixth graders, 4 ninth graders, and one fifth-semester student frequently experience positive emotions. On the other hand, only one fifth-semester student has always experienced emotions that are very positive, where it would reflect that the student is in a good work environment and has all the resources and teachings to experience this type of emotion. And finally, 3 sixth-grade students and 3 seventh-semester students answered that they almost never experience positive emotions, which reflects that they are students who do not generate any type of emotion to be in their workplace and it may be thought that they experience other types of emotions that may be negative or could even experience a possible emotional block.

In the fourth question in this section: How often have you felt negative emotions (such as stress, anxiety, or frustration) during your workday? 19 seventh graders, 7 sixth graders, 3 fifth-graders, and one ninth-semester student sometimes experience various negative emotions and feel stressed, anxious, and even distressed by negative situations that are imagined in their head, such as if a student focuses only on studies, neglects work, or vice versa. it generates uncertainty about what his boss is going to say, what grades he will have and other situations in which he can think and imagine that due to the workload his job and student job is in danger.

Subsequently, 5 seventh-semester students, 4 sixth-semester students, 3 fifth-semester students, and 4 ninth-semester students frequently experience negative emotions.

On the other hand, only one student corresponding to the sixth semester and another to the seventh semester has always experienced emotions that are very negative such as stress, anxiety and frustration. These emotions are presented by the excessive workload that students usually have or even the tasks for the university, these two situations cause students to generate very negative emotions, affecting their good professional and student development.

To complete, 4 seventh-semester students, 4 ninth-semester students, a fifth-semester student and a sixth-semester student responded that they almost never experience negative emotions, which reflects that they are students who do not generate any type of emotion when they are in their workplace.

Finally, the last question: How satisfied do you feel with the emotional environment in your work or internship environment? 14 seventh-semester students, 7 sixth-semester students, 3 fifth-semester students, and 2 ninth-semester students consider their position to be neutral, that is, they do not know if they are satisfied or not. Despite this, 10 seventh-semester students, 4 ninth-semester students, 3 sixth-semester students, and 2 fifth-semester students are satisfied in their emotional environment in their work environment. On the other hand, 3 seventh semester students, 2 sixth semester students and one fifth semester student a ninth semester student are very satisfied. Finally, 3 seventh-semester students, 3 ninth-semester students, a fifth-semester student and a sixth-semester student were dissatisfied with their emotional environment in their work environment.

Table 5

Section 2- Emotional State, Fifth Semester Students

FIFTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Emotional state	During your workday, do you feel emotionally comfortable and supported by your team?	(1) Strongly disagree	1
		(2) Disagree	1
		(3) Neutral	3
		(4) Agree	0
		(5) Strongly agree	0
	Do you think your workload (studies + internship/job) affects your emotional state?	(1) Strongly disagree	1
		(2) Disagree	1
		(3) Neutral	3
		(4) Agree	1
		(5) Strongly agree	1
	How often do you experience positive emotions (such as motivation, enthusiasm, or	(2) Almost never	0
		(3) Sometimes	5
		(4) Frequently	1
		(5) Always	1
	How often do you How often have you felt negative emotions (such as stress, anxiety, or frustration)	(2) Almost never	1
		(3) Sometimes	3
		(4) Frequently	3
		(5) Always	0
	How satisfied are you with the emotional environment in your work or internship environment?	(2) Somewhat satisfied	1
		(3) Neutral	3
		(4) Satisfied	2
		(5) Very satisfied	1
	TOTAL		7

Source: The authors.

Table 6

Section 2- Emotional State, Sixth Semester Students

SIXTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Emotional state	During your workday, do you feel emotionally comfortable and supported by your team?	(1) Strongly disagree	1
		(2) Disagree	1
		(3) Neutral	4
		(4) Agree	4
		(5) Strongly agree	3
	Do you think your workload (studies + internship/job) affects your emotional state?	(1) Strongly disagree	0
		(2) Disagree	0
		(3) Neutral	4
		(4) Agree	4
		(5) Strongly agree	5
	How often do you experience positive emotions (such as motivation, enthusiasm, or	(2) Almost never	3
		(3) Sometimes	5
		(4) Frequently	5
		(5) Always	0
	How often do you How often have you felt negative emotions (such as stress, anxiety, or frustration)	(2) Almost never	1
		(3) Sometimes	7
		(4) Frequently	4
		(5) Always	1
	How satisfied are you with the emotional environment in your work or internship environment?	(2) Somewhat satisfied	1
		(3) Neutral	7
		(4) Satisfied	3
		(5) Very satisfied	2
	TOTAL		13

Source: The authors.

