

## Article

# Linked(In)g Sport Management Education with the Sport Industry: A Preliminary Study

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**Abstract:** Social media are one of the most valuable management tools used by sport managers in the fulfilment of their daily tasks. However, the studies that share and analyse the impact of educational experiences that incorporate social media into sport management education for professional purposes are scarce to date. Thus, this study presents an educational innovation piloted in a sport management course where LinkedIn—the social media most associated with the professional sphere—is introduced through an experiential learning methodology, as a driver of students’ career development and as a tool to keep up to date and interact with the sport industry. To assess the learning outcomes, a new scale was developed and tested. A total of 90 Spanish undergraduate sport management students ( $M = 22.71$ ;  $SD = 3.84$ ) participated in the study, partaking in a pre-test and a post-test. Regarding the results linked to the testing of the scale, the statistical analysis reflects the scale’s two-dimensional nature, explaining 68.78% of the variance, presenting good psychometric properties ( $\alpha = 0.95$ ). On the other hand, significant increases in all the scale items between the two measures were obtained, with large effects size in the two dimensions (Cohen’s  $d \geq 0.80$ ). Therefore, it is concluded that LinkedIn can help to develop the professional profile of sport management students, Linked(In)g what is taught in the classroom with what the sport industry demands.

**Keywords:** sport management; career development; social media; LinkedIn; employability; entrepreneurship education; professional skills; labour market; higher education



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## 1. Introduction

The global expansion of the virus SARS-COVID-2 and, with it, the illness COVID-19, has undoubtedly challenged the higher education landscape [1,2], resulting in a significant disruption to the education system [3]. The processes of change towards online and digital education have been accelerated [4] since schools and universities have had to be closed down due to quarantines in an attempt to contain the spread of COVID-19 [5]. As a result, remote forms of teaching and learning (e.g., blended learning and online learning) have grown to sustain educational dynamics replacing traditional face-to-face educational methods [6]. Thus, considering that mobility restrictions will continue to have an impact on the education system [7], access to distance learning will be essential to ensure inclusive and equitable education, promoting lifelong learning opportunities for all [8].

In this context, digital technologies can support sustainable instruction [9], facilitating access to education for students worldwide [10]. One of the most popular digital technologies among the population and, more recently, in the higher education sector is social media [11]. It is a term that, according to Manca and Ranieri [12]: “refer to a wide range of applications enabling users to create, share, comment and discuss digital contents” (p. 217). These tools (e.g., Facebook, Twitter, Instagram, LinkedIn) can become beneficial pedagogical resources to develop course content and facilitate contact between teachers and students, creating sustainable online learning environments [13]. Thus, these tools can facilitate the quality, continuity and accessibility of learning, as called for in the framework

of the United Nations' [14] fourth Sustainable Development Goal (i.e., "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"). On the other hand, universities are responsible for creating learning experiences that help their students build professional skills that future employers will positively evaluate [15,16]. Therefore, universities can create a bridge between academic education and the professional world, preparing students to succeed in today's and tomorrow's labour market [17]. This is particularly important in the context of a pandemic where professional futures are uncertain. In this sense, academic literature has highlighted social media as a tool that can be relevant for professional learning purposes [16,18,19]. Social media can facilitate networking experiences [19] and develop the students' professional profile [13,20]. Besides this, these tools have also been linked to entrepreneurship [21], as well as having been recognised as an increasingly decisive element in sports organisations when overcoming crisis scenarios [22].

In the sports sector, social media have become an essential management tool [23,24]. These tools enable the following of new emerging trends in the sports sector and can foster and fortify the relationships between teams and fans [25]. Therefore, sports employers demand from candidates the mastery of social media for professional purposes [18]. Hence, it is relevant to teach sport management students about social media use [24,26], becoming a channel for connecting students to professionals [27]. In this sense, among all social media, LinkedIn is the most valued for professional purposes [12,24].

The literature supports the incorporation of LinkedIn into the classroom [28]. In particular, for its possibilities in offering opportunities for personal brand development [29], networking [30,31], job search [32] and to help students to be better valued in the labour market together with advancing their professional careers [33,34]. Despite these educational opportunities, while LinkedIn has been introduced as a learning tool in contexts such as marketing [35], business [30–32] or communication [28,29], so far no practical experiences that seek to develop the students' professional profile have been published in the field of sport management education. Therefore, this article is pioneering with the following main objective:

- i to present an educational innovation piloted in a sport management course where LinkedIn is introduced as a driver of students' career development and as a tool to keep up to date and interact with the sport industry.

