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Percepción estudiantil sobre el programa institucional de tutorías de la UANL: ¿Estamos haciendo lo suficiente?

Student Perception of the UANL's Institutional Tutoring Program: Are We Doing Enough?

Percepção dos alunos sobre o programa de tutoria institucional da UANL: Estamos fazendo o suficiente?

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Resumen

El objetivo de este artículo de investigación fue examinar la percepción de los estudiantes de la carrera de Ingeniero Industrial Administrador, de la Universidad Autónoma de Nuevo León (UANL) respecto a la eficacia y pertinencia del Programa Institucional de Tutorías (PIT). Este estudio se fundamentó en la normativa institucional vigente y se llevó a cabo con una muestra de 175 estudiantes de los primeros cuatro semestres, que son parte fundamental de la población objetivo de los programas. Con el fin de evaluar la percepción de los estudiantes sobre el PIT, se diseñó una encuesta que aborda variables clave como el apoyo académico y el apoyo integral, —ambos componentes fundamentales del programa—, así como la deserción académica y factores sociodemográficos. Esta investigación reveló hallazgos significativos sobre cómo los estudiantes perciben y utilizan el PIT. Si bien se observaron altos niveles de reconocimiento y acceso al

acompañamiento, la conversión de este conocimiento en uso efectivo aun presenta ciertos desafíos. De forma específica, se identificó una diferencia entre hombres y mujeres en la participación y en la percepción de la utilidad del PIT. El estudio subraya la necesidad de desarrollar estrategias que fomenten una mayor participación estudiantil y garanticen una adopción más equitativa. Asimismo, se incluyó un análisis detallado de las percepciones sobre el apoyo académico y el apoyo integral, lo cual ofrece una base sólida para futuras mejoras en el diseño e implementación del PIT en la UANL.

Palabras clave: Educación superior, percepción estudiantil, tutoría universitaria.

Abstract

The objective of this research paper was to examine the perception of students in the Industrial Administrator Engineering program at the Universidad Autónoma de Nuevo León (UANL) regarding the effectiveness and relevance of the Institutional Tutoring Program (PIT). This study was based on current institutional regulations and was conducted with a sample of 175 students from the first four semesters, who represent a fundamental part of the program's target population. To evaluate student's perception of the PIT, a survey was designed to address key variables such as academic support and comprehensive support—both fundamental components of the program—as well as academic dropout and sociodemographic factors. This research revealed significant findings regarding how students perceive and utilize the PIT. While high levels of recognition and access to guidance were observed, converting this awareness into effective use still presents certain challenges. Specifically, a gender difference was identified in participation and the perceived utility of the PIT. The study emphasizes the need to develop strategies that encourage greater student participation and ensure more equitable adoption. Furthermore, a detailed analysis of perceptions regarding academic and comprehensive support was included, providing a solid foundation for future improvements in the design and implementation of the PIT at UANL.

Keywords: Higher education, student perception, university tutoring.

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Resumo

O objetivo deste artigo de pesquisa foi examinar as percepções dos alunos de Engenharia Industrial da Universidade Autônoma de Nuevo León (UANL) sobre a eficácia e a relevância do Programa de Tutoria Institucional (PTI). Este estudo baseou-se nas normas institucionais vigentes e foi realizado com uma amostra de 175 alunos dos quatro primeiros semestres, que constituem parte fundamental do público-alvo do programa. Para avaliar as percepções dos alunos sobre o PTI, foi elaborado um questionário abordando variáveis-chave como apoio acadêmico e apoio integral – ambos componentes fundamentais do programa – bem como taxas de evasão acadêmica e fatores sociodemográficos. Esta pesquisa revelou resultados significativos sobre como os alunos percebem e utilizam o PTI. Embora tenham sido observados altos níveis de reconhecimento e acesso à mentoria, a conversão desse conhecimento em uso efetivo apresenta certos desafios. Especificamente, foi identificada uma diferença entre homens e mulheres na participação e na percepção da utilidade do PTI. O estudo destaca a necessidade de desenvolver estratégias que promovam maior participação dos alunos e garantam uma adoção mais equitativa. Inclui também uma análise detalhada das percepções relativas ao apoio acadêmico e holístico, proporcionando uma base sólida para futuras melhorias no planejamento e implementação do Programa de Tutoria Institucional (PIT) da Universidade Autônoma de Nuevo León (UANL).

