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Simulation-based learning in Exercise and Sports Sciences degree students: a pilot study
Aprendizaje basado en simulación de entornos profesionales en estudiantes de Ciencias de la Actividad Física y del Deporte: estudio piloto

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Abstract. The development of competences and their subsequent assessment has led us to develop new methodologies for this purpose. Practices in simulated environments are proposed as didactic and educational innovation strategies to develop general and specific competences in students. The aim of this work was to analyse the perception of sport science students about the design of simulation scenarios. The sample consisted of 50 Sport Science students aged between 18 and 22 years (M = 19.1; SD = 1.15). The methodology consisted of developing two simulated experiences, one in the subject of Body Expression applying techniques such as the interview, and the other in the subject of Human Anatomy with the anatomical and movement analysis of a supervised training for health. The simulation showed a high degree of student satisfaction in both experiences, as well as a perception of a high degree of transferability to the professional environment. The proposal shows that simulation is a didactic strategy that favours applied academic and professional training, which facilitates students to assume roles like the reality of their future profession and, therefore, provides them with knowledge, attitudes, values and skills for an adequate future professional performance.
Keywords: Professional training, Perceived satisfaction, Secure learning, Professional interview, Supervised training, Education Innovation.

Resumen. El desarrollo de competencias y su posterior evaluación nos ha llevado a desarrollar nuevas metodologías para ello. Las prácticas en entornos profesionales simulados se plantean como estrategias de innovación didáctica y educativa para desarrollar competencias generales y específicas en los estudiantes. El objetivo de este trabajo fue analizar la percepción de los estudiantes de Ciencias del Deporte sobre el diseño de escenarios de simulación. La muestra estuvo formada por 50 estudiantes de Ciencias del Deporte con edades comprendidas entre 18 y 22 años (M = 19,1; DT = 1,15). La metodología consistió en desarrollar dos experiencias simuladas, una en la asignatura de Expresión Corporal aplicando técnicas como la entrevista, y otra en la asignatura de Anatomía Humana con el análisis anatómico y de movimiento de un entrenamiento supervisado para la salud. La simulación de entornos profesionales mostró un alto grado de satisfacción de los alumnos en ambas experiencias, así como la percepción de un alto grado de transferibilidad al ámbito profesional. La propuesta muestra que la simulación es una estrategia didáctica que favorece la formación académica y profesional aplicada, que facilita a los estudiantes asumir roles como los de la realidad de su futura profesión y, por tanto, les proporciona conocimientos, actitudes, valores y habilidades para un adecuado desempeño profesional futuro.
Palabras clave: Formación profesional, Satisfacción percibida, Aprendizaje seguro, Entrevista profesional, Formación tutelada, Innovación educativa.

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Introduction

The European Higher Education Area (EHEA) has brought about an important change in the teaching-learning and evaluation process in higher education. The Bologna declaration defines basic and transversal competencies in educational curricula that favor educational practices focused on students' future professional performance. Currently, the development of competencies and their sub-sequent evaluation implies a change in the methodologies used previously (García, 2008; Pazo y Tejada, 2012; Martínez, 2016). Thus, didactic methodologies such as the "Objective Structured Clinical Examination" (OSCE) first described by Harden in 1975 (Harden et al., 1975) are being implemented. The OSCE has been used mainly in health-related degrees, but it is gradually being adapted to other degrees. This methodology is based on the development and practice of simulated professional environments as actions before taking the exam (OSCE). Therefore, practices in simulated environments are proposed as didactic and educational innovation strategies to develop general and specific competencies in students (Aebersold, 2016). Simulated environments make it possible to recreate situations in which the protagonists have to assume roles similar to those they would adopt in a real professional situation. When the student possesses the necessary skills and knowledge, such situations are effectively resolved and, therefore, the performance will be correct (García, 2008).

The present study is novel in terms of the use of simulation as a professional practice with young students of Physical Activity and Sport Sciences. This contributes to a greater sustainability of the European education system and promotes safe and effective future professional practices for the prevention and adjuvant treatment of multifactorial diseases in today's and tomorrow's society. Simulated internships integrate one of the best professional practices in other university careers such as medicine, physiotherapy, psychology (García, 2008; Harden et al., 1975). This research aims to extrapolate this academic method, so well established in the health field, to the area of knowledge of Physical Activity and Sport Sciences.

