

# Perceptions of Physical Activity and Sport Science students on professional competences for labor practice

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## ABSTRACT

Universities have a paramount goal of equipping students comprehensively for their impending professional journeys. A recognized method to achieve this objective is by nurturing students' professional competences. It is therefore valuable to ascertain whether this broad group of competences is being developed in students throughout the course of their studies. This article delves into the perceptions of students enrolled in Physical Activity and Sport Science university programs regarding the salient professional competences pivotal for their future careers, along with gauging the extent of development of each competence. Employing a cross-sectional quantitative design, this study engaged 166 participants from the University of Castilla-La Mancha (Spain) that completed an online questionnaire created ad hoc. Principal findings unveil that individuals with work experience discern social skills/interpersonal relations, teamwork, and oral and written communication as the most honed competences. Conversely, competences encompassing initiative and entrepreneurial spirit, working in an international context, and information management skills exhibit relatively lower development levels. Notably, noteworthy disparities surface between those with prior professional exposure and their inexperienced counterparts. Additionally, students in their third and fourth academic years perceive a more evolved skill set compared to their peers in the initial year of study.

## KEYWORDS

Professional Competencies; Physical Activity and Sport Sciences; Higher Education; Labor Market; Employability

## 1. INTRODUCTION

Higher Education institutions play a crucial and increasingly significant role in the domain of employability (Bennett et al., 2020). In the 21st century, universities continually grapple with the challenges of effectively preparing students for today's knowledge-based society and the ever-evolving job landscape (Amor & Serrano-Rodríguez, 2018; Vidal-Villaplana et al., 2023). This responsibility becomes even more critical in the aftermath of the disruptions caused by the SARS-CoV-2 pandemic (Talib et al., 2021; Ratten & Geoff, 2021), particularly those associated with the digital realm (e.g., virtual reality, the advent of social media, Artificial Intelligence), which has created a dynamic and rapidly changing world that future professionals must be adequately equipped to navigate (Scoupe et al., 2023; Weese et al., 2022). Consequently, there is an imperative for educational establishments to prioritize the provision of a robust foundational education, focusing on the development of generic and transferable competencies applicable across various study plans and curricula (Le Boterf, 2000).

In the context of Spanish Higher Education, the introduction of new degree programs necessitates that students acquire a comprehensive set of competencies and skills throughout their training (Campos-Izquierdo & Martín-Acero, 2016). These competencies enable them to gain the essential knowledge, attitudes, and skills—both personal and professional—required for successful practice in their chosen professions (Pazo & Tejada, 2012). Moreover, in the field of Physical Activity and Sport Sciences (PASS), the range and diversity of these skills are even more extensive (Campos-Izquierdo, 2019). Accordingly, any study intending to explore the relationship between PASS and the labor market must establish the framework within which this interaction takes place (Lavega-Burgués, 2008). However, some of the literature highlights a significant disparity between the competencies with which graduates have been educated and the continually evolving demands of the labor market (Scoupe et al., 2023; Tan et al., 2022).

Competency-based learning designs aim to ensure that individuals develop versatile capabilities, enabling them to learn and adapt throughout their lives to cope with dynamic situations (Cano García, 2008). As people may change jobs or even professions over time, possessing a diverse set of knowledge, skills, and attitudes becomes crucial in facilitating the necessary flexibility. Competency-based approaches to professional success encompass various knowledge, skills, and attitudes, incorporating talents and intelligences that have traditionally been overlooked in formal education systems.

While previous studies have explored the perceptions of PASS graduates regarding potential training needs (Silva-Piñeiro, 2020), as well as those of industry workers (Campos-Izquierdo & Martín-Acero, 2016) in Spain, there is a gap in research specifically examining the post-pandemic context and the perceptions of PASS students during their studies. This research also aims to explore potential variations in perceptions based on factors such as the degree course pursued or the presence of previous work experience.

Given the uncertainties faced by students in the labor market and the necessity for a new educational perspective to equip them for their professional future, the primary objective of this study is to measure the level of awareness and perception among students regarding the development of professional competencies necessary for their careers within the sports sector during their university education. Through this investigation, the study seeks to bridge the gap between the academic world and the professional world for PASS students and enhance the employability of future graduates in the sports industry. The findings of this study carry both theoretical and practical implications, which are valuable to both the university educational community and the professional field of PASS.

### ***1.1. The European Higher Education Area and the competency approach***

To trace the roots of the competencies approach in Higher Education, we need to look back to the establishment of the European Higher Education Area (EHEA). This process marked a significant milestone with the Soborna Declaration in 1998 and was further solidified by the Bologna Declaration of 1999 (signed by twenty-nine European ministers of education from various countries), which initiated the renowned "Bologna Process" (ENIC-NARIC, n.d.). Currently, this collaborative platform encompasses 49 countries, fostering common educational reforms, promoting mobility among students and university staff, and striving for a more inclusive and accessible education. Additionally, the EHEA emphasizes employability and aims to enhance the global appeal and competitiveness of Higher Education in Europe (European Commission, n.d.).