On the other hand, considering the absence of a specific validated instrument to measure the impact of LinkedIn for the educational purposes stated in the previous objective, and being aware of the study's size sample limitation, a second, subsequent research objective is set as follows:

- ii to propose and pre-validate a new instrument to assess the outcomes of using LinkedIn as a tool which could drive career development, and to keep up to date and interact with the sport industry.

## 2. Theoretical Pedagogical Underpinnings and Literature Review

### 2.1. Experiential Learning through LinkedIn

Experiential learning theory defines learning as "the process whereby knowledge is created through the transformation of experience" [36] (p. 38). It has its foundations in social constructivist theory, suggesting that learning occurs through the learner's interaction and experiences with others [37,38]. Thus, the experience is the primary source of learning and development [36].

Experiential learning is often welcomed and useful for students [39], as it provides experiences that connect to the students' interests and aspirations. Besides, this type of teaching allows students to be the centre of their learning [40], giving them the spotlight. Both of these aspects can be addressed through LinkedIn, given that the platform requires that each student aligns their profile development, publications and network of contacts with their professional interests. Students are the decision-makers at all levels. Furthermore, LinkedIn facilitates experiential learning when students interact and engage with people

from the professional world on LinkedIn [31]. Therefore, students can learn from a potential employer and from the industry.

Another way of applying reflection and experiential learning through LinkedIn, as pointed out by Slone and Gaffney [28], is when learners reflect on and place value in their skills, previous professional experience as well as achievements. On the other hand, McCorkle and McCorkle [35] indicate that online discussion groups may elevate students' critical thinking skills. The authors add that LinkedIn can also activate students' creative sides by enabling them to generate content linked to their field of interest and designing a profile that is attractive to their target LinkedIn users. In the same vein, Zhao [29], highlights the potential of LinkedIn in developing a student's personal brand. In the end, these types of learning processes require student reflection and a creative component that is placed at the top of Bloom's taxonomy [41], having a significant learning value.

Given the above, we consider LinkedIn to be a useful tool for introducing experiential learning in sport management education, applying this learning theory to the design of the activities to be carried out by students in the educational innovation shared in Section 3 of this article.

## 2.2. LinkedIn as a Tool for the Development of the Student's Professional Profile

According to van Dijck [33], LinkedIn is a tool that, among other things, allows professional self-promotion, finding job opportunities, recruiting candidates and fostering inter-company communication. Similarly, McCorkle and McCorkle [35] see LinkedIn as a place where students can acquire skills for their future careers. This is important, given that, as Peterson and Dover [31] state, one of the faculty's main challenges is to create learning experiences that integrate theory with the professional world that the students will join in the near future.

Although very few of them exist, the literature does provide some experiences where LinkedIn has been introduced for learning purposes to develop students' professional profile. Gerard [30], in undergraduate capstone strategy courses, introduced three different LinkedIn assignments intending to connect students to their professional selves and peers. The findings reveal that students perceive LinkedIn as an excellent vehicle to foster professional networking and career development. Peterson and Dover [31] found similar results when introducing LinkedIn into a sales course in order to encourage students to shape their presence in the professional world. After the educational experience, the authors report that students perceive LinkedIn as a tool that enhances their professional development. Similarly, Slone and Gaffney [28] introduced LinkedIn into a communication course and found that students can use LinkedIn to promote their professional online identity and establish virtual and professional networks. In this respect, Carmack and Heiss [32] see LinkedIn professional networking as a decisive factor in enabling students to access internships and jobs that are of interest to them.

On the other hand, three practical educational experiences which incorporate LinkedIn have recently been published. Firstly, Hamadi, El-Den, Azam and Sriratanaviriyaku [42], who implemented LinkedIn into a designated Information Technology course at an Australian university, found that LinkedIn is a very positive tool for fostering cooperative learning. Coming from a background of communication studies, Zhao [29] also shares a proposal for an activity in which students are asked to develop their personal brand through LinkedIn. According to the author, students responded proactively and positively to the activity, identifying and synthesising the key attributes linked to personal branding to be able to apply them for their future careers. Finally, Badoer, Hollings and Chester [15] found that in the pharmaceutical sciences field, through LinkedIn in-class activities and assessment tasks, students helped improve their professional development and employment prospects.