In order to provide quality education to students of physical activity and sport sciences, we propose alternative methods to those used so far. It is necessary for students (future professionals) to have knowledge about healthy lifestyle habits for the effective development of their

profession. The promotion of healthy lifestyles could have a positive impact on the economy and society in general by reducing health care costs and increasing work productivity (Sustainable Development Goals, SDGs, 2015).

Theorical Background

Experiences in simulated environments allow situations to be analyzed and decisions to be made in safe environments, the student can deal with unforeseen events without fear of making mistakes. The subsequent reflection on the experience (debriefing) allows the group to analyze, from different points of view, which is the best approach to the situation. The successes and failures are starting points for new learning (Harden et al., 1975).

Therefore, the simulated environment links the knowledge that the student possesses with the real problems present in the context being simulated, acquiring appropriate competencies through experiential learning (García, 2008). In the field of Health Sciences encompassed by the bachelor's degree in physical Activity and Sports Sciences at the European University of Madrid, it has been demonstrated (Dalwood et al., 2018, page, 181) that simulation is acknowledged as a legitimate educational tool in healthcare disciplines to enhance students' clinical skills and optimize the transfer of skills. In degrees such as Medicine and Physiotherapy, these practices have significantly complemented clinical training.

Traditionally, Exercise and Sports Sciences degree students develop a training period or internship, which had a huge influence on future professionals (Lawson, 1986). Through the pillars of the Academic Model of the European University of Madrid, among them the activities of simulation of professional environments, the student is being trained from the first year of study, using didactic strategies to develop intrapersonal and interpersonal skills such as decision making, motivation, affectivity and creativity among individuals, in a set of realities close to their professional future (Gostian Ropontin et al., 2022). These training periods take place in the last academic year, in real environments (sports centers, educational centers, interdisciplinary clinics, etc.), guided or tutored by teachers, in which students observe and record the professional experiences carried out in the internship center. The novelty lies in: i) they are carried out from the first academic year; ii) they are implemented in most subjects of the degree; iii) simulated and "safe" professional environments are recreated (knowledge space where the student shares without fear of making mistakes) (Silveira-Torregrosa & Moreno-Murcia, 2015; Pérez-Pueyo et al., 2019) where the student can develop all the skills and knowledge required by his profession. In this context, three types of competencies are developed: knowing (knowledge), knowing how to do (practice), and knowing how to be (attitude), which give the student greater personal responsibility and autonomy (Ramón et al., 2015). So, activities in simulated environments promote transdisciplinary work for the correct resolution of simulated situations, based on the professional reality of the Exercise and Sports Sciences degree students without a predetermined solution and under the framework of an integrated curriculum. The simulated environments in these Sciences can be related to different areas: training, health, education, management, nutrition, and psychology, among others. Moreover, teachers have access to a "Training Program for the Academic Model-Experiential Learning", splitted into different levels. This program helps them design realistic scenarios, provides the opportunity to refine their pedagogical skills, such as effective communication, adaptability to different learning styles, and the ability to motivate students. Through this training, teachers have the possibility to develop the ability to assess different challenging and emerging situations in the sports environment.

Aims

Therefore, the main objective was to know the perception of Undergraduate students about the de-sign of simulation scenarios in which different aspects of the profession of Exercise and Sports Sciences degree students are comprehensively addressed and to analyze the usefulness of such academic practices in simulated environments. So, it was hypothesised that the didactic experience of the simulated practices in the subjects of human anatomy and body expression would be perceived by the students as useful and satisfactory for their future professional development.

Material and methods

Study design

The present study developed a quantitative type of research (Sampieri, 2018) a descriptive sub-type or approach (collection, analysis, and presentation of data through quantitative measures), and qualitative for the collection of the perception of the participant's experience. It had the approval of the Ethics Committee of the European University of Madrid and the informed consent of all students.

Table 1.
Sociodemographic characteristics of the participants

Sociodemographic variables	Characteristics
Geography	Level of studies of parents or guardians Students of the Universidad Europea de Madrid, Villaviciosa de Odón (Madrid).
Course enrolled	Students in the first year of the PASS degree program, academic year 2021/2022.
Family socioeconomic level	1st Grade.
	Middle/high. University graduate mainly.

