



Revista de Estilos de Aprendizaje / Journal of Learning Styles
ISSN: 1988-8996 / ISSN: 2332-8533

Self-perceived soft skills in Spanish healthcare university students: Implications for curricular development

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Received: 28 October 2025 / Accepted: 30 March 2026

Abstract

Background: Soft skills are essential for effective practice in healthcare professions but are often underrepresented in university curricula. Limited evidence exists regarding Spanish health science students' perceptions and educational needs in this domain. **Objective:** To assess self-perceived soft skills and identify associated educational gaps among Spanish healthcare undergraduates. **Material and methods:** A descriptive cross-sectional study was conducted using a custom Likert-scale questionnaire among 134 students from various health science degrees. Descriptive statistics and nonparametric group comparisons (Kruskal–Wallis test) were performed. **Results:** Most participants expressed strong agreement with their choice of profession and recognized the relevance of clinical roles. However, moderate self-assessment was reported for leadership (median = 4) and public speaking skills (median = 3). Increased stress was attributed to university demands and placements, with 41.8% rating stress as moderate and significant differences evident by academic year ($p = 0.026$ for professional qualification; $p = 0.048$ for stress during placements). **Conclusions:** Spanish healthcare undergraduates value soft skills yet report moderate proficiency in leadership, communication, and stress management. Further research is required to be able to make claims and recommendations on this content.

Keywords: self-perception; soft skills; professional competencies; interpersonal communication; leadership; stress management; undergraduate health-science students

[es] Habilidades blandas autopercibidas en estudiantes universitarios de ciencias de la salud en España: implicaciones para el desarrollo curricular

Resumen

Introducción: Las habilidades blandas son esenciales para una práctica eficaz en las profesiones sanitarias, pero suelen estar poco representadas en los planes de estudio universitarios. En España,

existe escasa evidencia sobre las percepciones y necesidades educativas de los estudiantes de ciencias de la salud en este ámbito. **Objetivo:** Evaluar las habilidades blandas autopercibidas e identificar brechas educativas entre estudiantes de grados en ciencias de la salud en España. **Material y métodos** Estudio descriptivo transversal mediante cuestionario tipo Likert, con una muestra de 134 estudiantes de distintas titulaciones sanitarias. Se realizaron análisis descriptivos y comparaciones entre grupos mediante la prueba de Kruskal-Wallis. **Resultados:** La mayoría expresó acuerdo con su elección profesional y reconoció la relevancia de los roles clínicos. Sin embargo, la autoevaluación fue moderada en liderazgo (mediana = 4) y expresión oral (mediana = 3). El 41,8% calificó el estrés como moderado, atribuido a las exigencias académicas y prácticas. Se observaron diferencias significativas por curso académico ($p = 0,026$ en percepción profesional; $p = 0,048$ en estrés durante prácticas). **Conclusiones:** Los estudiantes valoran las habilidades blandas, pero reportan competencia moderada en liderazgo, comunicación y gestión del estrés. Se requiere mayor investigación para fundamentar recomendaciones educativas en este ámbito.

Palabras clave: autopercpción; competencias profesionales; habilidades interpersonales; estudiantes de ciencias de la salud; liderazgo; comunicación; estrés psicológico

Summary: 1. Introduction. 2. Methodology. 3. Results. 4. Discussion. 5. Conclusions. 6. References.

Sumario: 1. Introducción. 2. Metodología. 3. Resultados. 4. Discusión. 5. Conclusiones. 6. Referencias.

1. Introducción

In contemporary health sciences, there is a growing awareness that technical proficiency alone does not ensure professional excellence. The true hallmark of effective healthcare practice lies in the so-called *soft skills*—those interpersonal and emotional abilities that sustain meaningful communication, empathy, teamwork, and leadership (Sancho-Cantus et al., 2023). In a world where healthcare professionals face increasing demands for efficiency and compassion, these competencies have become as indispensable as clinical knowledge itself (Stefanovski, 2020).

Soft skills are often the invisible language of care. They transform a routine consultation into a human encounter, allowing professionals to connect with the vulnerability of those they serve. They also determine the quality of relationships within healthcare teams, influencing collaboration, safety, and the overall emotional climate of the workplace (Alan et al., 2022; Bohorquez-Gongora et al., 2023). Yet, in spite of their undeniable value, university education in health sciences has traditionally prioritised technical mastery over human development. This imbalance can leave students feeling unprepared to navigate the complexity of contemporary clinical environments.