From all of the above experiences, it seems that there is evidence of the educational potential of LinkedIn in developing the professional profile of students, as well as being a tool for professional networking and interaction with the professional world. However,

this has not been tested in sport management education. While, so far, López-Carril, Anagnostopoulos and Parganas [24] have offered some guidelines for implementing LinkedIn in sport management courses, and López-Carril, Añó and González-Serrano [13] and Brown and Pederson [43] have used LinkedIn as a channel to develop teaching experiences, none of these three studies analyses students' perceptions of LinkedIn from a professional point of view. Therefore, against this background, we pose the following two research questions: RQ1. Do sport management students perceive LinkedIn as a driver of career development? RQ2. Do sport management students perceive LinkedIn as a tool to interact with the sports industry and keep up to date with its developments?

### 3. LinkedIn's Educational Innovation

#### 3.1. Contextualisation

To be able to answer the research questions, the guidelines suggested by López-Carril, Anagnostopoulos and Parganas [24] were followed, as such, an educational innovation was designed to allow students to discover the possibilities offered by LinkedIn through experiential learning. By educational innovation, we refer to the attitude and process of investigating new ideas, conceptions, strategies, proposals and contributions to produce a change and improvement in the teaching-learning process [44,45].

LinkedIn's educational innovation was developed during the second semester (February–May) of the academic course 2018–2019, with the students enrolled in the third-year undergraduate course of "Management and Organisation of Sporting Entities and Events" at the University of Valencia (Spain). The course consisted of two class-groups. Each one received the lessons on a different campus, but both the teaching staff and the content taught was the same. The first group was located in Valencia and was composed of 69 students (59 men and ten women) while the second group was located in Ontinyent (1 h and 10 min from Valencia by car) and was composed of 41 students (31 men and 10 women). Thus, 110 students participated in the educational innovation.

The educational innovation was developed in the theoretical part of the course (4.50 credits against 1.50 practical). A total of five hours of face to face instruction on LinkedIn management was taught to both groups at the beginning of the educational innovation. The rest of the work was done online, thus following a blended learning methodology. All of the students had to create a LinkedIn profile and develop a specific piece of work delivered at the end of the semester, with a weight of 2/5 of the grade for the theoretical part of the course.

Three private class groups were created on LinkedIn to canalise all the educational innovations, which were the meeting points between students and teachers. In these groups is where all the content to be worked on was progressively shared. The three groups were named the following:

- Group "#SMont": specific private group for all the students of the Ontinyent group.
- Group "#SMval": specific private group for all the students of the group of Valencia.
- Group "Sport Management Lovers": a joint group where both students from Valencia and Ontinyent gathered.

Concerning the denomination of the LinkedIn class groups, the intention was to create names that would be attractive to students, and that would be related to the specific context of the educational innovation and the course. Thus, the terms "#SMval", "#SMont" and "Sport Management Lovers" refer to the following aspects:

- The hashtag (#) is a symbol familiar to students and is attractive, which in social media, in addition to attracting attention, serves mainly to label and filter the content in a specific way, making it easier to locate it if desired.
- "SM" has a double meaning as a double acronym. The first meaning refers to "Social Media" and the second to "Sport Management".

- “val” and “ont” refer to the beginning of the name of the municipality where the two groups of students involved in the educational innovation were studying, that of the Blasco Ibáñez Campus in Valencia and that of the Ontinyent Campus in Ontinyent.
- “Sport Management Lovers” refers to the passion that both teachers and students have for the course content.

To facilitate access to the LinkedIn profiles of both students and faculty and the content published in each private class group, the faculty created an online Excel spreadsheet, of which a hyperlink was placed in the course’s official Moodle. The teaching staff updated this spreadsheet’s content using e-mail to inform the students if there was any relevant information to communicate.

### 3.2. Objectives of the Educational Innovation

When designing the innovation, two main objectives were set. The first was linked to all the positive aspects that LinkedIn offers in developing students’ professional profile and entrepreneurial attitudes. The second was the development of specific content linked to the course matter.

#### A. Specific objectives linked to LinkedIn:

1. To familiarise students with the LinkedIn professional network, understand its structure, and navigate between its essential features.
2. To create a professional profile on LinkedIn, including the selection of a professional profile and cover photo, preparation of the headline and the “about” (summary), as well as completing other sections of the profile such as experience, education, skills, validations and recommendations, among other aspects.
3. To set up a professional network of contacts adjusted to the students’ interests and include students and faculty in maintaining a professional relationship after completing the course.
4. To learn how to identify the sports industry’s main stakeholders and how to address them.
5. To develop the students’ personal brand, giving them tools to discover what orientation they want to give to it.
6. To promote the acquisition of digital skills in sport management students.
7. To promote employability and entrepreneurship in sport management students, emphasising elements such as creating a CV and finding a job or possible business partners through LinkedIn.

