NEYART Journal
ISSN: 2992-7161

MEASURING SOFT SKILLS
FOR UNIVERSITY STUDENTS ENTERING THE WORKFORCE

ASSESSING SOCIAL SKILLS
FOR UNIVERSITY STUDENTS ENTERING THE WORKFORCE

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DOI: https://doi.org/10.61273/neyart.v4i1.203 | **Received:** 02/16/2026 | **Accepted:** 04/20/2026 | **Published:** 05/22/2026

Abstract-- This is a cross-sectional, quantitative study on the development of soft skills among 44 first-semester psychology students at CESMAG University. The study included a 37-item psychometric scale that assessed three areas: Self-Management (AUT), Interpersonal Skills (HHII), and Difficulties in Assertiveness in Negotiation and Adaptation to Teamwork (DANAE). The results showed moderate development. The Self-Management and Interpersonal Skills scales were average (2.41 and 2.38), respectively, while the DANAE scores were low-moderate (2.55). There was no interaction by gender. All skills are functional, but none reached the maximum. The integration of training in organizational soft skills such as negotiation, assertiveness, commitment, and collaborative leadership should be considered to better align training with the needs of the labor market. These results lay the groundwork for longitudinal follow-up in higher education.

Keywords—Employability, Higher Education, Psychometrics, Soft skills.

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INTRODUCTION

In recent decades, the labor market has undergone profound transformations driven by automation, digitization, and the globalization of economies. Faced with this scenario, organizations have reoriented their criteria for selecting talent, placing increasing emphasis not only on technical competencies—

known as hard skills—but also on a set of interpersonal, emotional, and social attributes known as soft skills. These include effective communication, collaboration, critical thinking, emotional intelligence, conflict resolution, and leadership.

Upon graduation, students are expected to demonstrate disciplinary knowledge, among other things, but above all, for a successful career, the possession of these key social skills. However, the objective and systematic measurement of these skills remains one of the most complex challenges in the field of educational and organizational psychology, given their multidimensional nature and the lack of standardized instruments with cross-cultural validity.

This article addresses the challenge of measuring soft skills in college students who are about to enter the workforce. Through a review of national and international literature, it analyzes the current state of knowledge regarding the instruments, methodologies, and approaches used to assess these competencies, identifying theoretical and methodological gaps that justify the need for additional empirical studies in specific contexts.

International Background

There has been a growing academic focus on soft skills in workplaces and education, with studies across Europe, North America, and Asia highlighting their relevance. In Europe, Andrews and Higson (2008) identified a disconnect between university technical skills and the work-ready vocational and social skills that employers value. Although technical skills may lead to easier and faster employment, their study reveals a lack of training in soft skills such as communication, collaboration, and adaptability, which receive little emphasis in university education compared to professional training (Andrews & Higson, 2008). Labor economists such as Heckman and Kautz (2012) have demonstrated that workers with strong non-cognitive skills are better predictors of occupational and economic success than IQ in some cases (Heckman & Kautz, 2012).

In the U.S. business sector, Robles (2012) identified the ten soft skills most valued by corporate executives through direct surveys. Among the most frequently cited competencies were integrity, communication, courtesy, responsibility, and work ethic. This study revealed that 75% of long-term career success depends on interpersonal skills, while only 25% is attributable to technical knowledge (Robles, 2012).

They compared employers' and students' perceptions of the importance of soft skills among European students (Succi and Canovi, 2020). Eighty-six percent knew that these skills have become more relevant

over

the past 5 to 10 years, but employers value them even more than students do. They argued that higher education should work more closely with businesses to deliberately cultivate these skills (Succi and Canovi, 2020).

Tseng et al. (2019) also investigated the soft skills of students at an online business university and found that self-regulation, motivation, and social skills varied with respect to their academic level and leadership role, indicating that interpersonal competencies are among the challenges posed by the digital environment.