The importance of these abilities becomes even more evident in patient-centred care models, where communication and emotional awareness are at the heart of therapeutic success (Succi & Canovi, 2020). Practitioners who cultivate empathy, active listening, and cooperative problem-solving not only improve clinical outcomes but also contribute to a sense of trust and well-being among colleagues and patients alike (Alan et al., 2021). For students—future professionals in the making—these skills underpin confidence, adaptability, and resilience; they are the emotional tools that sustain meaningful interaction and protect personal well-being when faced with stress or uncertainty.

In parallel, recent studies in health sciences education have examined how soft skills are acquired and perceived in different learning contexts. For example, the study by Naamati-Schneider and Alt shows that, among health management students, feeling that they have developed competencies such as communication or teamwork is linked to greater commitment to their degree programme, reinforcing the idea that soft skills are central to the educational experience rather than a peripheral add-on (Naamati-Schneider & Alt, 2025). Similarly, Galán-Díaz and colleagues focus on the development and validation of a self-assessment tool that allows physiotherapy students to reflect on their humanising competencies during clinical placements, advancing the evaluation of these skills in real practice settings (Galán-Díaz et al., 2025). Mahadevan et al. also report that a massive open online course specifically designed to foster communication and interpersonal abilities can improve knowledge, confidence and attitudes in healthcare professionals, highlighting the potential of structured, targeted interventions (Mahadevan et al., 2024). Collectively, these works underline that educational strategies such as self-assessment tools, simulation activities and online courses can

strengthen communication, teamwork and other transversal competencies, while emphasising the need to integrate these skills more systematically into health sciences curricula.

Despite the increasing global recognition of soft skills, a few studies have examined how university students in Spain's health sciences perceive their own development in this domain. Some precedents exist. In the context of physiotherapy education, Hernández-Xumet et al. (2023) have examined empathy and assertiveness in undergraduate students, while subsequent work by the same group has shown that empathy and assertiveness levels may change over the course of clinical placements and that higher assertiveness is associated with lower personal distress (Hernández-Xumet et al., 2023, 2024). Although these contributions offer valuable insights into soft skills in health professions education, the available evidence does not yet provide a detailed picture of how students in Spanish health science degrees perceive their own soft skills or the educational needs they identify (Zambrano-Chamba et al., 2023).

Recent initiatives, such as the TeamSIM programme or online ethics and communication courses for public health students, have shown that structured interventions can foster teamwork, leadership, and interpersonal competence (Kolbe et al., 2023). Still, teaching and assessing these skills consistently within higher education remains a challenge.

Healthcare users often face complex, emotionally charged situations that demand sensitivity, patience, and self-regulation from professionals. Developing these capacities is not only essential for patient welfare but also for the practitioner's own psychological balance and professional sustainability, as suggested by studies linking emotional demands, self-care and burnout in healthcare professionals. Without them, competence risks becoming fragile, limited to the technical domain (Adnan et al., 2022; De Hert, 2020).

Nevertheless, little is known about how students actually perceive their strengths and weaknesses in these abilities. Understanding their self-assessment is a crucial step toward designing more humanistic and socially responsive curricula.

From the perspective of learning styles, students' preferences regarding how they approach tasks and engage with teaching activities may influence the way soft skills are developed and consolidated over time. Active methodologies, cooperative work and clinical simulation—closely linked to certain learning styles—have been described as particularly useful strategies for promoting communication, empathy, leadership and resilience in health sciences students. Exploring self-perceived soft skills can therefore provide relevant information for aligning learning styles, teaching methods and curricular decisions in health sciences degrees.

In recent years, several conceptual models have emerged to guide the development of soft skills in healthcare education, such as the SECTORS model, which emphasizes situated cognition, simulated learning, and patient safety as key elements for effective acquisition of these competencies. Incorporating these theoretical frameworks helps position the current study within an international and evidence-based context and reinforces its relevance for the field of health sciences education (Gordon, 2013).

In this context, it becomes necessary to generate evidence on how health sciences students in Spanish universities perceive their own level of soft skills and what educational needs they identify throughout their training. The present study aims to analyse the self-perception of soft skills among students from different university health science degrees in Spain and to identify educational needs that could guide curricular development. Specifically, we seek (a) to examine differences in self-perceived soft skills according to degree, academic year and gender, and (b) to identify priority areas for improvement that may inform the design and implementation of teaching and assessment activities aimed at strengthening these competencies within health sciences curricula.