Palavras-chave: Ensino superior, percepção estudantil, tutoria universitária.

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Introduction

In higher education, institutional tutoring has become a fundamental element for boosting academic performance, contributing to student retention, and strengthening their holistic development. More than a requirement, this tutoring represents a space for personalized support that combines academic guidance and socio-emotional support, especially in the first years of study, which represent a crucial stage for adapting to the university environment (Angulo & Urbina, 2021).

Within the national context, student dropout remains a structural problem that affects the retention and timely graduation of students in higher education in Mexico. According to the Ministry of Public Education (SEP, 2023), the dropout rate at this educational level has remained close to 8% in recent years. Likewise, the National Association of Universities and Institutions of Higher Education (ANUIES, 2022)

indicates that dropout rates are due to a combination of academic, socioeconomic, and psycho-emotional factors.

Students' perceptions of tutoring programs are important, as they represent an indicator that allows for evaluating the outcome based on their own experience. When this perception is positive, it usually translates into greater academic engagement, motivation, and a decrease in dropout rates (Gargallo et al., 2019). According to Benítez (2018), this perception depends on factors such as the quality of the tutor-student relationship, the frequency of meetings, and the clarity of the defined objectives. Peer tutoring has been identified as a strategy that, when implemented, favorably influences university adjustment, as it reduces feelings of isolation and strengthens a sense of belonging (Araneda-Guirriman et al., 2020). To ensure quality, these programs rely on regulatory frameworks that establish evaluation criteria and mechanisms; an example of this is the UANL's Institutional Tutoring Program (PIT) Regulations, which define guidelines to ensure appropriate support (UANL, 2019).

However, recent research warns that it is impossible to discuss effectiveness without considering gender gaps in higher education. While the presence of women in educational settings has steadily increased, gaps persist in fields such as science, technology, engineering, and mathematics (STEM), as well as in access to leadership positions and support networks (Vieira do Nascimento et al., 2021). These differences are explained by structural factors and cultural norms that perpetuate gender stereotypes and roles, even influencing the willingness to seek academic help (Espinoza & Albornoz, 2023). International evidence shows that women tend to seek more academic and psychological support, while men face barriers associated with masculinity, such as the idea that asking for help is a sign of weakness (Miles et al., 2023). Furthermore, experimental studies suggest that matching the tutor and student's gender can increase interest and success in specific areas, such as STEM fields, for women (Bleiberg et al., 2025). Incorporating the perspective of gender differences into mentoring programs means recognizing differences in expectations, communication styles, and emotional needs. Student satisfaction levels can vary depending on gender, as this factor affects the interaction and dynamics of the process (Alcocer et al., 2022).

Based on this context, the present study aims to analyze students' perceptions of the PIT (Program for Integration and Training), considering gender differences and identifying areas of opportunity to strengthen its implementation. To this end, the following research questions are posed:

1. What is the level of knowledge of university students regarding the objectives and functions of the PIT?
2. What expectations do students have about the PIT and to what extent are these expectations met?
3. How do students perceive the accessibility and availability of their assigned tutors?
4. Are there statistically significant differences in the perception of tutoring between men and women?

General Hypothesis

Students at UANL have a positive perception of the relevance, effectiveness, and usefulness of the institutional tutoring program.

Specific Hypotheses

H1: A greater understanding of the objectives and functions of the PIT is directly related to a more favorable perception of its usefulness.

H2: The satisfaction of university students' expectations regarding tutoring is positively associated with a perception of program effectiveness.

H3: There are statistically significant differences in the perception of tutoring between men and women.

Materials and methods

This study employed a quantitative, cross-sectional, descriptive-comparative design. The sample consisted of 175 students. university students from the first four semesters of the Bachelor's Degree in Industrial Engineering Administration (IIA) at UANL. The students participated voluntarily and anonymously; the invitation was made at different class times and with a convenience sample, with the purpose of collecting the broadest possible perception of the student community in that cohort.