Table 7

Section 2 – Emotional State, Seventh Semester Student

SEVENTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Emotional state	During your workday, do you feel emotionally comfortable and supported by your team?	(1) Strongly disagree	0
		(2) Disagree	0
		(3) Neutral	9
		(4) Agree	16
		(5) Strongly agree	5
	Do you think your workload (studies + internship/job) affects your emotional state?	(1) Strongly disagree	1
		(2) Disagree	0
		(3) Neutral	9
		(4) Agree	8
		(5) Strongly agree	12
	How often do you experience positive emotions (such as motivation, enthusiasm, or	(2) Almost never	3
		(3) Sometimes	17
		(4) Frequently	10
		(5) Always	0
	How often do you How often have you felt negative emotions (such as stress, anxiety, or frustration)	(2) Almost never	4
		(3) Sometimes	19
		(4) Frequently	5
		(5) Always	2
	How satisfied are you with the emotional environment in your work or internship environment?	(2) Somewhat satisfied	3
		(3) Neutral	14
		(4) Satisfied	10
		(5) Very satisfied	3
	TOTAL		30

Source: The authors.

Table 8

Section 2 – Emotional State, Ninth Semester Student

NINTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Emotional state	During your workday, do you feel emotionally comfortable and supported by your team?	(1) Strongly disagree	0
		(2) Disagree	2
		(3) Neutral	3
		(4) Agree	4
		(5) Strongly agree	2
	Do you think your workload (studies + internship/job) affects your emotional state?	(1) Strongly disagree	0
		(2) Disagree	1
		(3) Neutral	2
		(4) Agree	3
		(5) Strongly agree	4
	How often do you experience positive emotions (such as motivation, enthusiasm, or	(2) Almost never	0
		(3) Sometimes	6
		(4) Frequently	4
		(5) Always	0
	How often do you How often have you felt negative emotions (such as stress, anxiety, or frustration)	(2) Almost never	2
		(3) Sometimes	1
		(4) Frequently	7
		(5) Always	0
	How satisfied are you with the emotional environment in your work or internship environment?	(2) Somewhat satisfied	3
		(3) Neutral	2
		(4) Satisfied	4
		(5) Very satisfied	1
	TOTAL		10

Source: The authors.

Finally, an analysis of the results of section 3 called perception on the use of Emotion AI was carried out, in which a detail of results will be given for each semester that the students who are part of this research are studying.

In Tables 8 and 9 it is observed that several of the students had never heard of Emotion AI, 12 seventh year students, 8 sixth year students, 7 ninth year students and 5 fifth semester students respectively, responded to this option, on the other hand 9 seventh year students, 4 sixth year students and one ninth semester student indicated that they vaguely know this tool, also 6 seventh year students, 5 fifth year students, 2 ninth year students and 1 sixth semester student respectively responded that they know moderately about Emotion AI, however 2 seventh semester students indicated that they know it well and one person indicated that he handles it in depth. These data indicate a general lack of knowledge about Emotion AI, and the fact that most students have hardly heard of this topic, or relate it vaguely or moderately, shows that they limit their understanding of the potential and risks linked to this tool.

Additionally, the survey considered that it was the perception of the students about the possible level of invasion that Emotion AI can have within the work environments, they were able to consider that 6 seventh year students, 2 sixth year students and one fifth semester student consider that the use of Emotion AI would be minimally invasive, while 17 seventh year students, 10 sixth year students, 7 ninth year students and 5 fifth semester students maintain a neutral position regarding the level of invasion of this tool.

Meanwhile, 6 seventh grade students, 2 ninth grade students and one fifth and sixth semester student answered that the use of this tool can be invasive and finally a seventh and ninth semester student considered that it was very invasive. With this, the students reflected uncertainty and concern regarding the implementation of this emotional intelligence and therefore it is a delicate point to consider.