2. Material and Methods

2.1. Study Design

A descriptive cross-sectional study was conducted to explore the self-perception of soft skills among undergraduate health science students in Spain. The research design was conceived to provide a snapshot of students' experiences at a given moment, acknowledging the complexity of their academic, emotional, and professional contexts. The study followed the guidelines of the *Strengthening the Reporting of Observational Studies in Epidemiology* (STROBE) statement (von Elm et al., 2007) and adhered to the ethical standards outlined in the *Declaration of Helsinki* (Association,

2013). Ethical approval was obtained from the Research Ethics Committee of the Rey Juan Carlos University (internal registration number: 100420242492024).

Data were collected through an anonymous online questionnaire created specifically for this research. Participation was entirely voluntary. The survey combined factual questions with Likert-type items to capture nuanced aspects of self-perceived competence and well-being.

2.2. Participants

Eligible participants were students aged 18 years or older, currently enrolled in any health science degree (e.g., nursing, physiotherapy, occupational therapy, medicine, human nutrition and dietetics, or dentistry) within Spanish universities. The recruitment process began by contacting the academic coordinators of several degrees in Castilla y León, who then disseminated the invitation to participate via institutional email and social media. The inclusion criteria required that participants understood Spanish and completed the questionnaire in full; exclusion criteria were minimal to preserve representativeness.

A nonprobabilistic convenience sample, though limited in representativeness, was chosen given access constraints. Efforts to reduce selection bias included broad dissemination to several universities and promotion via digital platforms.

2.3. Instrument

The data collection instrument was an online questionnaire designed by the research team based on existing soft-skills frameworks in higher education (Albertos & Perines, 2024; Organización Mundial de la Salud, s.f.). It included socio-demographic variables (gender, degree, academic year) and items measuring self-perceived professional competence, teamwork, communication, leadership, stress, and time management. Responses were rated on a five-point Likert scale (1 = Strongly disagree to 5 = Strongly agree), allowing for the expression of subtle attitudinal differences.

To facilitate interpretation, scores on the five-point Likert scale can be understood as follows: values around 3 indicate a neutral or moderate self-assessment, while values ≥ 4 reflect a positive perception of competence or agreement with the statement. Accordingly, median values of 3 denote moderate comfort or preparedness, whereas medians of 4 suggest generally favourable self-perceptions with varying levels of dispersion.

To ensure clarity and reliability, a pilot test was conducted with a small group of health science students ($n=10$) who evaluated readability and relevance. Minor linguistic and sequencing adjustments were made accordingly. Cronbach's alpha coefficient for internal consistency was 0.51, indicating limited reliability; this is a key limitation of the instrument requiring cautious interpretation of results. Future research should use previously validated scales or undertake formal validation processes.

2.4. Data Collection Procedure

Data collection was carried out between June and November 2024 using Microsoft Forms 365. Responses were automatically registered in an encrypted database accessible only to the research team. No personal identifiers were collected, thus guaranteeing anonymity. Participants were required to tick a consent box confirming that they had read and understood the study information before proceeding with the survey.

The sequential steps followed during the implementation of the study are summarised in Figure 1, from questionnaire design and ethical approval to dissemination, student participation, and subsequent data processing.