An original questionnaire was developed, taking into account some of the contributions of Benítez (2018) and Yucra-Mamani (2021), and the relevant adaptations were made for the present study. The final instrument was validated for internal consistency using criteria such as Cronbach's alpha, resulting in an overall value of 0.9130, which will be analyzed in greater detail in the following section.

The questionnaire was structured primarily with dichotomous (yes/no) questions, distributed across three dimensions of analysis:

1. Knowledge of the objectives and functions of the Institutional Tutoring Program (PIT).
2. Expectations and satisfaction regarding the tutoring received.
3. Perception of the accessibility and availability of assigned tutors.

The survey was administered in April 2025 via the institutional Microsoft Teams platform over a two -week period. Before beginning to complete the survey, each student was informed about the study's objectives, the voluntary nature of participation, and the guarantee of confidentiality, thus obtaining their informed consent to participate.

The data were analyzed using Stata 19.0 software, where descriptive statistics (absolute and relative frequencies, and comparison of means using Satterwhite's t-tests) were estimated to characterize the students' perceptions. Specific characteristics of the sample design, questionnaire validation, descriptive statistics, and limitations are presented in the following section.

Sample design

The study uses a sample of university students who voluntarily responded to a questionnaire distributed through the institutional Teams platform to students enrolled in the first four semesters of the Industrial Engineering program. The sampling method was non-probabilistic and based on convenience, which aligns with the central objective of the research, focused on analyzing student perceptions of the PIT (Program for Integrative Technology), rather than making strict population inferences.

The use of non-probability sampling is common practice in exploratory and evaluative educational research, especially when the focus is on examining response patterns and the psychometric properties of instruments. In this context, the sample allows for directly capturing students' experiences through effective contact with the program, which is relevant for institutional evaluation studies.

The decision to limit the analysis to students in the first four semesters is based on substantive criteria of this study, given that this student group has greater exposure to the Institutional Training Program (PIT) and is the focus of institutional efforts for academic and personal support. From a population of 3,158 students enrolled in these semesters, a final sample of 175 participants was obtained, sufficient to conduct descriptive analyses and reliable estimates of the instrument's internal consistency. Furthermore, administering the questionnaire through a general-use institutional channel broadened

access to the target population and reduced logistical barriers to participation. While this approach introduces a potential element of self-selection, the data collection method ensures that responses come from students willing to evaluate their experience, which is relevant in studies focused on perceptions. The results are interpreted with caution, acknowledging the limitations of the sample design, and are intended for diagnostic and institutional improvement purposes.

Ethical criteria

Data collection was conducted in accordance with the ethical principles governing research in higher education. Student participation was voluntary, informed, and free from any form of coercion. Before administering the instrument, participants were clearly informed about the study's objectives, the academic use of the data, and the aggregate nature of the analyses. Confidentiality and anonymity of responses were guaranteed at all times, preventing the direct or indirect identification of participants and eliminating the need for ethics committee approval. Data were used exclusively for research purposes, in compliance with current institutional regulations regarding personal data protection. Since the study is based on a perception questionnaire without experimental intervention or manipulation of sensitive variables, it is considered to pose minimal risk to participants and adheres to international best practices in educational research.

Methodological limitations

The study has some limitations that should be considered when interpreting the results. First, the use of convenience sampling and voluntary participation restricts the generalizability of the findings and may introduce selection bias. Second, the information is self-reported , which may be subject to social desirability bias or subjective interpretations of the items. Furthermore, the cross-sectional design prevents the analysis of changes in student perception over time or the establishment of causal relationships. However, these limitations do not compromise the descriptive purpose of the study or the usefulness of the results for diagnostic and evaluative purposes. On the contrary, the findings constitute relevant empirical input for improving the PIT (Program for the Improvement of Teaching and Learning) and for the design of future research with longitudinal approaches or probabilistic samples.

Results

Validity and reliability of the instrument

Table 1 presents the evaluation of the internal consistency of the instrument used to measure student perception of the PIT, based on Cronbach's alpha coefficient calculated using dichotomous items (0 = No, 1 = Yes). In this type of variable, Cronbach's alpha is conceptually equivalent to the KR-20 coefficient, so its use is methodologically appropriate.

The overall alpha coefficient obtained was 0.9130, which indicates excellent internal consistency of the questionnaire, according to the criteria commonly accepted in the psychometric literature; values above 0.9000 indicate a high degree of reliability and support the use of the instrument in both descriptive analyses and comparative exercises.