Participants

The sample consisted of 50 first-year PASS students between 18 and 22 years of age ($M = 19.1$; $SD = 1.15$) in the subjects of Body Expression and Human Anatomy. The chosen subjects meet the requirements that we consider important regarding the relationship between theory and practice. Furthermore, they are first-year subjects, and we consider that it is a good time to introduce new teaching methodologies. The sampling technique used was non-probabilistic, reasoned, and by accessibility (López-Roldán, 2015).

Measure

An ad-hoc questionnaire was created to assess the participant's perception of the usefulness of the experience in simulated environments. It consists of 7 Likert-type questions ranging from 1 (worst) to 10 (best) (e.g., rate the activity from 1 to 10 in terms of usefulness for your future career). In addition, an open-ended question is included: Comment on what you wish to express concerning the activity (Oliver et al., 2015). Therefore, employing a mixed-methods approach for data collection.

Procedure and simulation design

The students did not know what type of academic practice they were going to carry out so as not to condition their response to the simulation scenario. They stressed the importance of respect for the activity and for the partner who volunteered, as well as the Confidentiality Agreement, the Fiction Contract, and the Basic Principle of Simulation.

Design of simulation scenarios

The design and implementation of simulation activities of the professional environment in Physical Activity and Sports Sciences must meet four fundamental characteristics:

1. Establish the learning objectives to be addressed according to the subject.

2. Describe the simulated learning scenario that will be developed based on the learning objectives of the subject.

3. The teachers of the subject write the specific actions that the actor must simulate during the activity (Instructions to actor).

4. Instructions for students in the simulation activity

Table 2.
Characteristics of student Student actions in the simulation activity

Characteristic	Description
Activity Participants	One student
Observers	Remaining students
Activity Duration	15-20 minutes
Debriefing	Moderated by the instructor
Facilitated Debriefing	At the conclusion of the activity, a debriefing session moderated by the instructor will take place

Simulation practice in Body Expression

Table 3 describes the scenarios and actions developed in the simulation of a job interview, carried out in the Body Expression course.

Table 3.
Design of simulation scenarios

Type of scenario	Office of the director of a sports center with a table and two chairs, one on each side of it. On one side of the table is the actor who plays the director of the sports center. The student plays the candidate for the position of teacher of the fitness room, group classes, indoor cycling, and swimming of the center and enters when the teacher asks him to do so. The center is supposedly located in the Hortaleza area of Madrid. It has a heated swimming pool, outdoor tennis and paddle tennis courts, an indoor pavilion, an indoor cycling room, and weight room.
Type of interview	It is a face-to-face interview with the center director. They had never met or discussed anything about the job. The student attends the interview to which he/she has been summoned by email.
Instructions to the actor	You are the director of the sports center described in the previous scenario and you are going to conduct a personal interview with a graduate in Exercise and Sports Sciences to find out if his profile is suitable for the characteristics of your fitness center in which he would have to teach group classes of indoor cycling, swimming and supervise the weight room. When the student enters, you wait for him to introduce himself and ask you if you are the director of the center and the person who will conduct the interview. If not, you introduce yourself and describe the job for which you need an Exercise and Sports Sciences Graduate. You explain what the sports center is like and where it's located. You then ask a series of questions to find out about the interviewee's knowledge and skills for the position he/she is applying for. What did you study, why did you choose this career, what can you tell me about yourself, what are your goals, what kind of job are you looking for, why would you like to work at our center, what job would you like to have in 5 years, what skills will help you succeed in this position, what interests you about our service, what have you learned from your previous/current jobs, what experience has motivated you the most, what is the most important thing you have learned from your previous/current job, what is the most important thing you have learned from your previous/current job, what is the most important thing you have learned from your previous/current job, what is the most important thing you have learned from your experience, What experience has motivated you the most professionally and why, What professional achievement has shown that you have initiative, What are your main strengths and weaknesses, What do you think determines the progression of a person in a company, Would you be willing to change your residence, What are your hobbies, What does "working in a team" mean to you, What does "working in a team" mean to you, What are your main strengths and weaknesses, What do you think determines the progression of a person in a company, Would you be willing to change residence, What are your hobbies, What does "working in a team" mean to you? You can add any other questions you consider during the interview. Finally, you say goodbye to the interviewee and tell him/her that you will call him/her if he/she is the ideal candidate for the position.
Student actions	The student who is going to the interview receives the following orientations: You are already a Graduate in Exercise and Sports Sciences with a profile related to health and Fitness. You are in a sports center in the area of Hortaleza with a heated pool, outdoor tennis, and paddle courts, a covered pavilion, an indoor cycling room, and a weight room. You are going to be interviewed by the director of the sports center to see if he will hire you. His name is Juan Carlos Fernández. You don't know exactly what position you're applying for. You enter the stage and the director is already sitting in his office. The rest of the students will observe the simulation analyzing the Non-Verbal Communication of both participants: how he enters, how he greets, how he sits on the chair, the use he makes of gestures, in which zone he moves his hands, his volume, speed, intonation, pauses… Analyze what kind of answers he gives, if he argues them or not, and observe what emotions he distinguishes in his behavior, and how they are reflected in his NVC.
Debriefing (at the end of simulated practice)	Afterward, and after thanking him for his participation in the scenario, the student who has done the interview is asked: Describe what the scene has been like for you, and what has happened (analyze the facts). - How did you feel? - Was there anything missing in the simulation?