2.5. Data Analysis

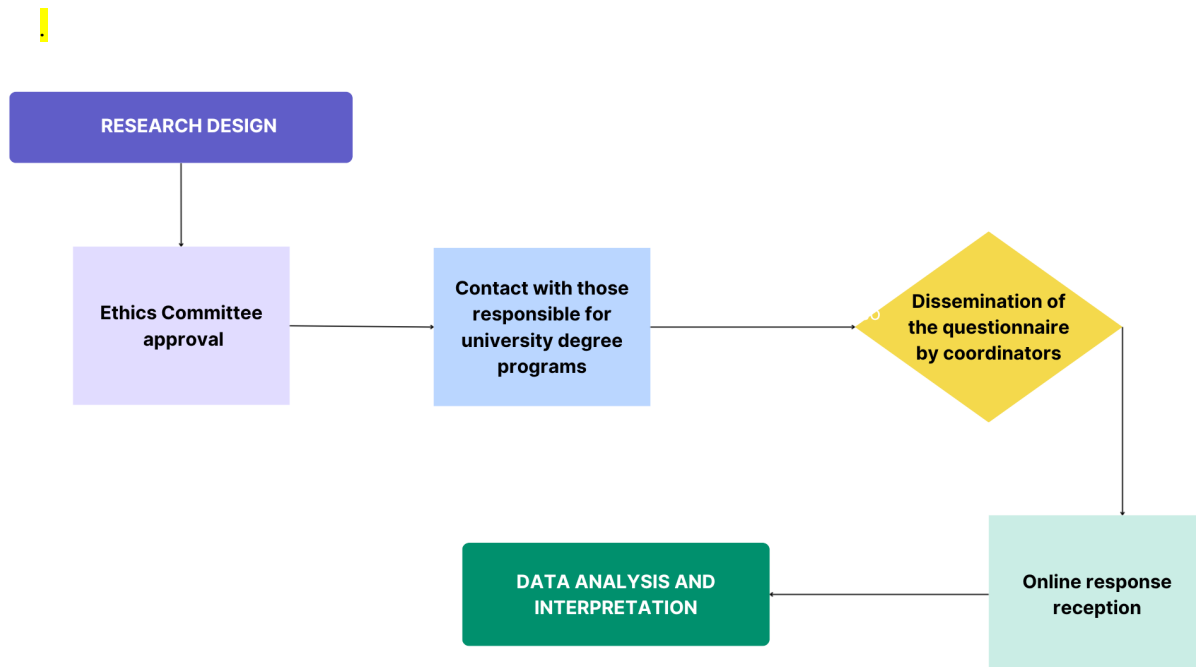
Collected data were cleaned and organized in Microsoft Excel prior to statistical analysis using SPSS Statistics version 28. The Shapiro–Wilk test was used to verify normality, revealing that Likert items did not follow a normal distribution ($p < 0.001$). Consequently, non-parametric tests were selected. Descriptive statistics (frequencies, medians, and interquartile ranges) were computed for all variables. The reliability of the scale was assessed via Cronbach's alpha.

Comparisons between independent groups were performed using the Kruskal–Wallis H test to explore differences by degree and academic year. Significance was set at $p < 0.05$. This analytical

framework, although modest in scope, offers an honest reflection of data derived from real educational environments—complex, imperfect, but deeply human in their variability.

Figure 1.

Schematic overview of the study procedure, including questionnaire design, ethical approval, dissemination process and data analysis steps



2.6. Summary of Ethical Considerations

The study was approved by the institutional ethics board prior to its implementation, ensuring compliance with national data protection laws (Regulation EU 2016/679). Participation was voluntary, with explicit informed consent obtained electronically from all respondents.

Data management strictly adhered to the latest European and national regulations on data protection, including secure storage and restricted access protocols. The study was conducted in full compliance with the ethical standards of the Helsinki Declaration and institutional review procedures.

3. Results

The internal consistency of the custom instrument was low (Cronbach's $\alpha = 0.51$), indicating limited reliability across items. As such, results should be interpreted as item-level indicators rather than as robust composite subscales. This limitation particularly affects constructs involving multiple items (e.g., leadership, stress management), where variability may partly reflect measurement limitations rather than true differences between groups.

A total of 134 undergraduate healthcare students from Spanish universities responded to the survey, with a marked predominance of females (78.4%) and first-year students (35.1%). The professions represented were primarily nursing, physiotherapy, and human nutrition, reflecting the gender imbalance characteristic of health-related programs in Spain. Participant characteristics are summarized in Table 1 and Figure 1.

Table 1.

Sociodemographic and Academic Characteristics of Participants

Variable	n (%)
Total Participants	134 (100%)
Gender	

Female	105 (78.4%)
Male	27 (20.5%)
Other/Not disclosed	2 (1.1%)
Degree	
Nursing	32 (23.9%)
Physiotherapy	27 (20.1%)
Human nutrition & dietetics	27 (20.1%)
Occupational therapy	20 (14.9%)
Dentistry	10 (7.5%)
Optics & optometry	6 (4.5%)
Pharmacy	1 (0.7%)
Podiatry	2 (1.5%)
Medicine	5 (3.7%)
Other	4 (3.0%)
Academic Year	
First	47 (35.1%)
Second	26 (19.4%)
Third	27 (20.1%)
Fourth	31 (23.1%)
Fifth	0 (0.0%)
Sixth	3 (2.2%)
Place of Study	
Castilla y León	130 (97.0%)
Other regions	4 (3.0%)