The alpha coefficients of the scale, if the item is removed, range between 0.9023 and 0.9152, which shows a high internal homogeneity and absence of problematic items. The small variability between these values suggests that all items contribute in a balanced way to the measurement of the construct, without negatively affecting the consistency of the scale.

Table 1. Internal reliability of items associated with the PIT

Dichotomous Variables (0 = No, 1 = Yes) *(Cronbach's alpha if the item is removed and overall dimension scale)*	
Variable	Alpha
Did you know that our university has a tutoring program where you are assigned a tutor to provide support during the semester?	0.9152
Do you know your tutor?	0.9099
Do you feel supported by your tutor when you have difficulties?	0.9037
Is your tutor available to assist you outside of class hours?	0.9086
Do you feel that the university provides you with emotional and psychological support when you need it?	0.9128
Do you feel supported by the university in your educational process?	0.9145
I attend the tutorials scheduled by the tutor	0.9101
I contact my tutor when I have personal difficulties	0.9105
I contact my tutor when I have academic difficulties.	0.9089
I feel heard by my tutor	0.9034
I feel understood by my tutor	0.9023
I am satisfied with the quality of the tutoring I received as part of the tutoring program.	0.9036
The tutoring program has been helpful in improving my performance	0.9039
The tutoring program fits my personal needs	0.9040
The tutoring program is sufficient for my personal needs.	0.9053
The tutoring program is well known among my other colleagues.	0.9052
Global scale of the test	0.9130

Note:
1. In dichotomous variables (1=Yes, 0=No), the interpretation of the average is the percentage of affirmative response: for example, 0.78 is interpreted as 78% affirmative response.
2. Alpha reported in case the item is removed.

Source: Own estimates based on the Study of Evaluation of Institutional Tutoring and Advising Programs of the UANL (2025).

Although the items cover various dimensions—such as program knowledge, tutor availability, academic and personal support, communication, satisfaction, and perceived usefulness—the high alpha values indicate that these dimensions are articulated within an integrated experience of the PIT program from the student perspective. Given the dichotomous nature of the variables, the averages can be interpreted directly as proportions of affirmative responses, facilitating a substantive reading of the results without compromising the instrument's reliability. Overall, the evidence presented confirms that the instrument has high internal reliability and adequate statistical reliability in terms of consistency, supporting its use for assessing student perceptions of the PIT program in the university setting.

Descriptive statistics

Table 2 presents the descriptive statistics of the sociodemographic and academic variables included in the database. The sample consists of 175 undergraduate students, with a mean age of 18.2 years (standard deviation = 1.28), indicating a predominantly early entry profile, with an age range of 17 to 23 years. In terms of gender composition, 40% of the students are women and 60% are men, reflecting a male overrepresentation in the surveyed student population. Regarding employment status, 25% of the students reported working at the time of the survey, while the vast majority (75%) are dedicated full-time to their studies. Furthermore, 8% come from other locations (international students), suggesting that the population is mostly local, although a significant minority of students face additional challenges related to mobility and adaptation. Regarding educational background, 95% of students attended public high schools, confirming a high percentage of students from the public upper secondary system within the analyzed university enrollment. Furthermore, 80% stated that studying at this Faculty was their first choice, reflecting both the institution's appeal and a considerable degree of initial motivation among most respondents . Overall, the student profile is characterized by youth, a strong male presence, a high proportion of students from the public upper secondary system, and a strong preference for this institution as their first choice. This context is relevant for interpreting the subsequent results of the study, particularly concerning the degree of institutional belonging, students' initial expectations, and the differentiated support required by those who work or come from outside the local area.

Table 2. General descriptive statistics of the database

Variable	Note.	Average	Des.Est.	Min.	Max.
Age (years)	175	18.17	1.28	17	23
Sex (0 = Male, 1 = Female)	175	0.40	0.49	0	1
Are you currently employed? (1 = Yes)	175	0.25	0.43	0	1
Are you a foreign student? (1 = Yes)	175	0.08	0.27	0	1
High school at a public institution (1 = Yes)	175	0.95	0.22	0	1
Was studying at this Faculty your first choice? (1 = Yes)	175	0.80	0.40	0	1
Note: In dichotomous variables (1 = Yes, 0 = No), the interpretation of the average is the percentage of declared response: for example, 0.78 is interpreted as 78% affirmative response.					