The implementation of the EHEA has brought about a significant transformation in university degree programs. As stated in the Framework document on the Integration of the Spanish University System in the EHEA (Ministry of Education, Culture and Sports [MECD], 2003), official degree-level courses are now predominantly designed with a professional orientation. This approach aims to provide a comprehensive university education that seamlessly incorporates fundamental generic competencies, transversal competencies essential for the holistic development of individuals, and more specific competencies that facilitate a professional orientation, enabling graduates to

successfully integrate into the labor market. Likewise, Baker et al. (2017) highlight that international studies conducted in six European countries (United Kingdom, Spain, Germany, Czech Republic, France, and Greece) involving graduates and employers indicate the significance of strengthening the collaboration between higher education institutions and the professional world. This collaboration aims to jointly develop learning experiences for university students, focusing on the acquisition of generic competencies.

### **1.2. Conceptualization of the Term "Competencies"**

In the realm of Higher Education, employability and competencies have been explored from various perspectives. The contemporary concept of "competencies" emerged during the 1970s as a result of research aimed at identifying variables that could explain job performance (Villarroel & Bruna, 2014). Given its multifaceted nature, this concept has been a subject of debate, often criticized as vague and complex, which has affected its conceptualization, development, and the factors influencing its evolution (Jackson, 2012). For example, one area of contention lies in its etymological origin. Vigo Vargas (2013) highlights two possible origins: firstly, from Greek, derived from the verb "to compete" associated with the term *agón*, *agón/síes*, implying to encounter, respond, dispute, or emerge victorious; secondly, from Latin, derived from *competentia* which signifies belonging, concerning, or committing oneself to something, and from *competens* which was conceived as having the ability to do something.

Despite potential discrepancies concerning the origin of the term "competencies", the literature offers a plethora of definitions. For instance, Ojeda-Nahuelcura et al. (2023) describe generic competency as one that fosters the comprehensive development of individuals, encompassing both their intrapersonal growth and interactions with others. Additionally, other definitions propose that competencies entail an integrated practice of skills, personality traits, knowledge, and acquired values that are fundamental for functioning effectively in any social or professional setting (Delors et al., 1997; González & Wagennar, 2003). Derived from the notions of knowing, knowing how to do, and knowing how to be, competencies are developed and refined in action, within specific contexts and situations, enabling the adept resolution of familiar or unfamiliar work scenarios while remaining educable (Imbernón et al., 2011). This highlights the integral development of individuals, which transcends theoretical learning alone.

In attempting to establish a specific conceptualization of competencies in the workplace, the following definitions stand out as closely related to the concept of "professional competence":

- Competency is a learned ability to perform a task, duty, or role effectively. It comprises two distinct elements: its relevance is tied to specific work in a particular context, and it integrates various types of knowledge, skills, and attitudes. Competency is acquired through experiential learning or "learning-by-doing." Unlike knowledge, skills, and attitudes, competencies cannot be assessed independently. It is also essential to differentiate competencies from personality traits, which represent more stable characteristics of an individual (Roe, 2002).
- Competencies represent a dynamic combination of attributes encompassing knowledge and its practical application, attitudes, and responsibilities, which outline the learning outcomes of a given program or how students will develop by the end of the educational process (González & Wagenaar, 2003).
- Competencies refer to the ability to respond effectively to complex demands and perform diverse tasks with proficiency. They involve a combination of practical skills, knowledge, motivation, ethical values, attitudes, emotions, and other social and behavioral components that work together to achieve successful actions (Organization for Economic Cooperation and Development [OECD], 2000).

Le Boterf (2000) emphasizes that "competence" is not a mere amalgamation of fragmented knowledge or isolated skills; rather, it is an integrated entity that is not directly transmitted. Instead, competence is constructed by the learner-subject through a series of learning activities that draw upon multiple specialized knowledge areas. According to this author, a competent teacher possesses the ability to construct proficient knowledge and effectively manage increasingly complex professional situations. This approach to professional competencies highlights the active roles of both students and teachers, challenging the traditional educational system's objective-based structure, its fragmentation, and its limited emphasis on meaningful learning. Instead, it encourages a more holistic and comprehensive perspective on competence development in education.

### ***1.3. Generic competencies of undergraduate graduates and PASS students***

The projects "Tuning Educational Structures in Europe" (González & Wagennar, 2003) and "Tuning Latin America - América Latina" (Beneitone et al., 2007; Serrano-Rodríguez et al., 2020) conducted research among graduates, professionals, and academics to ascertain their views on the degree of competency and skill development acquired during university studies and their significance for their training. Based on this research, thirty generic competencies were selected, the acquisition of which enhances university graduates' employability. These competencies are categorized as follows:

1. Instrumental competencies: encompass a combination of manual and cognitive skills that enable specific outcomes. For instance, the use of information and communication technology (ICT) and oral and written communication.
2. Interpersonal competencies: facilitate the expression of emotions and feelings, critical and social skills, the development of social and ethical commitment, and teamwork capabilities.
3. Systemic competencies: involve comprehension skills, sensitivity, and knowledge that form a cohesive whole and are related to adaptability, creativity, and other traits.