Participants generally affirmed a positive professional choice and perceived utility of their future clinical roles, as evidenced by strong agreement (median scores ≥ 4) in items addressing vocational certainty and career relevance. Nonetheless, self-assessment regarding leadership and team management was moderate, with only 14.9% “strongly agreeing” to feeling prepared for team leadership and a sizable proportion expressing neutrality or uncertainty (median ~ 4). Comfort with public speaking trailed behind, with a notable split between moderate and low ratings (44% “agree”; 18.7% “disagree”). Core Likert-scale responses and statistically significant differences by degree and academic year are detailed in Table 2.

Regarding stress management, university demands emerged as significant stressors, with 39.6% endorsing increased stress and 41.8% classifying the experience as “moderate” (median = 4). External placements produced similar variability in stress levels, and over half of the respondents reported emotional destabilization related to academic or practical activities. The analysis revealed significant associations between academic year and perceived ability for future employment ($p=0.026$) as well as stress from internships ($p=0.048$). The internal consistency of the custom Likert-scale instrument proved modest (Cronbach’s $\alpha = 0.51$), highlighting limitations in instrument reliability and indicating the need for future validation work.

Although Kruskal–Wallis tests revealed significant differences by academic year, no post hoc pairwise comparisons were conducted. Therefore, the specific groups responsible for the observed differences cannot be identified and the significant effects should be interpreted with caution.

To better illustrate the distribution of stress-related outcomes, Figure 2 presents the dispersion of stress specifically related to practical placements across academic years. These boxplots reveal that while the median score remains moderate (median=3), there is a notable increase in variability and higher stress levels as students progress toward their final years, confirming the statistically significant difference observed ($p=0.048$). This visualization addresses the need to understand the declining confidence or rising pressure beyond simple central tendencies.

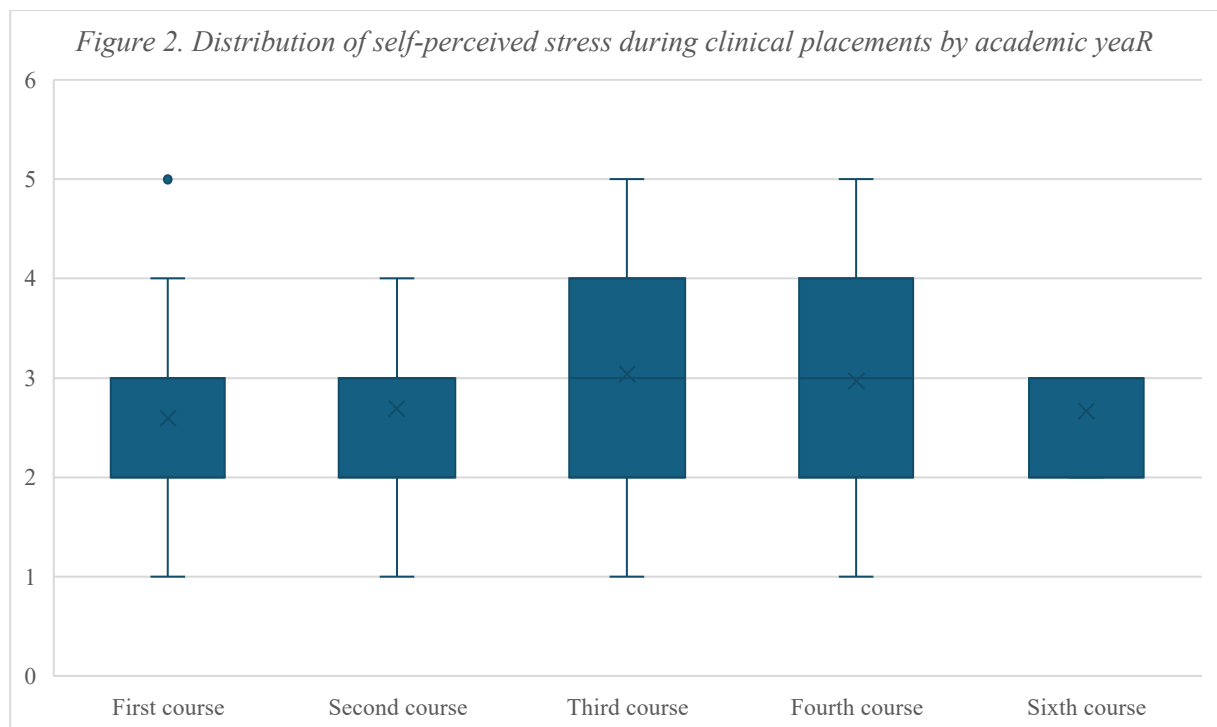
Additionally, Figure 3 illustrates the distribution of students' self-perceived qualification for their future profession. While first-year students often report high vocational expectations, the boxplot reveals a significant shift in perceived competence as they progress through the curriculum ($p= 0.026$).