#### B. Specific work topics linked to the subject matter that was developed through activities in each of the private LinkedIn class groups:

1. Women and sport.
2. Innovations in the field of sports facilities.
3. Volunteer management.
4. Marketing in sports entities.
5. Management of university sport in Spain.
6. Sport management role in Spanish Sport Sciences curricula.
7. Sponsorship in the world of sport.
8. Brand management of professional leagues.
9. The role of social media in sport.
10. Machines, algorithms and automation in the sports industry.
11. Skills, characteristics and abilities of sport managers.
12. Entrepreneurship and innovation in sport.

### 3.3. LinkedIn Management Training Provided to Students

Before the innovation started, students were asked whether they had a LinkedIn profile, with only 5% answering “yes”, and within this percentage, only half were active users. Therefore, it was necessary to carry out a minimum familiarisation training about

the structure and main features of LinkedIn, in order to be able to work on all the objectives set out in the innovation. All this was carried out in the following ways:

- Theoretical lectures: these took 5 h, with faculty providing face-to-face training, and inviting a LinkedIn expert to give a masterclass.
- PDF material: material created by the faculty describing LinkedIn and its main features was uploaded to each group's Moodle.
- Video tutorials: two video tutorials were created, one primary and one advanced, both to guide students on how to create a LinkedIn profile and what aspects to develop within the assignment of the educational innovation.
- Private consultations through LinkedIn messages: taking advantage of the student-teacher interaction facilities offered by LinkedIn, throughout the innovation, the faculty answered the different consultations made by the students.

Beyond this, the students were encouraged to explore alternative learning sources that could be of interest to them and to practice independently, given the intuitive nature of LinkedIn.

#### 3.4. Assignment

Concerning the assignment of the educational innovation, the proposal made by López-Carril et al. [24] was adopted. The task was structured as follows:

- Work on the student profiles and create a professional network of contacts: the work was done individually following the faculty's guidelines to develop the innovation objectives set out in block "A". The students had to develop all aspects of their profile (e.g., profile and cover photo, headline, summary, experience, education, skills), orienting them towards the professional objective desired by each one. Besides this, specific tasks were also added, such as identifying professional groups on LinkedIn, and sports stakeholders' profiles.
- Work in the course's private groups: all of the objectives linked to block "B" were developed under this assignment section. For this purpose, the faculty selected and shared audiovisual content (e.g., videos, photos, papers, infographics) through weekly posts, specifically opening a debate with them. Students answered in the related post by interacting with the students or faculty. A total of ten different activities were published in each private group.

In addition to these two main workstreams, the students were also asked to generate content linked to the topic or specific interest themes that would help them build their personal brand and provide them with a first experience when trying to position themselves in the professional sector.

#### 3.5. Assessment

An assignment document was designed to facilitate the submission of the task for assessment. It contained all the aspects to be carried out in detail, where the students copied and pasted hyperlinks of their work done on LinkedIn. The final document was uploaded by each student in the course's Moodle within the deadline set by the faculty.

The innovation had an obligatory part to perform in each of the two assignment streams. On the one hand, students had to develop all of the fundamental aspects of their LinkedIn profile (e.g., cover and profile photos, headline, summary, skills, recommendations). On the other, students had to participate in a minimum of seven posts created by the faculty in each of the LinkedIn private class groups (therefore, a minimum of seven posts in #SMval or #SMont and a minimum of seven posts in Sport Management Lovers). Students were awarded 7 points out of 10 of the final grade for completing all these tasks. From then on, up to one more point was awarded qualitatively by the faculty, depending on the assessment of subjective aspects such as the appreciation of the quality of student interventions in the debates, progressive work throughout the semester and not at the last minute, or the adequacy of the complete student profile towards the personal brand



they want to build, among other criteria. Finally, two voluntary tasks were proposed (each awarded with one point) for those students who wanted to achieve the maximum score.

To evaluate all the work completed, the faculty followed the different hyperlinks that the students copied and pasted in the assignment document, thus giving direct access to the “proof” that the proposed tasks were done correctly. The faculty reviewed each rubric, leaving personalised feedback for each student through a private message on LinkedIn, which provided them with indications on how to continue improving their professional LinkedIn profile.