These competencies share a striking resemblance to the competencies outlined in the “Libro Blanco del título de Ciencias de la Actividad Física y del Deporte” published by the Spanish National Agency for Quality Assessment and Accreditation (ANECA) (2005). ANECA categorizes them into instrumental, personal, and systemic competencies. These competencies were identified through a survey conducted among teachers and professionals in the field of PASS, utilizing an instrument designed by ANECA itself, following the model of the Tuning project (Beneitone et al., 2007; González & Wagennar, 2003). The evaluation was considered comprehensive since it aimed to contrast the perspectives of both the academic and professional realms.

More recently, Scoupe et al. (2023) measured the extent to which students possess the competencies required for employability as a graduate. After reviewing literature on employability, human resources, and Higher Education, the authors proposed a multidimensional approach to these professional competencies, incorporating the following seven dimensions: 1-Experience-based competencies (communication, critical thinking, problem-solving); 2-Social competencies (interpersonal skills, networking, collaboration); 3-Emotional regulation (identifying and communicating emotions, self-management, and problem-solving); 4-Metacognitive competencies (students' ability to evaluate their professionalism, competencies, and prospects for professional development); 5-Efficacy beliefs (achievement-oriented actions in professional and personal tasks); 6-Lifelong learning; 7-Flexibility and work-life balance.

Authors such as Pazo and Tejada (2012) and Schlesinger et al. (2016) have emphasized the significance of generic competencies for PASS professionals, as they play a vital role in achieving optimal performance at work. These competencies are considered fundamental by institutions in the initial training of professionals in the domains of Physical Education and PASS, leading to several studies that have significantly contributed to understanding the competency approach in PASS training (Schlesinger et al., 2016; Tsitskari et al., 2017). Finally, Ojeda-Nahuelcura et al. (2023) suggest that considering the training programs of current educators, generic competencies play a

crucial role in the job performance of professionals in Physical Education and PASS. Regarding practitioners' training, interpersonal relations emerge as one of the most highly valued competencies, along with teamwork, problem-solving, ethical commitment, interpersonal skills, and autonomous learning.

#### ***1.4. The significance of curricular internships in fostering the development of professional competencies***

In an endeavor to offer university students learning experiences aimed at fostering professional competencies, several studies have underscored the significance of students engaging in practical workplace experiences during their university education (Higson & Parkes, 2006). This form of internship provides students with their initial exposure to the professional realm, intending to connect specific learning objectives with the practical realities of the job market and thereby facilitating greater skill development during this process. Such experiences hold considerable value for students, significantly enhancing their understanding of these professional competencies and contributing to their growth. Moreover, Leiva (2004) observed that students with prior work experience demonstrated a stronger inclination toward entrepreneurial competencies compared to those without such background. Along similar lines, González-Serrano et al. (2017) established that students who had engaged in practical experiences during their degree displayed enhanced ease in securing employment after graduation. Additionally, educators themselves acknowledge the worth of internships. Álvarez-Arregui et al. (2008) surveyed teaching professors and highlighted their strong consensus on the importance of bolstering both general cross-disciplinary and specific competencies through practical training. Given the potential of professional internships, it is unsurprising that universities utilize them as a conduit for furnishing students with hands-on experience in the professional sphere and preparing them for their forthcoming careers (Moghaddam, 2011).

## **2. METHODS**

### **2.1. Design and Participants**

This research employed a quantitative cross-sectional design with a convenience sample. The studied sample comprised 166 students from the four years of the undergraduate degree in PASS at the Universidad de Castilla-La Mancha. Among them, 75.90% (n=126) were male, and 24.10% (n=40) were female, with a mean age of 20.34 (SD=1.38) years. Regarding the distribution across academic years, 19.90% (n=33) were in the first year, 24.70% (n=41) in the second year, 30.10%

(n=50) in the third year, and 25.30% (n=42) in the fourth year. In terms of work experience, 56.60% (n=94) of the students had prior work experience, while the remaining 43.40% (n=72) did not.

## 2.2. Instrument

The measurement instrument used in this study was an *ad hoc* questionnaire comprising 15 questions. It consisted of eight questions relating to sociodemographic aspects, including work experience and international mobility. Additionally, five qualitative questions inquired about the participants' knowledge of competencies, their perspectives, and their assessment of their university training in this regard. Lastly, there were two sets of quantitative questions concerning the 13 competencies considered most essential for graduates in the PASS degree.