The Multiple Soft Skills Assessment Tool (MSSAT) for evaluating soft skills within organizations was developed and validated by Colledani, Robusto, and Anselmi (2024). In a study that utilized item response theory and network analysis, they demonstrated that these skills (communication, collaboration, resilience) are predictive of job satisfaction and performance, and that the instrument is group-invariance (Colledani et al., 2024).

Latin American Context

Research investigating soft skills among undergraduate students in Latin American universities has increased over the past 10 years; however, studies employing validated tools are scarce. Guerra-Báez (2019) conducted a review of soft skills training among university students in Latin America, finding that universities are slow to adopt strategies for developing empathy, assertive communication, and critical thinking, and arguing that social learning is an effective training model (Guerra-Báez, 2019).

Hernández Herrera & Neri Torres (2020) investigated soft skills among undergraduate engineering students at three public universities in Mexico. They used a descriptive quantitative approach and identified strong teamwork and responsibility alongside weak oral communication and problem-solving skills. This highlights the need for soft skills training starting at a very early age (Hernández Herrera & Neri Torres, 2020).

Fuentes et al. (2021) also studied soft skills among social sciences students, but focused on Colombian university students majoring in psychology and health administration by conducting an online survey during the COVID-19 pandemic to compare pre- and post-distance learning outcomes. Using a quantitative cross-sectional method, they found average scores in emotional intelligence and interpersonal skills, yet below-average scores in leadership and time management, indicating a need for intervention programs prior to graduation.

This paper investigates soft skills among 330 engineering students at TECNM Coatzacoalcos in Mexico and presents gender differences (Vázquez-González, Clara-Zafra, Céspedes-Gallegos, Ceja-Romay, & Pacheco-López, 2022). Female participants demonstrated greater communication skills and the ability to express empathy, while male participants exhibited superior soft skills under pressure; this, in turn, confirmed gender as a moderating variable in university students' soft skills.

Finally, Infante-Alcántara, Araiza-Vázquez, and López-Pérez (2023) focus on the effect of soft skills on the labor market integration of engineering graduates from northeastern Mexico. Results: Confirmatory factor analyses revealed that perceived employability is primarily driven by effective communication, adaptability, and problem-solving. In addition, a larger gap was observed between educational background and job requirements regarding soft skills (see Infante-Alcántara et al., 2023).

In the Latin American context, González, Granados, Clavijo, and Ruiz (2021) reviewed soft skills in higher education and the workplace. They found that there is a growing need for culturally validated instruments, and also that most studies use self-reports without peer evaluation or 360° feedback. They suggested developing construct validity scales tailored to the sociocultural context in Latin America (González et al., 2021).

Study Objective

The overall objective of this study is to analyze the level of development of soft skills among college students nearing graduation and its relationship to their perceived readiness for entry into the workplace. **Rationale for the Study**

The relevance of this study is grounded in multiple theoretical, practical, and social arguments. First, from a theoretical perspective, the assessment of soft skills in Latin American university contexts represents an emerging line of research, with a scarcity of validated instruments for Spanish-speaking populations. Most of the available instruments originate from Anglo-Saxon contexts and have not been culturally adapted to the socio-educational context of countries such as Mexico, Colombia, Peru, Argentina, or Chile, limiting the comparability and validity of findings.

Second, from a practical perspective, if institutions understand the soft skills profile of graduates, they can develop programs to address competency gaps. This information guides employers in their hiring and training processes. Students also benefit because they receive unbiased feedback before entering the labor market.

Third, from a social perspective, one of the main causes of youth unemployment and job instability in Latin America is the mismatch between the education provided by universities and the skills needs of the labor market for university graduates. The transition from education to work—especially for graduates—is a pivotal moment, in which the human capital acquired in soft skills is decisive, according to the ILO and the OECD. Contextual and empirical studies help design policies to make young university graduates more employable.

The methodological rationale for this research is based on a proposal to measure a phenomenon—frequently assessed using semi-structured or non-standardized qualitative methods—consistently through psychometric instruments that have been demonstrated to be highly valid. Generating suitable and comparable quantitative evidence is the focus of this research proposal, which aims to advance knowledge in the field of soft skills assessment in Latin America.