Institutional Tutoring and Advising Programs of the UANL (2025).

Table 3 presents the descriptive statistics for the dichotomous variables associated with the recognition and evaluation of the UANL's PIT program. All variables were coded as binary (0 = “No”, 1 = “Yes”), so the mean can be directly interpreted as the proportion of students who responded affirmatively to each item. The sample consisted of 175 valid observations for each indicator. In general, the results show a relatively high level of recognition and interaction with the program. First, 77.7% of students stated they were aware of the PIT program, and 73.7% indicated they knew their tutor directly, reflecting considerable dissemination of the program within the university community. Likewise, 66.9% of students said they felt supported by their tutor in case of difficulties, and 70.9% perceived their tutor's availability outside of class hours, indicators that suggest an adequate level of accessibility. Regarding the institutional dimension... On the other hand, 50.9% of respondents believe the university provides them with emotional and psychological support when needed, while 71.4% report feeling supported by the institution throughout their academic journey. However, participation in scheduled tutoring sessions drops to 46.3%, highlighting a gap between awareness of the Student Support Program (PIT) and actual attendance. Regarding communication channels, only 25.7% of students contact their tutor in case of personal difficulties, while 47.4% do so for academic problems, revealing that the tutor's role is perceived primarily as academic rather than personal support. In line with this, 62.9% of students reported feeling heard by their tutor and 65.1% felt understood, reflecting an intermediate level of qualitative support. The perceived quality and usefulness of the PIT program is reflected in the fact that 64.0% of students report being satisfied with the tutoring they receive, 55.4% consider it useful for improving their performance, 57.1% indicate that it meets their personal needs, and 53.1% that it is sufficient to cover those needs. Finally, 61.7% of respondents stated that the PIT program is also known by other students, confirming institutional outreach beyond the individual level. Taken together, these results demonstrate that, although the PIT program enjoys high recognition and a perceived

positive impact on students, areas for improvement remain related to effective participation in scheduled sessions and strengthening the personal and emotional dimension of the support, which will be relevant for the subsequent analysis of student impact and satisfaction.

Table 3. Descriptive statistics of the PIT recognition

Variable	Average	Des.Est .	Min.	Max.
Did you know that our University has a tutoring program where you are assigned a tutor to provide support during the semester?	0.7771	0.4174	0	1
Do you know your tutor?	0.7371	0.4414	0	1
Do you feel supported by your tutor when you have difficulties?	0.6686	0.4721	0	1
Is your tutor available to assist you outside of class hours?	0.7086	0.4557	0	1
Do you feel that the University provides you with emotional and psychological support when you need it?	0.5086	0.5014	0	1
Do you feel supported by the University in your educational process?	0.7143	0.4531	0	1
I attend the tutorials scheduled by the tutor	0.4629	0.5000	0	1
I contact my tutor when I have personal difficulties	0.2571	0.4383	0	1
I contact my tutor when I have academic difficulties.	0.4743	0.5008	0	1
I feel heard by my tutor	0.6286	0.4846	0	1
I feel understood by my tutor	0.6514	0.4779	0	1
I am satisfied with the quality of the tutoring I received as part of the tutoring program.	0.6400	0.4814	0	1
The tutoring program has been helpful in improving my performance	0.5543	0.4985	0	1
The tutoring program fits my personal needs	0.5714	0.4963	0	1
The tutoring program is sufficient for my personal needs.	0.5314	0.5004	0	1
The tutoring program is well known among my other colleagues.	0.6171	0.4875	0	1
Note: In dichotomous variables (1 = Yes, 0 = No), the interpretation of the average is the percentage of declared response: for example, 0.78 is interpreted as 78% affirmative response.				

Source: Own estimates based on the Study of Evaluation of Institutional Tutoring and Advising Programs of the UANL (2025).