	- What difficulties did you encounter? - What do you think was the best thing that came out of it? - What would you have done differently? - What decisions did you make? - What feelings did you have? - How did those feelings influence your decision-making? - Do you think you have enough theoretical knowledge to deal with this situation? After listening to the student who has been interviewed, the teacher poses the following reflections to the class group, reminding them not to criticize, reproach, or judge: - What actions would we do like him? - What would we have done differently? - What was missing? - Why do you think he did that action? - What problems did he encounter? - What caused the problem? - What reactions have you had on an emotional level? - How have they been reflected at the level of your NVC? Finally, and addressing the whole group she comments that the objective of this simulation was to learn the key points to take into account in a job interview around the elements of the NVC worked on in class and asks them about: - What do you take away from what you learned today for your professional life? - What do you think needs to be done better next time? - What do you still need to learn to better deal with this type of situation? - Do you think you have gained confidence when facing a similar situation? - Have you learned how to control your emotions, nervousness, and worries or to manage the other person's emotions in such an environment? After these questions were asked, the questionnaire was passed on to the participants.

Simulation practice in Human Anatomy

Table 4 describes the scenarios and actions developed in the supervised training session (20 min.) by a qualified trainer, directed to a person (actor) with osteoarticular problems (shoulder joint injury) and metabolic-endocrine problems (overweight), carried out in the Human Anatomy course.

Table 4.
Supervised training simulation scenario

Type of scenario	Sports training room with free weights, elastic bands, mirrors, and an exercise bench. Personal trainer hired to lead an example of how to guide a neuromuscular training session and postural hygiene in a client with joint pathology and overweight. The client arrived for the first time in a training room, with no previous experience in neuromuscular exercise and a high rate of a physical sedentary lifestyle.
Types of training	Neuromuscular muscles of the shoulder girdle region, pelvic girdle, and limbs. Four physical exercises were performed in different execution planes: - Unilateral upper limb traction exercise. - Chest press exercises in the supine position. - Squat exercises in standing position bilaterally with a 15kg bar supported behind the nape of the neck (posterior shoulder girdle). - Unilateral dead weight exercise with a 7 kg dumbbell.
Instructions to the actor	You are a person with no previous experience in neuromuscular exercise, with shoulder problems due to the mechanics of your work. You are overweight and your doctor (endocrinologist and traumatologist) has insisted on the importance of "moving" to improve your health. They have recommended you do regular exercise in a supervised and individualized way.
Students action	They observe the scenario of the trainer's intervention with the actor: verbal instructions (feedback), body scheme and form of communication with the client, use of anatomical-technical language but adapted to the client's level of knowledge; verbal and bodily reactions of the client, etc.
Debriefing (at the end of simulated practice)	The teacher and trainer share the simulation practice with the students. The trainer explains each decision he/she made with the client and how the client reacted. The teacher poses the following reflections to the class group: - How would you have started the first day with the client? - What other aspects of his day-to-day life would you have asked him about? - What was the purpose of the exercises developed? - What body attitude did you observe in the client? - What difficulties did the client have in executing the exercises? - What did you find most practical and applicable when guiding the client during the execution and in the explanations before the exercises?