Study Limitations

However, despite the relevance and significance of the research, it is necessary to acknowledge a set of limitations that constrain the scope of its conclusions. First, the cross-sectional methodological design does not allow for establishing causal relationships between the development of soft skills and graduates' subsequent job performance; this would require a longitudinal follow-up that exceeds the temporal scope of the present study.

Second, a self-report data collection method is used, which risks introducing social desirability bias (the tendency of people to overestimate their competencies), such as among students who are about to graduate. Although this effect will be controlled for as much as possible at the methodological level, it cannot be completely eliminated from the results.

Another limitation of this study is generalizability, as the sample consisted of students from specific universities and may not represent those from other regions or other educational settings or disciplines not addressed. Limitations of the results include geographic and disciplinary representativeness.

DEVELOPMENT

Research Paradigm

The research proposal is framed within a positivist paradigm (quantitative, empirical–analytical, or rationalist). It presupposes a verifiable reality that can be accessed through rigorous empirical means. Its objective is to explain, predict, and control phenomena, while testing theories or hypotheses through the

collection of numerical data and statistical analysis, which seeks to obtain objective, verifiable, and replicable scientific knowledge, free from value judgments (Herrera Castrillo 2024).

The epistemological paradigm most relevant for this study is the positivist one, given that it measures soft skills through standardized instruments. It is described by Miranda and Ortiz (2020) as the separation of the knowing subject from the object, where a hypothetical-deductive method that yields generalizable and comparable results is used. This is appropriate because the goal of this study is to map objective trends in soft skill development among college students.

Research Approach

The study adopts a quantitative approach. According to Hernández-Sampieri and Mendoza Torres (2018), the quantitative approach uses data collection to test hypotheses based on numerical measurement and statistical analysis, with the aim of establishing patterns of behavior and testing theories. This follows a linear process in which the problem leads to objectives and hypotheses; then, the literature review develops these into a theoretical framework, after which numerical data can be collected and, consequently, tested against the hypotheses.

The use of a quantitative approach, based on the successful operationalization of soft skills into dimensions measurable via Likert scales (Hernández & Bodas González, 2021; Gati & Asher, 2001), involves data generated for statistical analysis from a large sample and the ability to objectively compare subgroups by gender and academic discipline. This objective and systematic nature of the measurement is essential for generating results with a high degree of reliability and validity in the Latin American university context.

Type of Research

According to the classification proposed by Arias and Covinos (2021), this study is a descriptive research project with a non-experimental, cross-sectional design. It is descriptive because its purpose is to outline the characteristics and levels of soft skills present in the participating university students, without establishing causal relationships between variables. It is non-experimental because no intentional manipulation of the independent variables is performed; the researcher observes the phenomena as they occur in their natural context to analyze them subsequently. Lastly, it is cross-sectional in nature, meaning data collection was conducted at a single specific point in time, providing a snapshot of the state of the participants' soft skills over the course of the study period.

This design is suitable for the purposes of this study, as it allows for the collection of representative data on the profile of transversal competencies among university graduates without the need for longitudinal follow-up or control groups, which is not feasible given the time and logistical resources available to conduct the research.

Participants

The study sample consisted of 44 university students who were in their final year of their bachelor's degree programs at the time of data collection, placing them at a stage close to entering the labor market. Of these, 18 were men (40.9%) and 16 were women (36.4%), while the remaining participants did not specify their gender in the questionnaire. The sample was selected using non-probabilistic convenience sampling, given the accessibility of the participants and the need to include students in their final year of study, a prerequisite for the study's objective.

Inclusion criteria included being a full-time university student (attending in-person on-campus classes) as well as having completed at least 80% of the credits required by their academic program, along with being over 18 years of age. Exclusion criteria were refusal to voluntarily participate in the study or completion of questionnaires with more than 20% of answers left blank (to ensure data reliability).

Table 1.

Distribution of participants by gender

Category	Frequency (n)	Percentage (%)
Men	25	56.8%
Women	19	43.2%
Total	**44**	**100%**

Note: Prepared by the author.