Table 4 presents the comparison of means for the dichotomous variables that assess recognition and appreciation of the PIT, differentiated by the sex of the surveyed students, taking into account the difference between men and women; therefore, the sign should be interpreted as “in favor of men.” Since the variables are binary (0 = No, 1 =

Yes), the means directly reflect the percentage of affirmative responses. The statistical significance of the differences was assessed using Student's t-tests with unequal variances. The results show systematic differences favoring women, who consistently report higher levels of knowledge, participation, and satisfaction with the program. For example, 85.7% of women are aware of the existence of the PIT, compared to 72.4% of men, a difference of 13.3 percentage points that is statistically significant at the 5% level ($p < 0.05$). Similarly, 82.9% of women reported knowing their tutor, compared to 67.6% of men, representing a significant gap of 15.3 percentage points ($p < 0.05$). The gap widens in the perception of institutional support: 81.4% of women reported feeling supported by the University in their educational process, compared to 64.8% of men, a difference of 16.6 percentage points ($p < 0.05$). Furthermore, women showed higher attendance at scheduled tutoring sessions (60.0% - 37.1%), a highly significant difference of -22.9 percentage points ($p < 0.01$). Regarding communication with tutors, women show a greater willingness to contact their tutor for personal difficulties (34.3%–20.0%), a significant difference of 5%, and also for academic problems (55.7%–41.9%), a significant difference of 10%. These figures reinforce the idea that women make greater use of the institutional and academic support channels offered by the program. In terms of qualitative perception, women feel more heard (75.7%–54.3%) and understood (78.6%–56.2%) by their tutors, with differences of -21.4 and -22.4 percentage points, respectively, both with high statistical significance ($p < 0.01$). Furthermore, 70.0% of women state that the program is well-known among their peers, compared to 56.2% of men, a significant difference of 10%. In contrast, variables related to overall satisfaction and the program's suitability to personal needs did not show statistically significant differences between men and women, although women maintained higher average values in all cases. In summary, the analysis shows that women demonstrate higher levels of recognition, participation, and perceived support within the PIT program. These differences are statistically significant in key indicators such as knowledge of the program, attendance at tutoring sessions, communication with the tutor, and perception of support and understanding. The findings suggest that the program has achieved a greater degree of ownership among female students, opening a relevant line of analysis regarding possible gender differences in how they interact with tutoring services and in their demand for academic and personal support.

Table 4. Differences in variables "men less women" in the recognition of the PIT

Variable	Men	Women	Difference	
Did you know that our University has a tutoring program where you are assigned a tutor to provide support during the semester?	0.7238	0.8571	-0.1333	[b]
Do you know your tutor?	0.6762	0.8286	-0.1524	[b]
Do you feel supported by your tutor when you have difficulties?	0.6286	0.7286	-0.1000	
Is your tutor available to assist you outside of class hours?	0.6667	0.7714	-0.1048	
Do you feel that the University provides you with emotional and psychological support when you need it?	0.4857	0.5429	-0.05714	
Do you feel supported by the University in your educational process?	0.6476	0.8143	-0.1667	[b]
I attend the tutorials scheduled by the tutor	0.3714	0.6000	-0.2286	[c]
I contact my tutor when I have personal difficulties	0.2000	0.3429	-0.1429	[b]
I contact my tutor when I have academic difficulties.	0.4190	0.5571	-0.1381	[to]
I feel heard by my tutor	0.5429	0.7571	-0.2143	[c]
I feel understood by my tutor	0.5619	0.7857	-0.2238	[c]
I am satisfied with the quality of the tutoring I received as part of the tutoring program.	0.6000	0.7000	-0.1000	
The tutoring program has been helpful in improving my performance	0.5048	0.6286	-0.1238	
The tutoring program fits my personal needs	0.5333	0.6286	-0.09524	
The tutoring program is sufficient for my personal needs.	0.4952	0.5857	-0.09048	
The tutoring program is well known among my other colleagues.	0.5619	0.7000	-0.1381	[to]
Sample Size	175			

Grades:

1) Each column presents the sample mean of each variable conditional on each student sex category and the difference of means.

2) The third column shows the difference in means between the sexes of the students; the standard error corresponding to the Welch test (Student's t) for differences with unknown variances and different is shown in parentheses below the corresponding value.

3) In dichotomous variables (1=Yes 0=No) the interpretation of the average is the percentage of declared response: for example 0.78 is interpreted as 78% affirmative response.