The professional competencies derived from the generic competencies highly valued by teachers and professionals, as outlined in the "Libro Blanco del título de Ciencias de la Actividad Física y del Deporte" published by ANECA in 2005. From the 22 competencies listed in the document, the study selected the 13 with the highest scores in terms of labor demand (see pages 214-217): 1-decision-making; 2-organizational and planning skills; 3-oral and written communication; 4-social skills/interpersonal relations; 5-motivation for quality; 6-analysis and synthesis skills; 7-problem-solving; 8-leadership; 9-working in an international context; 10-adaptation to new situations; 11-initiative and entrepreneurial spirit; 12-information management skills; and 13-teamwork.

## 2.3. Procedure

The questionnaire was administered to students through the online Google Forms platform in the months of February and March 2023, with the support of two researchers available to address any questions or concerns. All participants gave their informed consent, granting permission for their voluntary involvement in the study, in compliance with the principles outlined in the Declaration of Helsinki (2013).

## 2.4. Statistical Analysis

For data analysis, descriptive analyses of the variables (means and standard deviations) were conducted, along with comparisons of means for unrelated samples. Firstly, a normality test was performed to determine if the data followed a normal distribution. As the data did not meet the normality assumption ( $p<.05$ ), the Mann-Whitney U test was utilized for comparisons between two groups. For comparisons involving more than two groups, the Kruskal-Wallis test was employed.

Statistical significance was determined when  $p < .05$ . The data analysis was carried out using SPSS version 23 statistical software.

### 3. RESULTS

This section presents the results concerning the perceptions of PASS students regarding the degree of development of their professional competencies and the importance they attribute to them.

#### 3.1. Descriptive data on the perception of importance and level of development of professional competencies in PASS students

Table 1 illustrates that among the professional competencies, PASS students attribute higher importance to the adaptation to new situations ( $M=7.64$ ;  $SD=2.02$ ), followed by problem-solving ( $M=7.48$ ;  $SD=2.04$ ) and decision-making ( $M=7.55$ ;  $SD=2.13$ ). Conversely, the competencies of lesser significance for PASS students include working in an international context ( $M=6.11$ ;  $SD=2.34$ ), initiative and entrepreneurial spirit ( $M=6.79$ ;  $SD=2.42$ ), and information management skills ( $M=6.99$ ;  $SD=2.13$ ).

**Table 1.** Perception of PASS students regarding the importance, degree of development, and the difference between development and importance of professional competencies

Competencies	Importance M (ST)	Development M (ST)	Development – Importance M (ST)
Decision-making	7.55 (2.13)	6.14 (2.08)	-1.41 (2.04)
Organizational and planning skills	7.73 (2.10)	6.03 (2.16)	-1.70 (1.95)
Oral and written communication	7.42 (1.97)	6.62 (1.87)	-0.80 (1.68)
Social skills/Interpersonal relations	7.49 (2.02)	6.98 (1.88)	-0.52 (1.76)
Motivation for quality	7.25 (2.11)	6.17 (2.21)	-1.08 (2.07)
Analytical and synthesis skills	7.13 (2.13)	5.87 (2.03)	-1.26 (2.24)
Problem-solving	7.58 (2.04)	6.38 (2.06)	-1.20 (1.78)
Leadership	7.08 (2.07)	6.19 (2.14)	-0.89 (1.94)
Working in an international context	6.11 (2.34)	5.00 (2.32)	-1.11 (2.32)
Adaptation to new situations	7.64 (2.02)	6.19 (1.98)	-1.46 (2.00)
Initiative and entrepreneurial spirit	6.79 (2.42)	5.64 (2.37)	-1.15 (1.97)
Information management skills	6.99 (2.13)	5.78 (2.16)	-1.21 (2.18)
Teamwork	7.44 (2.12)	7.08 (2.09)	-0.36 (1.91)

In terms of the perceived development of professional competencies by PASS students, the highest mean values were reported for teamwork ( $M=7.08$ ;  $SD=2.09$ ), followed by social skills/interpersonal relations ( $M=6.98$ ;  $SD=1.88$ ), and oral and written communication ( $M=6.63$ ;  $SD=1.87$ ). Conversely, the competencies least developed were working in an international context ( $M=5.00$ ;  $SD=2.32$ ), initiative and entrepreneurial spirit ( $M=5.64$ ;  $SD=2.37$ ), and information management skills ( $M=5.87$ ;  $SD=2.03$ ).

Concerning the difference between the perceptions of PASS students regarding their level of professional competency development and the significance they ascribe to different professional competencies, a consistent pattern emerges wherein students tend to view the importance of these competencies as surpassing their current level of development. Notably, certain professional competencies exhibit substantial differences between development and perceived importance. These include organizational and planning skills, where the disparity is most pronounced ( $M=-1.70$ ;  $SD=1.95$ ), followed by the adaptation to new situations ( $M=-1.46$ ;  $SD=2.00$ ), and decision-making ( $M=-1.41$ ;  $SD=2.04$ ). Conversely, there are competencies with narrower gaps between perceived importance and actual development. Notably, teamwork ( $M=-0.36$ ;  $SD=1.91$ ) exhibits a smaller differential, followed by social skills/interpersonal relations ( $M=-0.52$ ;  $SD=1.76$ ), and oral and written communication ( $M=0.80$ ;  $SD=1.68$ ).