Procedure

The data collection procedure was carried out in four successive phases. Data collection consisted of four phases. The first phase involved a self-report questionnaire using a 5-point Likert scale (1 = Never; 5 = Always), developed to measure soft skills in college students, which was selected and adapted for this purpose. It evaluates: (a) verbal abilities, not only the ability to communicate effectively; (b) teamwork,

are you a team player?; (c) emotional intelligence, empathy, and the ability to recognize others' emotions; how good are you at analyzing people? Partner with your teammates to be successful—people management skills are highly valued right now as well. [e] leadership and influence; there's no better way to build bonds than through sports or group activities—Football 101 for team leaders; and last but not least (f) adaptability—can you manage change?

In phase two, permissions were obtained and informed consent was secured. Academic authorities granted permission, students were informed of the study's purpose, and confidentiality and anonymity were ensured. All participants signed the consent form in accordance with ethical standards.

For the third stage, a questionnaire was administered in groups of 10 to 15 students during 30-minute in-person sessions on campus. Questions regarding the items were directed to the principal investigator, who was available to clarify any issues.

Finally, the fourth phase involved cleaning and coding the database. Once the questionnaires were collected, each instrument was thoroughly reviewed to identify incomplete or inconsistent responses. The valid data were transferred to a spreadsheet and subsequently imported into the statistical software SPSS (Statistical Package for the Social Sciences) version 26.0 for analysis.

Instrument

The instrument is a soft skills measurement scale developed according to the principles of Classical Test Theory (CTT). It included 37 Haladyna-type multiple-choice items, divided into three dimensions to measure individual skills for self-management and interpersonal relationships, as well as symptoms in negotiation and teamwork.

The response format is a Social Rating scale (A, B, C, D)—and scores are assigned from 1 to 4. For direct (positive) items, which are those scored from A to D, scores increase from lowest to highest (A=1; B=2; C=3 and D=4), while for reverse (negative) items—as is the case with the Dutch database for DANAE dimensions and also some HHII items—higher scores indicate lower quality of life: answering A yields a score of four points, and lower scores result in fewer points.

The instrument is structured into three dimensions, described below:

Dimension	Code	No. of Items	Items
Self-Management (AUT)	AUT	23	10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37
Interpersonal Skills (IIS)	II	10	1, 5, 6, 7, 8, 11, 13, 14, 16, 17
Difficulties with Assertiveness in Negotiation and Team Adjustment (DANAE)	DANAE	4	2, 3, 4, 9

Self-Management (AUT)

This is the dimension with the highest weighting within the instrument, consisting of 23 items (items 10 through 37, excluding those belonging to other dimensions). It assesses the individual's ability to make autonomous decisions, adapt to changes in the environment, communicate their vision, motivate others, and set personal and professional goals. All items in this dimension are direct (positive) and are scored on a scale of 1 to 4.

Interpersonal Skills (HHII)

Comprising 10 items (1, 5, 6, 7, 8, 11, 13, 14, 16, 17), this dimension assesses competencies related to collaborative work, consultative decision-making, and motivation toward collective goals. Most of its items are direct; however, item 7 ("I prefer to work alone rather than in a team") is reverse-scored, so its rating is inverted.

Difficulties with Assertiveness in Negotiation and Team Adjustment (DANAE)

This dimension consists of 4 items (2, 3, 4, and 9) and measures the difficulties individuals experience in negotiation contexts and when adapting to group work. All items are reverse-scored, meaning that higher scores on the responses indicate greater difficulties. Scoring is reversed: A=4, B=3, C=2, D=1.

Psychometric Considerations

The instrument falls within the parameters of Classical Test Theory (CTT), which means that its validity and reliability are assessed based on indicators such as the item difficulty index and the internal

consistency coefficient (Cronbach's Alpha). As a typical performance scale, it measures the examinee's typical behaviors and attitudes, rather than their peak performance.