4) The statistical significance indicators of the statistical test (p-value) are: [a] $p<0.10$, [b] $p<0.05$, [c] $p<0.01$, [d] $p<0.001$.

Source: Own estimates based on the Study of Evaluation of Institutional Tutoring and Advising Programs UANL (2025).

Discussion

The results presented confirm that the indicators of tutor awareness, contact, and availability show high levels of recognition and reasonable access to support. However, a gap is observed between awareness and effective use. Although most students are familiar with the program and their tutor, attendance at scheduled sessions and use of the communication channel (especially for personal matters) are moderate. This finding aligns with previous studies indicating that positive perception does not always translate into student participation, highlighting the need for strategies to convert knowledge into action (Gargallo Castel et al., 2019).

The comparative analysis by sex reveals substantial and statistically significant differences in several key dimensions favoring women. These findings are reflected in greater awareness of the program, higher session attendance, a greater propensity to communicate with the tutor (regarding academic and personal matters), and better qualitative perceptions (feeling heard and understood). These gaps, with men outnumbering women, ranging from 10 to 23 percentage points, are consistent with international literature indicating that women show a greater willingness to seek academic and psychological support, while men face cultural barriers associated with masculinity, such as the perception that asking for help is a sign of weakness (Miles et al., 2023). This pattern suggests that equity in program adoption requires differentiated interventions that consider these gender norms.

Perceived psycho-emotional support is at an intermediate level (51%), while the sense of institutional support is higher (71%). Internal evidence indicates that the tutor-student relationship is primarily perceived as academic support, with room to strengthen referrals and protocols for psychological and social work services in response to potential signs of student stress and possible school dropout. This finding is relevant in the post-pandemic context, where the literature underscores the need to integrate socio-emotional components into tutoring programs to address the effects of virtual learning and the gaps in student resilience (Yucra-Mamani, 2021).

Furthermore, international and experimental evidence provides elements for program design. For example, matching the gender of the tutor and student can increase interest and success in specific areas, such as STEM fields for women (Bleiberg et al., 2025). This opens the possibility of exploring strategic assignments when pursuing equity goals in underrepresented fields. Similarly, previous studies highlight that tutor competence, responsiveness, and empathy are key determinants of student satisfaction

and academic confidence. Pedagogical training improves teaching styles and outcomes, reinforcing the recommendation for structured training (Adams et al., 2024).

In the Mexican context, ANUIES (2000) emphasizes that the PIT contributes to comprehensive education, timely graduation, and reduced dropout rates, and establishes organizational criteria for its operation. The results of this study align with this framework, although they highlight two specific challenges: (i) increasing effective attendance and communication, and (ii) reducing gender gaps in participation and perception of the program.

In summary, the PIT is based on accessibility, recognition, and satisfaction. However, the results suggest that two bottlenecks persist: converting knowledge into effective use and achieving gender-differentiated equity in participation. Both aspects can be addressed through design adjustments, incentives, and training, incorporating a perspective that acknowledges differences in expectations and interaction styles and promotes differentiated strategies to increase male participation without losing the holistic approach.

Conclusion

On a broader level, the study's results are relevant within the context of higher education in Mexico, where student dropout remains a structural problem affecting retention and timely graduation. Although reductions in dropout rates have been observed in recent years, the phenomenon continues to impact a considerable number of young people and stems from a combination of academic, socioeconomic, and psycho-emotional factors. This demands comprehensive institutional strategies focused on both student retention and well-being. In this context, the findings of this study—which reveal a gap between knowledge of the PIT (Personalized Intervention Program) and its effective use, particularly among male students—suggest that inequalities in participation in support programs may contribute to reproducing broader patterns of school dropout. From an equity and student well-being perspective, these differences take on special relevance, since well-being is not limited to academic performance, but involves emotional, motivational, and sense of belonging dimensions that directly affect the continuity of university trajectories. Consequently, strengthening university tutoring with a comprehensive approach and a gender perspective not only represents an opportunity for institutional improvement, but also a strategic way to move towards a more inclusive higher education, oriented towards the comprehensive well-being of students and the

reduction of dropout rates as one of the main challenges of the Mexican educational system.