### ***3.2. Mean comparisons in the perception of importance and level of development of professional competencies in PASS students according to work experience***

Regarding students' perception of the importance of various professional competencies for their future careers, as depicted in Figure 1, those with work experience consistently exhibited higher mean scores across all competency categories.



**Figure 1.** Comparison of the perception of professional competencies' importance among pass students based on work experience

As depicted in Table 2, statistically significant disparities were observed in all professional competencies between students with and without work experience, except for the analytical and synthesis skills. Across all instances, it was the students with work experience who exhibited higher scores.

The most significant mean differences between students with work experience and those without were observed in the professional competencies of initiative and entrepreneurial spirit ( $p<.001$ ), followed by social skills/interpersonal relations ( $p<.001$ ), and problem-solving ( $p<.001$ ). In terms of initiative and entrepreneurial spirit, PASS students with work experience scored a mean of 7.43 ( $SD=2.30$ ), whereas those without work experience scored a mean of 5.96 ( $SD=1.87$ ). Regarding social skills/interpersonal relations, students with work experience achieved means of 7.96 ( $SD=2.08$ ), while those without achieved means of 6.89 ( $SD=1.79$ ). Lastly, concerning problem-solving, students with work experience attained a mean of 8.02 ( $SD=2.08$ ), whereas those without work experience achieved a mean of 7.00 ( $SD=1.85$ ).

**Table 2.** Perception of the importance of professional competencies among pass students based on work experience

Competencies	Work experience		Z	p
	Yes M (DT)	No M (DT)		
Decision-making	7.95 (2.25)	7.03 (1.85)	-3.54	.000
Organizational and planning skills	8.10 (1.89)	7.26 (1.89)	-3.29	.001
Oral and written communication	7.66 (2.08)	7.11 (1.79)	-2.25	.025
Social skills/Interpersonal relations	7.96 (2.08)	6.89 (1.79)	-4.05	.000
Motivation for quality	7.63 (2.17)	6.75 (1.95)	-3.37	.001
Analytical and synthesis skills	7.33 (2.20)	6.86 (2.03)	-1.57	.117
Problem-solving	8.02 (2.08)	7.00 (1.85)	-3.91	.000
Leadership	6.68 (2.31)	5.54 (1.70)	-3.71	.000
Working in an international context	7.54 (2.18)	6.47 (1.74)	-2.85	.004
Adaptation to new situations	8.02 (1.98)	7.15 (1.97)	-3.31	.001
Initiative and entrepreneurial spirit	7.43 (2.30)	5.96 (1.87)	-4.34	.000
Information management skills	7.47 (2.22)	6.38 (1.84)	-3.85	.000
Teamwork	7.83 (2.13)	6.93 (2.01)	-3.29	.001

**Figure 2.** Comparison of PASS students' perception of the level of development of professional competencies according to work experience

Figure 2 illustrated the students' perception of the extent of their professional competencies' development, categorized by their prior work experience. It is evident that in all instances, students with work experience exhibited higher averages compared to students without work experience.

As demonstrated in Table 3, statistically significant differences were observed in all professional competencies between students with and without work experience, except for working in an international context competency. In all instances, it was the students with work experience who exhibited higher scores.