This visualization highlights the gap between initial professional identity and the practical readiness felt during the final stages of the degree.

Table 2.

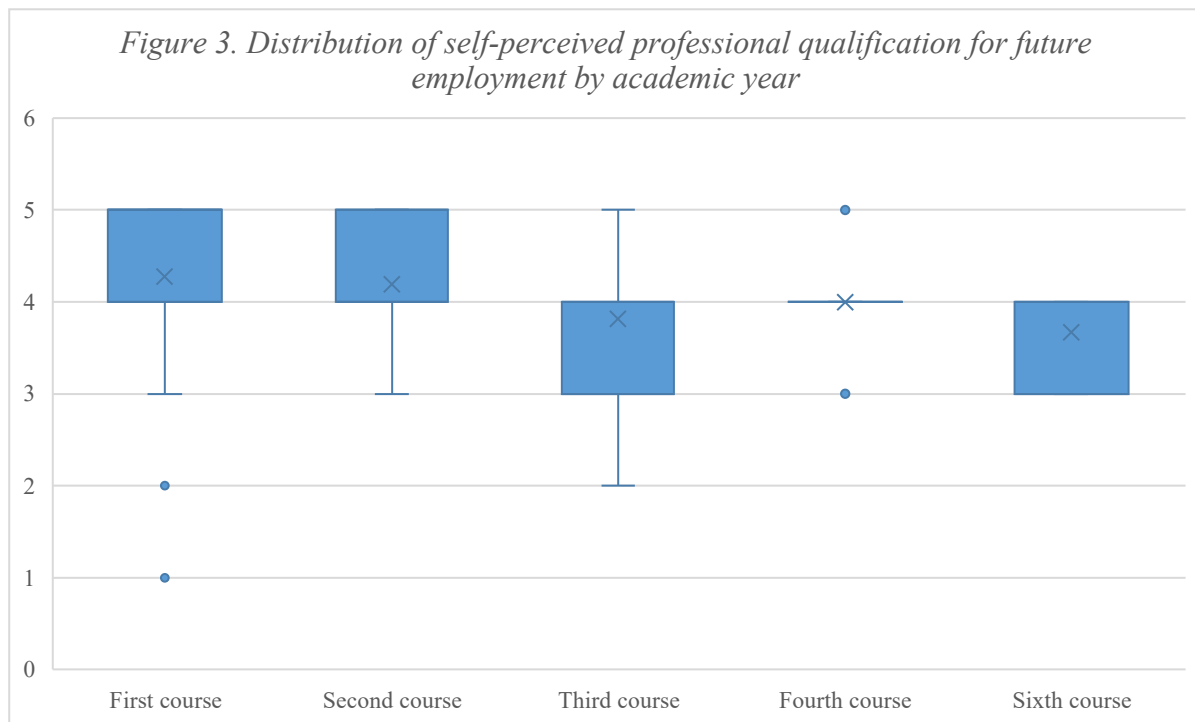
Summary of Core Likert Scale Responses and Statistically Significant Group Differences

Item/Question	Median (IQR)	Significant Difference by Degree	Significant Difference by Year
Chosen right degree (abilities/interests)	4 (3–5)	No	No
Perceived qualification for future profession	4 (3–4)	Yes (p = 0.034)	Yes (p = 0.026)
Team leadership preparedness	4 (3–4)	No	No
Public speaking comfort	3 (2–4)	No	No
Interaction in group work	4 (3–4)	No	No
University-induced stress	4 (3–4)	No	No
Stress from placements (internships)	3 (2–4)	No	Yes (p = 0.048)
Emotional destabilization from stress	3 (2–4)	No	No
Considering work in private companies	3 (2–4)	No	Yes (p = 0.001)
Considering competitive exam	3 (2–4)	No	Yes (p = 0.001)
Considering entrepreneurship	3 (2–4)	No	No



*Note: Data are presented as box-and-whisker plots where the central horizontal line indicates the median, the box represents the interquartile range, and the whiskers show the overall range of

responses. *Interpretation Guide: Values are based on a 5-point Likert scale where 1=Strongly disagree (low stress), 3= eutral/Moderate, and 5=Strongly agree (high stress). *Finding: The plot highlights the rising stress levels in the 4th year compared to the 1st year ($p = 0.048$).