Future lines of research

Based on the findings obtained, it is recommended that future research delve deeper into the analysis of the factors that influence the effective participation of students in university tutoring programs, incorporating variables associated with sex, as handled in the proposal of Chirikán-Shmukané and De la Cruz-Martínez (2023), who emphasize the importance of tutoring that considers the dynamics derived from the differences between men and women as an integral part of the educational process.

In accordance with Yucra-Mamani (2021), it is pertinent to examine the degree of articulation between academic and psychosocial support, as well as to evaluate tutoring models with an integral approach in virtual and hybrid educational modalities.

It is also suggested to analyze the impact of tutor training and coordination with institutional support services on student retention, academic performance, and well-being.

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Supervision	Lilián Reynosa
Project Management	Lilián Reynosa (main), Adriana Camacho
Acquisition of funds	Not applicable

Exhibit

1. ID
2. Name
3. Age (in completed years)
4. Sex
   a. Male b. Female c. Other
5. Semester
6. Are you currently employed?
   a. YES b. NO
7. You are a foreign student
   a. YES b. NO
8. Your high school studies were at an institution:
   a. Public b. Private
9. Was studying at this Faculty your FIRST CHOICE?
   a. YES b. NO
10. Did you know that our University has a tutoring program where you are assigned a tutor to provide you with support during the semester?
    a. YES b. NO
11. "Do you know your tutor?"
    a. YES b. NO
12. Do you feel supported by your tutor when you have difficulties?
    a. YES b. NO
13. Is your tutor available to assist you outside of class hours?
    a. YES b. NO
14. Do you feel that the University provides you with emotional and psychological support when you need it?
    a. YES b. NO
15. Do you feel supported by the University in your educational process?
    a. YES b. NO

16. I attend the tutorials scheduled by the tutor
    a. YES b. NO
17. I contact my tutor when I have personal difficulties
    a. YES b. NO
18. I contact my tutor when I have academic difficulties.
    a. YES b. NO
19. I feel heard by my tutor
    a. YES b. NO
20. I feel understood by my tutor
    a. YES b. NO
21. I am satisfied with the quality of the tutoring I received as part of the tutoring program.
    a. YES b. NO
22. The tutoring program has been helpful in improving my performance
    a. YES b. NO
23. The tutoring program fits my personal needs
    a. YES b. NO
24. The tutoring program is sufficient for my personal needs.
    a. YES b. NO
25. The tutoring program is well known among my other colleagues.
    a. YES b. NO

26. Did you know that in our faculty, teachers can provide ACADEMIC SUPPORT outside of class hours?
    a. YES b. NO
27. Did you know that our faculty offers ACADEMIC SUPPORT for GROUPS of students in subjects starting from the 3rd attempt?
    a. YES b. NO
28. Are you taking any subjects for the third time this semester?
    a. YES b. NO

29. Have you received ACADEMIC SUPPORT within the faculty this semester?
    a. YES b. NO
30. Does my ACADEMIC SUPPORT teacher provide me with support outside of class hours?
    a. YES b. NO
31. A teacher who DOES NOT GIVE ME ACADEMIC SUPPORT CLASSES has supported me by giving me tutoring outside of class hours
    a. YES b. NO
32. I am satisfied with the quality of the ACADEMIC SUPPORT received
    a. YES b. NO
33. The academic support I received has been helpful in improving my performance.
    a. YES b. NO
34. The ACADEMIC SUPPORT I receive is tailored to my personal needs.
    a. YES b. NO
35. The ACADEMIC SUPPORT is sufficient for my personal needs.
    a. YES b. NO
36. Academic support is well known among my other colleagues.
    a. YES b. NO

37. I considered dropping out of my studies during the last semester.
    a. YES b. NO
38. I feel motivated to continue my studies at this Faculty
    a. YES b. NO
39. I feel motivated to complete my studies at this Faculty
    a. YES b. NO
40. My pre-university preparation was NOT enough to keep me in the program
    a. YES b. NO
41. Academic difficulties are making me think about dropping out of my studies
    a. YES b. NO
42. Emotional difficulties are making me think about dropping out of my studies
    a. YES b. NO
43. Financial difficulties are making me think about abandoning my studies
    a. YES b. NO