The reverse-scored items in the DANAE and HHII dimensions (item 7) are a methodological strategy to minimize acquiescence bias, which strengthens the construct validity of the instrument. The scores on all items should be reversed before calculating the total score per dimension.

The distribution of items across dimensions (23AUT, 10HHII, and 4DANAE) indicates that the instrument prioritizes self-management skills, meaning this must be taken into account when interpreting individual profiles.

Data Analysis

The analysis of the collected data was conducted at two complementary levels. At the first level, a descriptive analysis was applied to characterize the general profile of soft skills in the sample. Measures of central tendency (arithmetic mean and median) and dispersion (standard deviation and coefficient of variation) were calculated for each dimension of the instrument. Additionally, response frequencies and percentages were determined by category for each item, which allowed for the identification of the skills with the highest and lowest levels of development in the study group.

At the intermediate level, a comparative analysis was carried out to examine possible differences in soft skill levels based on sociodemographic variables of interest (specifically gender). Hypothesis testing was applied to check for statistically significant differences between groups, using the most suitable statistic according to the assumption of normality of the data distribution confirmed by the Shapiro-Wilk test (as the sample size is small). A significance level of $\alpha = 0.05$ was set as the threshold for deciding whether to accept or reject any null hypotheses.

In addition, Cronbach's alpha was calculated to determine the reliability of each dimension and the overall reliability of the questionnaire with the sample that participated in this investigation. Frequency tables and bar charts generated using statistical software were used to facilitate the interpretation of the results. SPSS v.26 was used for all statistical analysis. 0, and reported in accordance with APA (American Psychological Association) standards for presenting quantitative results.

Sample Description

The sample consisted of 44 students enrolled in the first semester of the Psychology Program at CESMAG University, of whom 25 were men (56.8%) and 19 were women (43.2%). All participants were in their

first academic term at the time the instrument was administered, which is a key factor in interpreting the results obtained.

Table 2. *Sample Composition*.

Group	n	%	Description
Men	25	56.8%	First-semester students
Women	19	43.2%	First-semester students
Total	44	100%	Complete sample

Note: n = number of participants. The percentages correspond to the distribution by sex within the total sample.

Interpretation Criteria

To interpret the scores obtained in each dimension, the arithmetic mean per item was used as the unit of analysis, given that the three dimensions have different numbers of items (AUT = 23, HHII = 10, DANAE = 4). This strategy allows for direct comparison between dimensions on a common 1-to-4-point scale. The interpretation ranges used are presented below:

Table 3. *Interpretation*.

Range (mean per item)	Level	Level description	Implications
1.00 – 1.49	Low	Poor development	Requires immediate intervention
1.50 – 1.99	Low-Medium	Below average	Needs educational support
2.00 – 2.49	Intermediate	Basic development	In the process of consolidation
2.50 – 2.99	Medium-High	Acceptable development	Maturing competencies

Range (mean per item)	Level	Level description	Implications
3.00 – 4.00	High	Optimal development	Consolidated competencies

Note: The response scale ranges from 1 (minimum) to 4 (maximum). For the DANAE dimension, where the scoring is inverted, higher scores indicate greater difficulties with assertiveness and team fit.

Analysis of Results

The following presents the descriptive results for each of the three dimensions evaluated, broken down by gender and for the total sample.

Dimension: Self-Management (AUT)

The Self-Management dimension assesses the student's ability to make decisions independently, adapt to changes in the environment, set personal and professional goals, and communicate their vision. It consists of 23 items and is the dimension with the highest weighting within the instrument.

Table 4. *Results for the self-management dimension*.

Group	n	Mean	SD	Min – Max	Level
Men	25	2.38	0.41	1.52 – 3.05	Medium
Women	19	2.45	0.34	1.70 – 3.12	Medium
Total	44	2.41	0.38	1.52 – 3.12	Mean

Note. Mean calculated per item (1–4 scale). SD = standard deviation. % of max. = percentage relative to the maximum possible score for the dimension (92 points).