Note: The vertical axis displays a range up to 6 due to software charting defaults; however, the data collection was strictly limited to a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The boxes represent the interquartile range and the horizontal line indicates the median score.

Overall, these patterns point to potential educational needs in areas such as leadership, communication, and stress management, given the moderate levels reported by students. Although descriptive, these findings allow the identification of curricular elements that may require greater pedagogical support. These aspects are further explored in the Discussion in relation to current training programmes.

3. Discussion

This study provides a unique window into healthcare students' self-perceptions of soft skills—a realm that quietly shapes professional excellence, yet all too often remains in the shadow of technical training. The breadth of the data, encompassing multiple disciplines and academic stages, is noteworthy and offers an authentic reflection of undergraduate realities in Spain. It is precisely the human variability and complexity captured here that embellishes the significance of these findings and places them at the heart of educational innovation.

This emphasis on individual variability is echoed in recent research on vocational health students in Spain, where reflective and theoretical learning styles were predominant, and academic self-concept emerged as a significant predictor of performance (Márquez Hernández & Caballero García, 2024). These findings reinforce the importance of understanding students' cognitive and emotional profiles to tailor educational strategies that foster both academic success and personal development.

Further support for this approach comes from Sánchez-García et al. (2025), who conducted a multivariate analysis of thinking styles among university students using the Thinking Styles Inventory (TSI). Their study revealed significant differences in cognitive preferences based on gender and academic discipline, including among students in health sciences. For instance, male students in this field showed a tendency toward global and liberal thinking styles, while female students leaned toward oligarchic and structured styles. These distinctions mirror the self-assessed emotional and communicative competencies observed in our cohort and underscore the need to align soft skills training with students' cognitive profiles

Comparing these results to existing literature, several convergences and divergences emerge. Zambrano-Chamba et al. (2023) documented similar trends, with students expressing greater satisfaction towards theoretical soft-skills training than toward the practical application thereof. Other authors found higher empathic concern in female physiotherapy students, a nuance mirrored in the current cohort's gender distribution and self-assessed communication abilities (Sağlık Bilimleri et al., 2024; Yucel, 2024). Prior interventions such as TeamSIM and multi-university ethics programs have demonstrated that structured curricular efforts enhance teamwork and emotional regulation, echoing the moderate but not yet optimal scores observed here (Greenberg et al., 2022).

The overall moderate levels of confidence and stress management recorded in this study align with recent European findings, which emphasize an enduring challenge for healthcare education to bridge the gap between technical mastery and emotional competence (Gottlieb et al., 2022; Stamouli & Gerbeth, 2021). These findings also resonate with broader concerns in health education regarding emotional resilience. As highlighted in recent editorial work on dental education, students face considerable stress linked to clinical demands, academic pressure, and patient interactions. The authors advocate for integrating stress management programs into the curriculum, emphasizing that professional competence must include psychological well-being. This aligns with the moderate levels of stress management observed in our cohort and reinforces the call for holistic educational strategies that support both technical and emotional development (Navarrete Marabini et al., 2022).

The moderate levels of self-perceived leadership and communication skills found in our study are consistent with recent international literature that highlights persistent gaps in healthcare curricula. Specifically, in the field of dental education, Kodali et al. (2025) emphasize that while technical proficiency is high, there is a critical need to formalize soft skills training to meet the complex emotional demands of patient care. This supports our findings where dentistry students, among others, reported a need for greater confidence in professional interactions.

Furthermore, the educational needs identified by our participants regarding public speaking and stress management reflect broader systemic omissions. As noted by Kronemann et al. (2024) in their study of medical curricula, essential 'soft' topics are often sidelined in favor of technical content, leaving students feeling underprepared for the socio-emotional realities of general practice. This misalignment between academic focus and professional requirements is a recurring theme that transcends the Spanish context.