The third question sought to know if the students surveyed considered that Emotion AI could be useful in terms of increasing emotional well-being within work or educational environments, on this point the opinions were more divided, 18 seventh grade students, 6 sixth year students, 4 fifth and ninth semester students answered that it is likely, In addition, 3 ninth and 2 fifth and seventh semester students indicated that it is very likely that it can improve, however, only 2 sixth semester students and 1 seventh semester student responded that it is unlikely that this tool can improve work or educational environments. On the other hand, 9 seventh grade students, 5 sixth grade students, 3 ninth grade students and one fifth

grade student indicated a neutral position, betting on the idea that there are still doubts and ignorance about how this type of technology would work in practice. Compared to the results obtained in the previous topic, although there is uncertainty due to the invasion of privacy, there is a considerable level of students who observed the potential in terms of the beneficial use of Emotion AI, as long as it is applied ethically and responsibly.

The fourth question sought to identify what level of comfort students would feel if their emotions were detected by a digital tool while working or studying. As can be seen in Tables 10 and 11, most of the responses when consolidated are concentrated in the neutral option, 12 seventh grade students, 7 sixth year students, 6 ninth year students and 2 fifth semester students opted for this option, again reflecting a position of uncertainty about the experience they may have about this type of emotional evaluation.

However, a considerable group among them, that is, 11 seventh year students, 6 sixth year students, 3 fifth year students and 2 ninth semester students responded that they would feel comfortable, and that also a fifth and seventh semester student responded that they would feel very comfortable incorporating this management tool, since it enjoys an important acceptance by these students in terms of the technological tools they seek to understand the emotional state of people. However, 5 seventh year students, 2 ninth year students and one fifth semester student responded that they would feel discomfort, and only one seventh semester student indicated that it would be very uncomfortable, with this part it is reflected that there is a minority group that maintains a level of resistance to this type of change and emotional vigilance in addition to a lack of trust in those who would handle the data collected. by being eminently sensitive in the field of human talent and managerial decision-making based on perception.

Finally, in the last question of this section, students were asked if they would be willing to participate in future studies that use Emotion AI to assess emotional well-being, here it was possible to show that a considerable group is willing to participate, 11 seventh grade students, 7 sixth grade students, 4 fifth year students and 2 ninth semester students responded to be willing, 4 ninth grade students, 3 seventh grade students, 2 sixth grade students and one fifth semester student indicated that they were very willing to collaborate, thus showing their interest in change and active participation.

On the other hand, 12 seventh grade students, 4 sixth and ninth grade students and 2 fifth semester students opted for a neutral position, interpreting it as a group that still requires information regarding the processes that would be carried out for the study. However, 3

seventh-semester students and one seventh-semester student responded that they were unwilling or unwilling respectively to participate in this type of studies, representing a very low proportion.

Table 9

Section 3 – Perception of the use of Emotion AI, fifth-semester students

FIFTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Perception on the use of Emotion AI	To what extent did you know or have heard about Emotion AI?	(1) I've never heard of it before	5
		(2) I've heard of it vaguely	0
		(3) I'm fairly familiar with it	2
		(4) I'm well-versed in it	0
		(5) I'm familiar with it in depth	0
	To what extent do you think the use of Emotion AI can invade workers' emotional privacy?	(1) Not at all invasive	0
		(2) Slightly invasive	1
		(3) Neutral	5
		(4) Invasive	1
		(5) Very invasive	0
	Do you think the use of Emotion AI could improve emotional well-being in work or educational environments?	(1) Not at all likely	0
		(2) Unlikely	0
		(3) Neutral	1
		(4) Likely	4
		(5) Very likely	2
	How comfortable would you feel if a digital tool detected your emotions while you worked or studied?	(1) Very uncomfortable	0
		(2) Uncomfortable	1
		(3) Neutral	2
		(4) Comfortable	3
		(5) Very comfortable	1
	How willing would you be to participate in future studies that use Emotion AI to assess emotional well-being?	(1) Not at all willing	0
		(2) Unwilling	0
		(3) Neutral	2
		(4) Willing	4
		(5) Very willing	1
TOTAL			7

Source: The authors.