The results indicate that the 44 students obtained an overall mean of 2.41 (SD = 0.38) on the Self-Management dimension, which corresponds to a moderate level of development of this competency. When comparing by gender, women had a slightly higher mean (M = 2.45) than men (M = 2.38), although both groups fall within the same interpretive level.

This result indicates that first-semester students have an emerging foundation in self-management skills; they are capable of goal-oriented behavior and making basic decisions, but still face difficulties in

maintaining that autonomy when faced with more complex situations or pressure. Since it is their first semester, this aligns with their academic journey: it would be the highest academic demand they have faced so far! For the most part, the long-term goal items (items 28–37) and the environmental section on adaptability (items 20–27) stood out for their variability in responses—but these sub-competencies should also be given greater attention in the development of academic support processes.

Dimension: Interpersonal Skills (HHII)

The Interpersonal Skills dimension assesses the student's ability to collaborate with others, make consultative decisions, motivate those around them, and work effectively in a team. It consists of 10 items, one of which (item 7: "I prefer to work alone") is reverse-scored.

Table 5. *Results for the Interpersonal Skills dimension*.

Group	n	Mean	SD	Min – Max	Level
Men	25	2.33	0.44	1.40 – 3.10	Medium
Women	19	2.44	0.39	1.60 – 3.20	Medium
Total	44	2.38	0.42	1.40 – 3.20	Mean

Note. Mean calculated per item (scale 1–4). SD = standard deviation. % of max. = percentage relative to the maximum possible score for the dimension (40 points).

In this dimension, the total mean was 2.38 (SD = 0.42), placing it at the medium level, the lowest score of the three dimensions evaluated. Women showed a slightly higher mean (M = 2.44) compared to men (M = 2.33), although there were no differences in interpretive level between groups.

These results indicate that students recognize the importance of collaborative work and interpersonal communication, but still struggle to apply them consistently. In the context of the first semester of college, this finding can be explained by the fact that students come from school environments that are predominantly individualistic and are just beginning the transition to more demanding collaborative learning environments.

The items with the lowest scores tended to be those related to delegating tasks and motivating others toward common goals (items 16 and 17), suggesting that leadership skills within teamwork represent the area with the greatest opportunity for improvement for this sample.

Dimension: Difficulties with Assertiveness in Negotiation and Team Adjustment (DANAE)

The DANAE dimension assesses the difficulties students experience in interpersonal negotiation contexts and in adapting to the group's work rhythm. It consists of 4 items, all of which are reverse-scored; therefore, a higher mean score in this dimension indicates a greater presence of difficulties.

Table 6. *Results for the Difficulties with Assertiveness in Negotiation and Team Adjustment dimension*.

Group	n	Mean	SD	Min – Max	Level
Men	25	2.62	0.51	1.25 – 3.50	Medium-High
Women	19	2.47	0.46	1.50 – 3.25	Medium
Total	44	2.55	0.49	1.25 – 3.50	Medium-High

Note. Mean calculated per item (reverse scale 1–4). Higher scores indicate greater difficulty. SD = standard deviation. % of max. = percentage relative to the maximum possible score for the dimension (16 points).

The DANAE dimension had the highest mean score of the three dimensions assessed (M = 2.55, SD = 0.49), placing it at a medium-high level, indicating that students report a moderately high level of difficulty in negotiation and adapting to teamwork. Men had a slightly higher mean score (M = 2.62, mid-to-high level) compared to women (M = 2.47, mid-level).

This result warrants the most interpretive attention within the dataset. Feeling frustrated when negotiations do not go as expected (item 3) and having difficulty accepting others' proposals (item 2) are indicators that students are still developing cognitive flexibility and frustration tolerance in social contexts. However, given that these are first-semester students, this level of difficulty can be considered expected and likely to decrease with accumulated college experience.

It is important to note that the DANAE dimension, consisting of only four items, carries less statistical weight in the instrument's total score. Nevertheless, its psychological relevance is significant, as these difficulties can directly impact academic performance in group activities and collaborative projects.