To address these gaps, structured pedagogical interventions have proven effective. For instance, Hache et al. (2022) demonstrated that targeted workshops on patient-centered communication significantly improve students' perceived competence and practical skills. Integrating such evidence-based workshops longitudinally, as suggested by our results, could help bridge the gap between vocational theory and clinical readiness.

The practical applicability of this study's results is direct and persuasive. Curricular reinforcement in leadership, communication, and emotional management should be prioritized across health science programs. Faculty may consider integrating longitudinal workshops, simulation-based modules, and interprofessional learning environments designed to cultivate these non-technical core competencies. Students with strengthened soft skills stand not only to improve clinical outcomes but also to foster more adaptive, resilient professional identities in the face of an ever-evolving healthcare system.

Practically, implementing evidence-based soft skills training will not only benefit students—by enhancing their employability, adaptability, and leadership—but also empower faculty to design curricula attuned to professional realities. Education managers are positioned to leverage these findings for policy improvement and institutional reform, ultimately fostering a workforce resilient to the dynamic challenges of contemporary healthcare.

Furthermore, although the study is exploratory, the patterns observed—particularly the moderate self-ratings in leadership, communication, and stress management—offer preliminary indications of specific areas where undergraduate health-science programmes might consider strengthening instructional strategies. These findings provide an initial basis for reflecting on how soft-skills training could be integrated more explicitly and progressively throughout the curriculum.

Several limitations must be acknowledged candidly. The sample size was moderate and concentrated in a single autonomous community, with some disciplines and academic years underrepresented, limiting generalizability. The Likert instrument suffered from low internal consistency, underscoring the urgency for future research to employ validated, robust scales and

potentially mixed methods for deeper exploration. The modest reliability indicated by Cronbach's alpha suggests that certain dimensions of self-perceived competence may have been underestimated or overlooked. This limitation cautions the interpretability of individual item scores and underscores the need for validated instruments in future research. Social desirability bias may also have influenced self-reported perceptions, as in most questionnaire-based investigations.

Although the findings must be interpreted cautiously due to the limitations of the instrument and the sample, they offer initial insights into areas where soft-skills development may require additional curricular support. In particular, the moderate levels reported in leadership, communication, and stress management suggest potential targets for strengthening teaching and learning strategies in undergraduate health-science programmes.

Future lines of inquiry should expand the sample size, diversify participant backgrounds, and integrate validated measurement tools. Comparative studies involving urban and rural contexts, as well as longitudinal designs, would enrich our understanding of developmental trajectories and contextual variables. Enhanced collaboration between academic institutions could spearhead multi-center initiatives in soft skill assessment and training. In this regard, the use of multivariate techniques such as HJ-Biplot and Clúster HJ-Biplot, as demonstrated by Sánchez-García et al., offers a promising methodological avenue for visualizing and interpreting complex cognitive-emotional data in educational research.

4. Conclusion

This exploratory study provides a preliminary description of how Spanish undergraduate healthcare students perceive their soft-skills development. Overall, students recognised the importance of these competencies but reported only moderate levels of confidence in areas such as leadership, communication, and stress management. Some differences across academic years emerged, although these findings should be interpreted with caution due to the limited reliability of the instrument and the characteristics of the sample.

Given these constraints, the results should be understood as indicative rather than definitive. Even so, they suggest that soft-skills development may not be fully consolidated throughout undergraduate training and that students may benefit from greater curricular support in this area.

While limited in scope, the results offer a preliminary basis for considering how soft-skills training might be strengthened within undergraduate health-science curricula.

Future studies using validated instruments, larger and more diverse samples, and longitudinal or multi-centre designs are needed to confirm these patterns and provide stronger evidence to guide curriculum design in health-profession education.

While exploratory, these findings may help inform future curricular reflections aimed at strengthening students' interpersonal and emotional competencies throughout their training.

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Funding

This research received no external funding.

Acknowledgments

We would like to express our sincere gratitude to the academic coordinators and program directors who supported the dissemination of the questionnaire across the participating degree programs. We are also deeply thankful to the students who took the time to complete the survey, whose contributions were essential to the success of this research.

Conflict of interest

There is no conflict of interest between the authors

Author Contributions

The authors contributed equally to this article. The first and last authors have contributed 40% of the work carried out, the third author the remaining 20%.



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