Data analysis

To analyze the qualitative data extracted from the ad-hoc questionnaire. First, the database was cleaned and the Mahalanobis distance was calculated to check for outliers. Descriptive statistics, means, standard deviations and reliability of the latent variables were performed. Next, the students' textual responses to item 8 of the ad-hoc questionnaire on their perception of the simulation scenario experienced for each of the subjects were collected. All the information collected was incorporated into a single file stored in the Excel 2010 program. The reliability and descriptive analyses were performed with Jamovi (The jamovi project, 2023. Version 2.4 [Computer Software]. Retrieved from https://www.jamovi.org).

Results

Cuantitative analysis

Table 5 shows the descriptive results (means, standard deviation and reliability) obtained in items 1 to 7 of the experience evaluation questionnaire (Likert-type scale of 0-10). The *adhoc* instrument designed has robust reliability values with α of .86 and ω of .87 (Ventura-León & Caycho-Rodríguez, 2017). Regarding the best valued items, we

find 1 (Usefulness for your future career) and 3 (Would you recommend the experience) with a score of 9.1 out of 10, students are very receptive to new learning experiences, especially in situations that bring them closer to the reality of their professional field. We can also point out item 7 (Overall satisfaction with the activity) with a score of 8.9 out of 10, traditional teaching methods are an important part of learning, but the student needs other ways to develop all their skills.

Cualitative analysis

The results shown below in Table 6 refer to the students' literal answers to question 8 of the ad-hoc questionnaire (Comment what you wish to express concerning the activity). As we observed, the students expressed their satisfaction with the activity, with its novelty and with its application for their professional future

Table 5.
Descriptive data and reliability on the assessment of experience in simulated practice.

Items	M	SD	Cronbach's Alpha	McDonald's ω
Usefulness for your future career	9.1	0.95		
Have you learned?	8.7	1.04		
Would you recommend the experience	9.1	1.02		
Worked content	8.8	0.92	0.863	0.873
Format used	8.5	1.08		
Organization	8.8	1.09		
Overall satisfaction with the activity	8.9	0.93		

Note: M (media); SD (and standard deviation).

Table 6.
Verbalization of student experience.

Body Expression students who experienced a job interview	Human Anatomy students who have experienced supervised training
I thought it was a very good activity, I missed a second interview to contrast with the first one	I think it is a very good activity, very useful for the future.
The activity has helped me to keep in mind several concepts for future interviews	The activity was very real and applied to the world of work.
I would find it positive and more enriching to conduct several interviews with different students.	I would have liked the activity to have lasted a little longer, it was too short.
I enjoyed it, I had a good time and I learned a lot.	I would have liked to ask the trainer more about other problems you may encounter when training people with joint injuries.
I found the activity very useful for the future, but I would have done more practice to see the different attitudes of interviewers and interviewees.	We saw the reality of what we are going to find in a training room.
I would like more activities like this and with more depth.	Many things must be taken into account to correct execution in a person who has not exercised.

Discussion

The present study was designed to know the perception of Exercise and Sports Sciences degree students about simulated environments and to analyze the usefulness of such academic practices. As explained by some authors (Salas-Perea & Ardanza-Zulueta, 1995) simulation is used for educational and evaluative purposes, accelerating the learning process of students.

The results show a high perception of students about what they have learned, so it can be affirmed that the simulation fulfills one of its primary objectives, which is to improve the quality of the learning process (Llanga et al., 2009). Thus, students present a high overall satisfaction manifested in the practice and the usefulness of simulation practices for their professional development (De la Fuente, 2018). In line with other studies (Alvarado et al., 2020), this type of practice favors the training of professionals, since, during their execution, roles like those necessary for the correct professional performance are assumed. This educational situation highlights the evolution in the form (method) of teaching-learning in the 21st century, in which the challenges of digitalization, globalization, diversity of content, and forms of practice to meet the psychological, aptitudinal, socio-cultural and health needs of the population are faced (Fernández-March, 2006). Therefore, in higher education, it is necessary to innovate by generating new ways of transmitting applied knowledge, and academic, professional, and personal experiences (Sanabria, 2018) that involve a real transfer of professional knowledge for students. Most students recommend simulated practices after experiencing them in the subjects of body expression and human anatomy. These results could be attributed to the fact that in simulated practices motivational strategies are applied that are oriented towards learning, aimed at showing the student the practical importance of the academic knowledge acquired, as well as the benefits that such learning will grant in the future, this from a personal and professional perspective (Candela-Borja et al., 2020; Menescardi et al., 2023). Motivational strategies centered on the active participation of the student drives students' cognitive resources (executive functions) to want to learn, students seek to want to learn for themselves, as intrinsic motivation, mediated by the significance of learning through the linking of previous knowledge with the new material, to achieve learning that is meaningful in their daily work (Almagro et al., 2021). Therefore, simulation as a didactic strategy could generate meaningful experiences that allow students to internalize knowledge and competencies by learning in a safe, precise, and practical way (Alvarado, 2020). In this sense, a new way of learning is encouraged in students, not only to acquire knowledge but to "be able to do", to be able to relate and apply knowledge to new situations, to integrate theory and practice, thus experimenting with new ways of acting (Hulleman & Barron, 2015; Sheyla, 2019). In this sense, fostering experiential learning with an approach based on the assessment of undergraduate students' perception of learning in "Conceive-Design-Implement-Operate" activities, helps students' knowledge acquisition and formative preferences, thus constructively aligning learning activities with future work needs (Bertoni & Betoni, 2019b). Consequently,