General Analysis of Results

Overall, the 44 students evaluated exhibit an average level of soft skills, with item means ranging from 2.38 (HHII) to 2.55 (DANAE) on a 1-to-4-point scale. This pattern of results is consistent across all three dimensions and in both gender groups.

Table 7. *General Analysis of Results*.

Dimension	Items	Total Mean	S.D.	% of max.	Level
Self-management (AUT)	23	2.41	0.38	60.3%	Medium
Interpersonal Skills (IS)	10	2.38	0.42	59.5%	Medium
Assertiveness in Negotiation Differential (DANAE)	4	2.55	0.49	63.8%	Medium-High

Note: % of max. = group average score as a percentage of the theoretical maximum possible for each dimension. Means calculated per item for comparability across dimensions.

In relative terms, the most developed dimension is Self-Management (AUT), followed by Interpersonal Skills (HHII). Neuropsychophysiological improvement—An area for improvement has been identified with DANAE, indicating moderate challenges in negotiation and adaptation to collaborative teamwork.

The findings suggest three key insights from a training development perspective: (1) that students possess soft skills at an early stage of development but that these are still functional; (2) that no dimension reaches the high level (≥ 3.00), indicating that all dimensions require systematic strengthening; and (3) that minimal differences between men and women fall within the same interpretive range across all dimensions.

These results should be interpreted in relation to the educational stage of our participants. First-semester college students are undergoing a transition from secondary to higher education, where soft skills have traditionally not been taught explicitly or systematically. Consequently, low Q-scores at the beginning of academic careers are not considered a problem but rather a baseline—against which to track growth in proficiency over time.

These results suggest the importance of incorporating teaching strategies aimed at strengthening soft skills from the very first semesters of the program, particularly with regard to assertiveness in negotiation, collaborative work, and autonomy in goal-setting. A longitudinal follow-up study would make it possible to verify whether university education produces significant changes in these competencies throughout the educational process.

Discussion

The results obtained in this study reveal a moderate level of soft skills among first-semester undergraduate students in the Psychology Program at CESMAG University, with item means ranging from 2.38 to 2.55 on a 1-to-4-point scale. This finding is consistent with the international literature, which indicates that university students' cross-cutting competencies tend to be at an early stage of development at the beginning of higher education, given that secondary school curricula do not typically incorporate explicit strategies for strengthening them (Guerra-Báez, 2019; Hernández Herrera & Neri Torres, 2020).

For the Self-Management (AUT) dimension, respondents scored an average of 2.41, placing them somewhere in the middle. This finding is partly consistent with Heckman and Kautz (2012), who reviewed the evidence for perseverance and self-regulation as predictors of long-term academic performance and success in the labor market. While items related to long-term goal setting and adaptation to changing environments showed the greatest variability, together these two sub-competencies appear to be priorities for pedagogical intervention during a formative phase in which students face simultaneous academic and personal demands.

Finally, the Interpersonal Skills (IIS) dimension obtained a lower mean than the other two overall dimensions evaluated (M = 2.38); consequently, participants seem to have the most difficulties in consistently applying competencies such as motivating others, delegation, and driving toward collective goals. This trend was consistent with the results published by Fuentes et al. (2021), who focused on interpersonal skills among Colombian university students at average levels and the need for specialized programs at the higher education level. Similarly, Tseng et al. (2019) observed that skills such as social interaction and collaboration differed significantly according to academic level, which supports the hypothesis that these competencies develop more progressively throughout university life.

The most notable finding of the study concerns the DANAE dimension, which recorded the highest mean (M = 2.55, medium-high level), indicating that students report a moderately high presence of difficulties in negotiation and adjustment to group work. This dimension, which is inversely scaled, assesses frustration with failed negotiations, difficulty accepting others' proposals, and insecurity when negotiating. Men exhibited greater difficulties (M = 2.62) compared to women (M = 2.47), a difference that, although not statistically significant at a high level, is consistent with studies indicating that women tend to develop communication and empathy skills at an earlier age (Vázquez-González et al., 2022).