Finally, to conclude this section, Table 1 summarises the LinkedIn educational innovation’s key aspects according to “the six W’s”.

**Table 1.** LinkedIn’s education innovation in a nutshell following the six W’s.

W’s	Key Points
What	An educational innovation through LinkedIn in a sport management course
Who	110 third-year undergraduate students (90 men and 20 women) from the University of Valencia (Spain)
Why	To develop student’s professional profiles and offer them learning opportunities where they can interact and network with the sports industry, peers and faculty which can be important for their future career
Where	On LinkedIn, mainly in the course groups (i.e., “SMval”, “SMont” and “Sport Management Lovers”), on the student’s profiles and on the LinkedIn “wall” where content is created and shared
When	2nd semester (February–May) of the academic course 2018–2019
How	Through experiential learning, a LinkedIn assignment was designed where the student is the protagonist, completing specific tasks in private class groups, on their profile, and within their network of contacts.

#### 4. Methodology

This study follows a quantitative quasi-experimental cross-sectional research design with a non-random convenience sampling.

##### 4.1. Scale Development

Given the gap in the literature concerning validated instruments that allow measuring the potential of LinkedIn when developing the professional profile of sport management students and as a tool to keep up to date and interact with the sport industry, the LinkedIn’s Professional Development Potential Sport Management Scale (LPDP-SMS) was developed following several procedures to achieve the validity of the content of the questionnaire.

Firstly, an extensive review of social media in higher education literature was carried out by the authors of the paper, in order to assess whether it was possible to adapt several items from other instruments for the purposes of this study, even if these were intended to measure the educational impact of other social media (e.g., Facebook, Twitter, YouTube). In this sense, two items (items 2 and 3) from the Scott and Stanway [46] questionnaire, and seven items (items 1, 4, 5, 6, 8, 9 and 11) from the Adams et al. [47] questionnaire—originally posed as educational experiences through Twitter—were selected for their adaptability to the context of LinkedIn and sport management as well as their suitability for the objectives of the study (see items in Table 2).

**Table 2.** A preliminary draft of the LPDP-SMS composed of 17 items.

Item No.	Item	Origin of the Item
1	LinkedIn is a good tool to keep informed about sport management issues	Adams et al. [47]
2	LinkedIn can help keep you up to date on the latest developments in the sports industry	Scott and Stanway [46]
3	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)	Scott and Stanway [46]
4	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector	Adams et al. [47]
5	LinkedIn can be useful to reflect critically on issues related to sport management	Adams et al. [47]
6	LinkedIn facilitates discussions with professionals on sports industry topics that interest me	Adams et al. [47]
7	I believe that companies are able to appreciate that I know how to manage LinkedIn	New item
8	LinkedIn can be useful to expand my professional network	Adams et al. [47]
9	Learning to use LinkedIn could be an experience that will help me in my professional future	Adams et al. [47]
10	I believe that learning to use LinkedIn will be positive for my professional future	New item
11	The added value of LinkedIn depends on how I manage it personally	Adams et al. [47]
12	If I had to look for a new job, I would use LinkedIn	New item
13	Having an updated profile on LinkedIn can help me find a job	New item
14	If I had a company, I would create a specific LinkedIn profile for it	New item
15	If I had a company, LinkedIn would help me make it more successful	New item
16	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur	New item
17	I believe that LinkedIn is a highly recommended social media for sport managers	New item

Secondly, based on their specific knowledge of social media, teaching and professional development in sport management, the three authors of the study made a separate proposal of items to complement those adapted from Scott and Stanway [46] and Adams et al. [47]. A total of twelve items were proposed, which, after being discussed jointly, resulted in a selection of eight additional items (see items 7, 10, 12, 13, 14, 15, 16 and 17 in Table 2).

Thirdly, the proposed items were shared with five sport management faculty members with at least five years of teaching experience and five undergraduate students in Sport Sciences to provide insights on content, clarity, reliability, and format and also to review language and phrasing. After receiving the feedback, small adjustments were made to the item wording to improve their understanding and to adjust them to the study objectives.



Derived from the three steps described above, a preliminary draft of the LPDP-SMS composed by a total of 17 items was drawn up (see Table 2). The scale was set up as a single matrix with the following heading: "Evaluate your perceptions of LinkedIn as a tool to develop your professional profile and entrepreneurial attitudes as a sport management student, presented in the following items. Please rate each of them on a scale from 0 to 5, meaning 0 'I strongly disagree' and 5 meaning 'I strongly agree'." Thus, a 5-point Likert scale was employed.