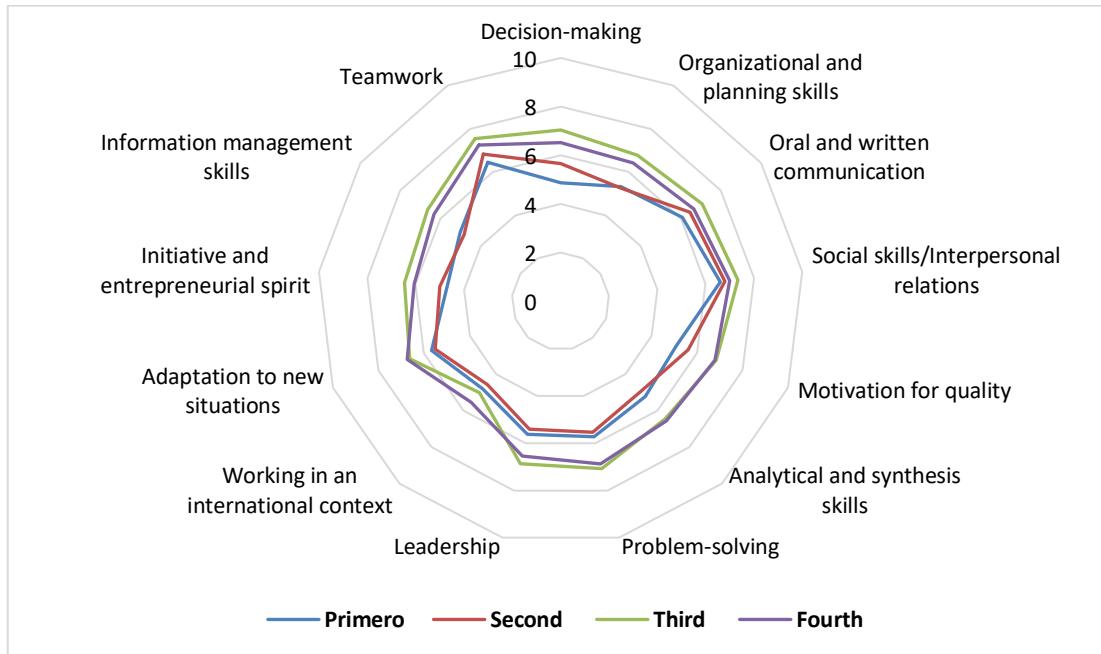
The most substantial mean differences were identified in motivation for quality ( $p<.001$ ), followed by initiative and entrepreneurial spirit ( $p<.001$ ), information management skills ( $p<.001$ ), and teamwork ( $p<.001$ ). In relation to motivation for quality, PASS students with work experience had a mean of 6.85 ( $SD=2.11$ ), while those without work experience had a mean of 5.28 ( $SD=2.02$ ). Concerning initiative and entrepreneurial spirit, students with work experience achieved a mean of 6.39 ( $SD=2.41$ ), compared to a mean of 4.67 ( $SD=1.94$ ) for those without work experience. Regarding information management skills and teamwork, students with work experience attained mean values of 6.43 ( $SD=2.12$ ) and 7.65 ( $SD=1.99$ ), respectively, while those without work experience achieved mean values of 4.67 ( $SD=1.94$ ) and 6.22 ( $SD=1.99$ ).

**Table 3.** Perception of PASS participants' development of professional competencies according to work experience

Competencies	Work experience					
	Yes (ST)	M	No (ST)	M	Z	p
Decision-making	6.61 (2.08)		5.53 (1.94)		-3.29	.001
Organizational and planning skills	6.60 (1.88)		5.29 (1.88)		-4.21	.000
Oral and written communication	6.86 (1.88)		6.31 (1.82)		-2.07	.038
Social skills/Interpersonal relations	7.39 (1.94)		6.43 (1.66)		-3.71	.000
Motivation for quality	6.85 (2.11)		5.28 (2.02)		-4.69	.000
Analytical and synthesis skills	6.41 (2.06)		5.15 (1.77)		-4.07	.000
Problem-solving	6.85 (2.12)		5.76 (1.81)		-3.50	.000
Leadership	6.68 (2.31)		5.54 (1.70)		-3.53	.000
Working in an international context	5.23 (2.45)		4.69 (2.08)		-1.57	.116
Adaptation to new situations	6.72 (2.03)		5.49 (1.69)		-4.05	.000
Initiative and entrepreneurial spirit	6.39 (2.41)		4.67 (1.94)		-4.58	.000
Information management skills	6.43 (2.12)		4.94 (1.92)		-4.45	.000
Teamwork	7.65 (1.99)		6.22 (1.99)		-4.45	.000

### 3.3. Mean comparisons in the perception of the level of development of professional competencies in PASS students according to grade level

Regarding PASS students' perception of their level of development of professional competencies, as illustrated in Figure 3, third and fourth-year PASS students perceive a higher level of competency compared to first and second-year PASS students.



**Figure 3.** Comparison of PASS students' perception of the level of development of professional competencies based on courses

Table 4 displays the students' perception of the degree of development of their professional competencies, according to the course in which they are enrolled. As can be seen, statistically significant differences exist in all competencies among students from different courses, except for oral and written communication, social skills/interpersonal relations, working in an international context, and teamwork. Across all cases, the averages were higher among third and fourth-year students compared to first and second-year students. Moreover, excluding the analytical and synthesis skills, working in an international context, and adaptation to new situations, third-year students demonstrated higher averages than fourth-year students.