Table 10

Section 3 – Perception of the use of Emotion AI, sixth semester students

SIXTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Perception on the use of Emotion AI	To what extent did you know or have heard about Emotion AI?	(1) I've never heard of it before	8
		(2) I've heard of it vaguely	4
		(3) I'm fairly familiar with it	1
		(4) I'm well-versed in it	0
		(5) I'm familiar with it in depth	0
	To what extent do you think the use of Emotion AI can invade workers' emotional privacy?	(1) Not at all invasive	0
		(2) Slightly invasive	2
		(3) Neutral	10
		(4) Invasive	1
		(5) Very invasive	0
	Do you think the use of Emotion AI could improve emotional well-being in work or educational environments?	(1) Not at all likely	0
		(2) Unlikely	2
		(3) Neutral	5
		(4) Likely	6
		(5) Very likely	0
	How comfortable would you feel if a digital tool detected your emotions while you worked or studied?	(1) Very uncomfortable	0
		(2) Uncomfortable	0
		(3) Neutral	7
		(4) Comfortable	6
		(5) Very comfortable	0
	How willing would you be to participate in future studies that use Emotion AI to assess emotional well-being?	(1) Not at all willing	0
		(2) Unwilling	0
		(3) Neutral	4
		(4) Willing	7
		(5) Very willing	2
TOTAL			13

Source: The authors.

Table 11

Section 3 – Perception of the use of Emotion AI, seventh semester students

SEVENTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Perception on the use of Emotion AI	To what extent did you know or have heard about Emotion AI?	(1) I've never heard of it before	12
		(2) I've heard of it vaguely	9
		(3) I'm fairly familiar with it	6
		(4) I'm well-versed in it	2
		(5) I'm familiar with it in depth	1
	To what extent do you think the use of Emotion AI can invade workers' emotional privacy?	(1) Not at all invasive	0
		(2) Slightly invasive	6
		(3) Neutral	17
		(4) Invasive	6
		(5) Very invasive	1
	Do you think the use of Emotion AI could improve emotional well-being in work or educational environments?	(1) Not at all likely	0
		(2) Unlikely	1
		(3) Neutral	9
		(4) Likely	18
		(5) Very likely	2
	How comfortable would you feel if a digital tool detected your emotions while you worked or studied?	(1) Very uncomfortable	1
		(2) Uncomfortable	5
		(3) Neutral	12
		(4) Comfortable	11
		(5) Very comfortable	1
	How willing would you be to participate in future studies that use Emotion AI to assess emotional well-being?	(1) Not at all willing	1
		(2) Unwilling	3
		(3) Neutral	12
		(4) Willing	11
		(5) Very willing	3
TOTAL			30

Source: The authors.

Table 12

Section 3 – Perception of the use of Emotion AI, ninth semester students

NINTH SEMESTER STUDENTS			
Section	Question	Options	Answer
Perception on the use of Emotion AI	To what extent did you know or have heard about Emotion AI?	(1) I've never heard of it before	7
		(2) I've heard of it vaguely	1
		(3) I'm fairly familiar with it	2
		(4) I'm well-versed in it	0
		(5) I'm familiar with it in depth	0
	To what extent do you think the use of Emotion AI can invade workers' emotional privacy?	(1) Not at all invasive	0
		(2) Slightly invasive	0
		(3) Neutral	7
		(4) Invasive	2
		(5) Very invasive	1
	Do you think the use of Emotion AI could improve emotional well-being in work or educational environments?	(1) Not at all likely	0
		(2) Unlikely	0
		(3) Neutral	3
		(4) Likely	4
		(5) Very likely	3
	How comfortable would you feel if a digital tool detected your emotions while you worked or studied?	(1) Very uncomfortable	0
		(2) Uncomfortable	2
		(3) Neutral	6
		(4) Comfortable	2
		(5) Very comfortable	0
	How willing would you be to participate in future studies that use Emotion AI to assess emotional well-being?	(1) Not at all willing	0
		(2) Unwilling	0
		(3) Neutral	4
		(4) Willing	2
		(5) Very willing	4
TOTAL			10

Source: The authors.

As a complement to the research and to obtain qualitative information, an open question was opened within the questionnaire, which emphasized the factors that students consider to have had the greatest influence on emotional well-being within the workplace. Among the most recurrent responses, terms such as *work environment*, *workload*, *teamwork*, *people and stress* were identified. As for the work environment, the students linked it to poor affective communication, mutual support and the lack of good interpersonal relationships. On the other hand, the workload was linked to issues of work under pressure and lack of time, being negative points that generate work exhaustion.

However, there were responses with a more personal vision such as the mood of their immediate bosses, the use of transportation, the level of education and even the family relationship, indicating that the determinants associated with workplace well-being are not only focused on what happens in an office, but can come from other life situations, increasing the stress levels of students. which is reason for new research under another approach.