Finally, it should be noted that the scale was developed and administered in Spanish. The authors have translated it into English with revisions made by a native English speaker who is a professional translator. In Appendix A, the final scale after carrying out the corresponding statistical tests to analyse their psychometric properties can be consulted, alongside its translation into English.

#### 4.2. Sample and Testing Procedure

The study sample is composed of 90 students out of a total of the 110 enrolled in the course who participated voluntarily by completing the LPDP-SMS, which represents a participation rate of 82%. Notably, 93.10% were in the third year of the Sports Sciences degree, while the remaining 6.90% were in the fourth year. According to gender, 81.90% were men, and 18.10% were women. The average age was 22.71 (SD = 3.84).

The questionnaire was administered online through Google Forms at two temporary stages to measure the educational innovation's possible outcomes during the semester. Therefore, a pre-test was administered at the beginning of the first session of the innovation (the first week of February, 2019), and a post-test was administered during the last session (the second week of May, 2019). Each student participated in the questionnaire on their laptop.

The investigation was carried out following the Declaration of Helsinki's ethical principles. Therefore, before the first distribution of the questionnaire, the students were informed of the study's objectives. In addition, all of them were informed that their participation was entirely voluntary and could abandon the study at any time with no need to provide any sort of justification. Furthermore, they were assured of their anonymity and confidentiality in the case of participation, signing a consent form at the beginning of each questionnaire. Finally, they were also assigned a code to enable the pairing of the pre-test with the post-test. The first author supervised the questionnaire and was available to answer any questions from the participants.

#### 4.3. Statistical Analysis

All statistical analyses linked to the preliminary validation of the LPDP-SMS were carried out using the pre-test data. A descriptive statistical analysis was performed to calculate the means, standard deviation, asymmetry and kurtosis of all 17 indicators. In the case of asymmetry and kurtosis, it was taken as a reference that the values were less than three [48]. Secondly, an Exploratory Factor Analysis (EFA) was performed to evaluate this scale's validity using an Oblimin direct rotation. The indicators related to sampling adequacy measure were also considered. The first indicator was Kaiser's [49] KMO (Kaiser-Meyer-Olkin), which assesses the degree to which each item is predictable from the others. The range of KMO values is from 0 to 1. The higher the value, the more relationship between indicators exists. Kaiser [49] suggested that KMO equal to or greater than 0.80 guarantees that the correlation matrix is suitable. Hence, these indicators present information about whether this model analysis is suitable for the data [50]. Two criteria were used to delete the indicators. The first criteria were indicators with factorial loads lower than 0.40. The second criteria were indicators with loads higher than 0.40 but with similar loads in several dimensions. It was necessary to eliminate one of them because it presented similar loads in several dimensions. The EFA showed that this scale was made up of two dimensions.

After that, Confirmatory Factor Analysis (CFA) was performed. CFA is more adequate and convincing than EFA [51]. Different fit indicators were considered in the CFA to evaluate the global adjustment of the model or scale. The first indicator to be considered was the significance of  $\chi^2$  and its robust correction provided by Satorra–Bentler ( $S-B\chi^2$ ) [52]. The ratio of  $\chi^2$  and its degrees of freedom ( $\chi^2/gL$ ) was another indicator for assessing the fit model [53]. In this case, values lower than five are appropriate [54]. Also, three coefficients of the robust goodness-of-fit indices were considered: (i) compared adjustment index (CFI), (ii) the incremental adjustment index (IFI) and (iii) the non-normal adjustment index (NNFI). Values beyond 0.90 are considered appropriate for a good fit of the model [55]. Lastly, the root-mean-square error of approximation (RMSEA) was also considered. Values that do not exceed the 0.08 were considered appropriate for a reasonable model adjustment [56].

Next, for evaluating the reliability of the scale, three indicators were calculated: (i) Cronbach's  $\alpha$ , (ii) Composite Reliability (CR) and (iii) the Average Extracted Variance (AVE). For Cronbach's  $\alpha$ , values  $<0.60$  are low, values  $\geq 0.60$  are adequate, and values  $\geq 0.70$  are considered high, according to Cronbach and Shavelson [57]. Secondly, for CR, the values recommended should be higher than 0.70 [58]. Thirdly, AVE values are considered appropriate when they are higher than 0.50 [59]. All these indexes should be considered in each factor. Two criteria were considered to assess the discriminant validity. Fornell and Larcker [59] suggested that the square root of the AVE value of a dimension is higher than the correlations between the dimensions. According to Kline [60], the correlations between the diverse dimensions should be lower than 0.85.