**Table 4.** Perception of the development of professional competencies of PASS students according to their course

Competencies	Course				p
	First M (ST)	Second M (ST)	Third M (ST)	Fourth M (ST)	
Decision-making	4.88 (1.52)	5.66 (1.67)	7.04 (2.01)	6.52 (2.34)	.000
Organizational and planning skills	5.33 (1.85)	5.27 (1.79)	6.78 (2.18)	6.43 (2.33)	.001
Oral and written communication	6.09 (1.74)	6.46 (1.66)	7.06 (1.97)	6.67 (1.97)	.125
Social skills/Interpersonal relations	6.61 (1.60)	6.80 (1.35)	7.34 (2.13)	7.00 (2.16)	.322
Motivation for quality	5.09 (2.17)	5.59 (1.66)	6.84 (2.22)	6.79 (2.28)	.000
Analytical and synthesis skills	5.24 (1.79)	4.95 (1.41)	6.46 (2.15)	6.55 (2.14)	.000
Problem-solving	5.73 (1.83)	5.54 (1.34)	7.08 (2.15)	6.88 (2.30)	.000
Leadership	5.64 (1.99)	5.41 (1.43)	6.88 (2.20)	6.55 (2.47)	.002
Working in an international context	4.82 (1.99)	4.56 (1.78)	5.02 (2.63)	5.55 (2.60)	.262
Adaptation to new situations	5.67 (1.80)	5.51 (1.66)	6.62 (2.11)	6.74 (2.33)	.005
Initiative and entrepreneurial spirit	4.70 (2.17)	5.00 (1.88)	6.46 (2.36)	6.05 (2.59)	.001
Information management skills	5.00 (1.97)	4.83 (1.63)	6.64 (2.13)	6.31 (2.28)	.000
Teamwork	6.45 (1.86)	6.83 (1.64)	7.56 (2.18)	7.24 (2.42)	.091

Table 5 presents the mean disparities in the perceived level of professional competency development among PASS students categorized by their academic year. Firstly, it's important to note that there are no significant differences in mean scores between first and second-year students ( $p>.05$ ). When comparing first and third-year students, statistically significant differences are observed in all competencies, except for the adaptation to new situations. In contrast, in the case of competencies such as decision-making, motivation for quality, analytical and synthesis skills, and information management skills, statistically significant differences emerge between fourth-year and

first-year students. Moreover, across all cases, mean scores are statistically higher among third-year students compared to their second-year counterparts. Continuing with the year-wise comparison, fourth-year students exhibit statistically significant higher mean scores than second-year students in competencies like analytical and synthesis skills, problem-solving, adaptation to new situations, and information management skills. Lastly, no significant differences are found in mean scores between third and fourth-year students ( $p>.05$ ).

**Table 5.** Differences in means between PASS students' professional competences according to grades (differences between academic year)

Competencies	Course					
	1º vs 2º	1º vs 3º	1º vs 4º	2º vs 3º	2º vs 4º	3º vs 4º
Decision-making		***		**		**
Organizational and planning skills		*			**	
Oral and written communication						
Social skills/Interpersonal relations						
Motivation for quality		**		**		*
Analytical and synthesis skills		*		*	***	***
Problem-solving		**			***	**
Leadership		*			***	
Working in an international context						
Adaptation to new situations					*	*
Initiative and entrepreneurial spirit		**			**	
Information management skills		**		*	***	**
Teamwork						

*Note.* \* $p >.05$

#### 4. DISCUSSION

The findings of this study underscore that among the professional competencies, social skills/interpersonal relations, teamwork, and oral and written communication are the ones most perceived as developed by PASS students. This observation is rational, considering the substantial practical component of PASS studies that necessitates interaction and collaborative efforts. Furthermore, within the professional realm of PASS, numerous employment prospects entail engagement with individuals, whether it be coaching, physical training, or sports facility management. These three competencies have previously garnered attention in scholarly investigations. For instance, Lavega (2007) emphasizes the significance students place on adaptability to new situations and teamwork. Correspondingly, Amor and Serrano-Rodríguez's work (2018) identifies teamwork as the most favorably perceived competence. Additionally, interpersonal skills have been highlighted as crucial for the professional triumph of PASS graduates in Campos-Izquierdo's research (2019). Contrastingly, considering the perceived importance of these competencies, it is recommended that during PASS studies, emphasis should be placed on enhancing adaptation to new situations, problem-solving, and decision-making, as these competencies attain high scores for importance but lag in terms of development. This requisite is emphasized in the study by Santos et al. (2022), which underscores the significance of competencies such as leadership, decision-making, problem-solving, communication, and planning skills for successful sport managers, a key area within PASS studies. To address this, professional internships, as advocated by authors like Alpert et al. (2009); Álvarez-Arregui et al. (2008), can aid students in cultivating these proficiencies by exposing them to real-world scenarios within the professional sphere.

Regarding the disparities revealed in this study between the importance attributed by students to the studied professional competences and the degree of their actual development in each domain, the most notable contrasts were observed in the competencies of organizational and planning skills, adaptation to new situations, and working in an international context. For this reason, it is suggested that the managers of PASS curricula and teaching staff should focus on addressing these competences, especially working in an international context, which, together with initiative and entrepreneurial spirit, are the ones that have obtained the lowest scores. On one hand, extant literature underscores the positive impact of international experiences on labor market integration and equipping students to navigate novel scenarios (James, 2013; Soares & Mosquera, 2020). In this context, educational initiatives like the Erasmus+ exchange programs emerge as valuable options for universities to contemplate. On the other hand, recent studies further underscore the centrality of

nurturing entrepreneurial acumen within the classroom as a pivotal determinant of students' professional success (Vidal-Vilaplana et al., 2023). Additionally, considering the growing relevance within an increasingly digitalized world, the integration of Information and Communication Technologies (ICTs) should be introduced into the training curriculum of aspiring PASS professionals (Espejo-García et al., 2022). Hence, the development of digital competences ought to take precedence for upcoming PASS graduates, given that employers explicitly seek this skill set (Pate & Bosley, 2020).