4 DISCUSSION

The main purpose of this research was related to evaluate how much students of the Accounting and Auditing career at the Central University of Ecuador know about emotional artificial intelligence (Emotion AI) and its use as a tool to support emotional well-being. This challenge was satisfactorily achieved, because it was possible to determine the degree to which students could understand and analyze their perception of its implementation as a support to situations that students face in their university, work and personal life.

The daily reality that students experience is related to high emotional pressure, related to depression, anxiety and stress (Pardo Ochoa et al., 2024). This study emphasizes the importance that technology acquires in the well-being of students and their mental health through logotherapy and agrees with the proposed analysis of the emotional perception of university students who face different challenges.

This argument aligns with the description given by the World Health Organization, [WHO (2019)] about burnout as the loss of energy, feelings related to negativism that would reduce professional effectiveness, causing emotional and psychological imbalances in students, compromising and limiting their performance and productivity in the organizations where they carry out their work and studies. In this sense, according to Jiang (2025) The use of technology and educational platforms affect the motivational aspect of students and learning, which has to do with the progress of emotional intelligence and creativity according to students' exposure.

It is then, that in the workplace it was possible to obtain results that were satisfactory due to the positive degree that exists in their workplaces, so that activities can be carried out in an environment of full motivation that together with emotions, the well-being of university students is achieved, which together with the responsibility of the university authorities and teachers promote positive and negative aspects. (Cañizares et al., (2023).

As indicated by Cruz and Canchaya (2024), which favors this research, that this tool be introduced to the educational field is essential, because it allows establishing a connection between academic performance and university student well-being. Consequently, emotional skills are fostered, which is framed in the respect of students, so that in the future, it could contribute to decision-making.

Although it is not yet widely disseminated, students consider that Emotion AI can contribute to the improvement of emotional well-being at work and education, since, as indicated by García Sedeño, (2016), emotions are the essence of the human being and affect

any interaction, especially those related to academic and work performance. The fact that Emotion AI can be integrated into education made it possible to complement this research, since through it it was possible to understand the university student so that the teacher knows closely the emotional characteristics that can affect the group of students.

Ingber and Andalibi (2025) consider that there should be a prudent use of Emotion AI, because it works with students who may be exposed to being vulnerable, which would lead to problems in the educational institution or in the work destination. Therefore, Emotion AI can even help identify emotions linked to lower learning or vice versa.

5 Conclusions

In the results analyzed, 78% of students consider Emotion AI as a tool to improve emotional well-being both at school and at work, despite the fact that this technology needs to be given more impetus, while 45% are willing to be part of these studies. Consequently, these figures indicate a growing interest in these applications.

On the other hand, 63% of students indicated that studying and working produces stress and anxiety, which lead to emotional risk and could be detected in time if emotional intelligence is used as support from the teacher and the student.

As he points out García Sedeño (2016), emotions are an integral part of the human experience and should not be considered individually; therefore, it is crucial to take them into account in order to optimize the performance of both the professional and academic fields of the students as similarly coincided (Vázquez et al., 2025), who also considers it as a new perspective to understand the university student.

Ingber and Andalibi (2025) they point out how important its implementation would be, but that it would also be unfair if vulnerable groups are selected in a hiring process, for example, and that in the end it could be considered as an exclusion criterion; however, it is valuable, since it has the power to enrich the educational process.

Emotional well-being depends on the work environment, academics, and personal and family factors. This highlights the importance of using Emotion AI holistically to understand the emotional complexity of the student and foster empathetic interventions.

Based on these findings, the following recommendations are suggested for further academic studies:

- To increase the size of the sample and carry out the study in various faculties and university careers to compare the levels of knowledge and perception of emotional AI according to the academic and professional profile.

- Complement data collection with other instruments such as in-depth interviews that allow for deeper exploration of students' emotions and perceptions, which will provide a perspective that may not be accessible through other research methods.
- Investigate the role of university teachers and authorities who can facilitate or limit the implementation of these technologies.

The results open the door to future questions: What types of platforms with Emotion AI would be most effective in the Ecuadorian university environment? What are the key ethical elements that should be considered when using these technologies in education?

5 LIMITATIONS

As it is a relevant issue, it needs to be addressed and understood by society, especially those who share multiple responsibilities and their emotions can be affected in their work and academic performance, therefore it needs teachers and university authorities to be empathetic with students who face problems such as stress and anxiety derived from their daily activity and that could be causes of high university repetition.

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