Finally, the last step was to compare the post-test and pre-test means to assess the educational innovation effects. An intra-group test comparison for a non-normal sample was performed because the data was non-normal (small sample size). Hereafter, the Wilcoxon test was performed to compare the differences between the pre-test and post-test means. After that, Cohen's  $d$  was calculated to evaluate the effect size, which found statistically significant differences in the cases. Cohen's  $d$  values below 0.20 were considered small, values between 0.20 and 0.80 were considered medium, and values above 0.80 were considered large [61]. The data were analysed using the statistical package SPSS (Version 23, IBM Corp, Armonk, NY, USA), EQS 6.4, and effect size calculator.

## 5. Results

This section presents the results as follows. Firstly, the descriptive results are presented (means, standard deviation, symmetry and kurtosis). Secondly, the EFA results are presented, showing in how many dimensions the indicators are grouped. Thirdly, the reliability analyses of the scale using Cronbach's alpha. Fourthly, the CFA results and all indicators related to convergent and discriminant validity are presented. Finally, the intra-group comparisons between the pre-test and post-test results of the scale grouped into the two dimensions are presented.

### 5.1. Descriptive Statistical Analysis

Table 3 shows the mean, standard deviation, asymmetry and kurtosis of each indicator on the scale. As can be observed, most of the indicators present average values above 3.50 points, in an ascending 5-point Likert scale. The item that presented a higher average was "LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector" ( $M = 3.89$ ;  $SD = 0.76$ ), followed by "Having an updated profile on LinkedIn can help me find a job" ( $M = 3.88$ ;  $SD = 0.79$ ). In contrast, the items with the lowest averages were "If I had to look for a new job, I would use LinkedIn" ( $M = 3.32$ ;  $SD = 0.85$ ), followed by "If I had a company, LinkedIn would help me make it more successful" ( $M = 3.51$ ;  $SD = 0.75$ ). Finally, regarding the values of asymmetry and kurtosis, these presented values are lower than three in all cases, which aligns with the literature's suggestions [48].

**Table 3.** Mean (M), standard deviation (SD), asymmetry and kurtosis of the items.

Item No.	Item	M	SD	Asymmetry	Kurtosis
1	LinkedIn is a good tool to keep informed about sport management issues	3.57	0.72	0.32	−0.34
2	LinkedIn can help keep you up to date on the latest developments in the sports industry	3.60	0.68	0.25	−0.22
3	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)	3.79	0.73	−0.01	−0.43
4	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector	3.89	0.76	0.03	−0.87
5	LinkedIn can be useful to reflect critically on issues related to sport management	3.54	0.67	0.63	−0.34
6	LinkedIn facilitates discussions with professionals on sports industry topics that interest me	3.62	0.68	0.42	−0.50
7	I believe that companies are able to appreciate that I know how to manage LinkedIn	3.73	0.73	0.11	−0.53
8	LinkedIn can be useful to expand my professional network	3.92	0.77	−0.18	−0.93
9	Learning to use LinkedIn could be an experience that will help me in my professional future	3.83	0.77	−0.01	−0.69
10	I believe that learning to use LinkedIn will be positive for my professional future	3.82	0.79	−0.24	0.41
11	The added value of LinkedIn depends on how I manage it personally	3.80	0.74	0.34	−1.09
12	If I had to look for a new job, I would use LinkedIn	3.32	0.85	0.12	0.56
13	Having an updated profile on LinkedIn can help me find a job	3.88	0.79	0.22	−1.36
14	If I had a company, I would create a specific LinkedIn profile for it	3.68	0.85	0.33	−0.97
15	If I had a company, LinkedIn would help me make it more successful	3.51	0.75	0.93	−0.34
16	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur	3.62	0.74	0.58	−0.68
17	I believe that LinkedIn is a highly recommended social media for sport managers	3.66	0.75	0.51	−0.79

## 5.2. Exploratory Factor Analysis

Subsequently, the EFA was carried out to analyse the internal validity of the scale. It was performed with 17 indicators associated with the perceptions of LinkedIn as a tool to promote entrepreneurial attitudes and the development of the professional profile of sport management students. A principal component analysis with direct oblimin rotation was performed. The KMO value was 0.916 ( $p < 0.05$ ), confirming the measure of sampling adequacy, and Bartlett's test of sphericity value was 1256.27,  $df = 136$  ( $p < 0.001$ ).