The findings of this study underscore the role of work experience in fostering the development of diverse professional competencies. Alpert et al. (2009) posit that practical work experience imparts valuable learning, enriches the meaningfulness of academic programs, and cultivates feelings of personal and social efficacy. They emphasize that work placements offer a "learning-by-doing" encounter within a genuine business context, accompanied by guidance and support. In alignment with this perspective, the current study reveals that participants with work experience garnered higher scores across all competencies compared to their counterparts without work experience. Statistically significant differences were found in all competencies except for analytical and synthesis skills. This could potentially be attributed to the notion that professional competencies are honed through experiential learning, relationship-building, practical engagement, and learning by doing (Roe, 2002). This process involves subject-learner interaction (Le Boterf, 2000) and networking, fostering collaborative learning to enhance social competencies, interpersonal relations, and communication skills through experiential encounters, among other factors (Scoupe et al., 2023). Thus, these results echo the insights of Leiva (2004), who similarly emphasized that students with prior work experience displayed stronger inclinations toward entrepreneurial competence. Likewise, the study aligns with González-Serrano et al. (2017), highlighting that students with practical experience during their degree exhibit enhanced employability post-graduation. Consequently, in accordance with several scholars (e.g., Álvarez-Arregui et al., 2008; Moghaddam, 2011), the incorporation of internships by universities becomes imperative to furnish students with practical work exposure, effectively preparing them for their future endeavors.

Finally, concerning the progression of professional competency development over the course of the PASS degree, the findings revealed advancement in all competencies except for oral and written communication, social skills/interpersonal relations, working in an international context, and teamwork. The averages were higher for third- and fourth-year students than for those in the first and second years. Overall, this suggests that substantial strides are being made in competency

enhancement, with students exhibiting improved professional competency development as they advance through their PASS studies. Nonetheless, the rationale behind third-year students outperforming fourth-year students remains unclear. It is conceivable that fourth-year students, being closer to entering their careers, might harbor greater self-critique and self-expectation regarding their professional competency development compared to third-year students, who may be less focused on their impending professional integration. Future studies should delve deeper into this aspect for better elucidation.

## 5. LIMITATIONS AND FUTURE RESEARCH

This study presents certain limitations that impact the generalizability of the findings. Firstly, the sample size is relatively small and not fully representative of all PASS programs in Spain. A future study with a larger and more diverse sample would enhance the robustness of the results. Moreover, considering the implementation of a longitudinal study could offer insights into the progression of these competencies and the growth of the same cohort of students throughout their academic journey. Furthermore, this study primarily reflects the viewpoint of PASS students on the significance of professional competencies. To attain a more comprehensive perspective, it is recommended to involve educators, curriculum administrators, and industry experts. Such engagement would facilitate a deeper comprehension of the most sought-after skills in the labor market, particularly within the realm of PASS. As a result, this comprehensive approach would facilitate the enhancement of the PASS teaching curriculum, ensuring its alignment with the concerns and preferences of all stakeholders involved.

## 6. CONCLUSIONS

Gaining insight into the extent of development of professional competencies among PASS undergraduates holds significance in evaluating curriculum efficacy. The approach adopted in this study, encompassing assessment of both competencies' development and the importance PASS students attribute to them, offers valuable insights to inform the formulation of educational policies aimed at nurturing professional proficiencies. Such insights can contribute to bolstering students' employability prospects and further enhancing their skill sets. This study reveals three key findings that serve to fulfill this objective:

1. Students lacking work experience perceive social skills/interpersonal relations, teamwork, and oral and written communication as the most developed competencies, while initiative and entrepreneurial spirit, working in an international context, and information management skills

emerge as the least developed. As a result, curriculum managers and teaching staff overseeing the PASS program should prioritize the enhancement of these competencies. For instance, promoting student participation in international exchanges, such as the Erasmus+ Program, can provide significant value.

2. It is evident that students with work experience perceive a more advanced level of development in the studied professional skills compared to their peers without such experience. This underscores the significance of courses like internships, both compulsory and voluntary, along with other immersive experiences bridging the gap between students and the professional realm.
3. Students in their third and fourth years express a perception of better-developed competencies than their counterparts in the first and second years. This positive trend reflects progressive learning as students' progress through different academic years. However, it's noteworthy that despite this progress, scores fall below the desired high average, not surpassing seven points out of ten in any competency for students without work experience. This underscores the need for continued efforts in skill development.

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## AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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