From a comparative perspective with Latin American literature, the results of the present study are consistent with those reported by González et al. (2021), who noted that most studies in the region show average levels of soft skills among university populations and emphasize the need for culturally validated measurement instruments. The instrument used in this research, developed according to the principles of Classical Test Theory (CTT) with three clearly differentiated dimensions, offers a rigorous psychometric approach that allows for the comparability of results across different Spanish-speaking groups and institutions, thereby addressing one of the most frequently cited methodological gaps in the literature.

Finally, the findings of this study should be interpreted with caution given the cross-sectional design adopted, which prevents the establishment of causal relationships between the level of soft skills and the participants' academic performance or subsequent employability. The social desirability bias inherent in self-reports also constitutes a methodological limitation to be considered, although the inclusion of reverse-scored items in the instrument represents a strategy that partially helps mitigate it. Despite these limitations, the results provide a relevant quantitative baseline for the design of pedagogical interventions aimed at strengthening cross-cutting competencies from the earliest semesters of university education.

Conclusions

The objective of this study was to analyze the level of development of soft skills among first-semester undergraduate students in the Psychology Program at CESMAG University, using a psychometric instrument structured around three dimensions: Self-Management (AUT), Interpersonal Skills (HHII), and Difficulties with Assertiveness in Negotiation and Team Adjustment (DANAE). The results obtained allow us to draw the following conclusions.

First, the 44 students evaluated exhibit a moderate level of soft skills in the dimensions of Self-Management (M = 2.41) and Interpersonal Skills (M = 2.38), and a medium-high level in the DANAE

dimension (M = 2.55). No dimension reached a high level (≥ 3.00), indicating that all assessed competencies require systematic and sustained strengthening throughout the university education process. This finding aligns with studies reporting that university graduates' soft skills fall short of labor market expectations, particularly in terms of assertiveness, negotiation, and leadership in teams (Robles 2012; Succi & Canovi 2020).

Secondly, the second most concerning factor in this profile, as it relates to DANAE, was the presence of moderately high difficulties in interpersonal interactions and in keeping pace with the group. Given that these competencies are essential in more complex work situations that require collaboration across different departments and conflict management, the findings supported immediate efforts to develop curricular strategies focused on assertiveness and frustration tolerance right from the start of the course. This training need is likely to be addressed through active methodologies, working on problems based on student-led projects and negotiation simulations.

Third, the small differences in men's and women's behavior detected in our three selected dimensions have not proven sufficiently conclusive to justify separate intervention groups. On the other hand, women had slightly higher means on the AUT and HHII dimensions, but men experienced more difficulties in DANAE. These results are consistent with other studies suggesting a moderating role of gender in the development of soft skills in the university context (Vázquez-González et al., 2022), although on their own, the differences found do not adequately justify the need to design differentiated intervention programs for men and women.

Fourth, the results of this study provide a quantitative baseline on the profile of soft skills at the start of undergraduate psychology training, which opens the door to longitudinal research that can track the evolution of these competencies throughout the educational process and evaluate the impact of the pedagogical strategies implemented by the institution. A follow-up design in subsequent semesters would allow us to determine whether university education produces significant and statistically verifiable changes in the dimensions assessed.

From an institutional perspective, the findings invite the academic authorities of the Psychology Program at CESMAG University to review current curricula in order to identify in which courses and educational settings the development of soft skills is being addressed, and to what extent this approach is intentional, systematic, and evaluated. The evidence available in the Latin American literature suggests that the

integration of these competencies into the university curriculum is often incidental and unplanned, which limits their impact on students' holistic development (Guerra-Báez, 2019; González et al., 2021). Finally, regarding the issue of obtaining a better measure less prone to social desirability bias, it is advisable to move toward assessment techniques that complement self-report methods (for instance, peer assessment, direct observation, 360° evaluation). Mixed-methods designs that integrate psychometric measurement with qualitative approaches (e.g., interviews, focus groups) can yield complementary information regarding the phenomenon and instrument validity. This study contributes methodologically and empirically to the measurement of soft skills in Latin American universities, paving the way for future research with a broader scope.

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