the analysis of the meaning that individuals derive from their personal and collective experiences in the educational environment could contribute to enhancing the integrative purpose of the educational process (Patton, 2015). It's necessary to promote cognitive activity in students through observation, comprehension, and re-flection/debate. This encourages the development of critical thinking, skills linked to the training process, skills for teaching sports techniques, communication skills, and basic competencies in knowledge of Exercise and Sports Sciences (Campo & González, 2009; Sebastiani, 2006).

Among the limitations of the study is the selection of the sample, which was made by accessibility and not in a randomized manner, thus compromising the external validity of the study. Another aspect to consider is the cross-sectional descriptive research design; quasi-experimental studies are necessary to verify the causal relationships between the variables analyzed. In relation to the data collection instruments regarding students' satisfaction perception with professional environment simulation activities, a study should be conducted for the design and validation of a psychometric questionnaire. Along the same lines, it would be necessary to carry out a comparative study of the novel methodology presented in this study, the simulation of professional environments, in contrast to other conventional methodologies such as problem solving or guided discovery.

Thus, future lines of research should have a quasi-experimental and longitudinal approach, pretest and posttest as is mentioned in the article signed by Dalwood, Grad, Maloney, Cox, Morgan (2018). The studies analyse psychosocial variables such as students' situational motivation, perception of competence, autonomy in simulated practice and professional transfer of the simulation. The studies are based on a comparison of students with other methodologies. Future lines of research should have a quasi-experimental and longitudinal approach, pretest, and posttest. Studies analyze psychosocial variables such as students' situational motivation, perception of competencies, autonomy in simulated practice, and professional transfer of the simulation.

Conclusions

The students perceived the simulation as a novel and very effective practice. Likewise, during the debriefing, the students analyzed the situation and expressed their opinion about the role they would adopt in the same situation. The students welcomed and experienced these practices with confidence and would recommend them to their peers. The university training and the knowledge provided by the degree in PE and Sports Sciences have contributed to a lesser extent, valuing as scarce the practical training on the methodologies they have learned during the degree, and insufficient for them to feel confident in their curricular internships.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. research articles with several authors, a short paragraph specifying their individual contributions must be provided.

Author Contributions

The following statements should be used “Conceptualization”, Belando-Pedreño, N* and Burgos-Postigo, S.; “methodology”, Belando-Pedreño, N*, Ruano-Arriaga, K, Gostián, L. A and Burgos Postigo, S; validation, Gostián, L, Belando-Pedreño, N*, Ruano-Arriaga, K.; “formal analysis “, Burgos-Postigo, S.; “investigation”, Burgos-Postigo, S. Belando-Pedreño, N*, Ruano Arriaga, K; “writ-ingoriginal draft preparation”, Burgos Postigo, S. Belando-Pedreño, N*, Ruano Arriaga, K., Gostián, L; “writing-review and editing”, Belando-Pedreño, N. All authors have read and agreed to the published version of the manuscript.

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Abbreviations

EHEA: European Higher Education Area; OSCE: Objective Structured Clinical Examination; SDGs: Sustainable Development Goals.

Data availability statement

The dataset used and analyzed during the current study are available from the corresponding author on reasonable request.

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