The results of the EFA showed the existence of two dimensions, which were denominated: dimension 1: "LinkedIn as a tool to keep up to date and interact with the sports industry" (items 1–7), and on the other, dimension 2: "LinkedIn as a driver of career development" (items 9–17). Only one of the items (item 8) had to be eliminated as it presented similar weights in both dimensions (0.47 and 0.45, respectively). Concerning the percentage of the variance explained, the remaining 16 items can explain 68.78% of the variance. The results can be observed in Table 4.

**Table 4.** Rotate factorial structure of the LPDP-SMS variance explained, Cronbach's value and eigenvalue.

Item No.	Items (17 Items, 2 Dimensions)	1	2
1	LinkedIn is a good tool to keep informed about sport management issues	0.83	
2	LinkedIn can help keep you up to date on the latest developments in the sports industry	0.87	
3	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)	0.89	
4	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector	0.87	
5	LinkedIn can be useful to reflect critically on issues related to sport management	0.71	
6	LinkedIn facilitates discussions with professionals on sports industry topics that interest me	0.83	
7	I believe that companies are able to appreciate that I know how to manage LinkedIn	0.61	
8	LinkedIn can be useful to expand my professional network	0.47	0.45
9	Learning to use LinkedIn could be an experience that will help me in my professional future		0.63
10	I believe that learning to use LinkedIn will be positive for my professional future		0.52
11	The added value of LinkedIn depends on how I manage it personally		0.67
12	If I had to look for a new job, I would use LinkedIn		0.68
13	Having an updated profile on LinkedIn can help me find a job		0.95
14	If I had a company, I would create a specific LinkedIn profile for it		0.88
15	If I had a company, LinkedIn would help me make it more successful		0.90
16	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur		0.90
17	I believe that LinkedIn is a highly recommended social media for sport managers		0.60
	% explained variance	58.38	10.40
	Cronbach's alpha		0.95
	Eigenvalue		9.34
	Total explained variance		68.78%

### 5.3. Reliability

Table 5 shows the correlations between items, and whether Cronbach's alpha increases if any item is removed. Thus, none of the items were eliminated because Cronbach's alpha would not increase by deleting any of them (see Table 5). On the other hand, Cronbach's alpha was 0.93 in the first dimension of the scale, while, it was 0.92 in the second dimension of the scale. Thus, both dimensions present good reliability indices. Also, the Cronbach alpha for the whole scale was satisfactory ( $\alpha = 0.95$ ).

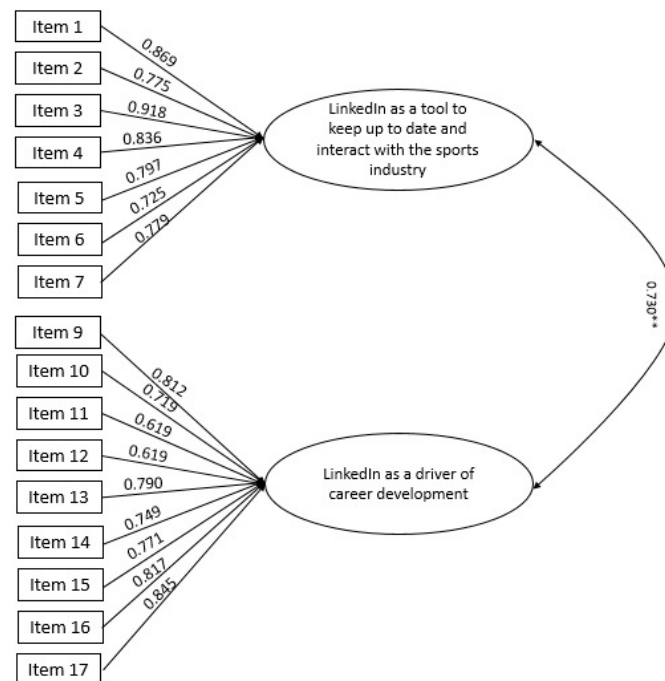
**Table 5.** Factorial loads of the items in each factor extracted, explained variance and reliability of each factor.

Item No.	Items (16 Items, 2 Dimensions)	M	SD	r <sub>ix</sub>	$\alpha - x$
<b>Dimension 1: LinkedIn as a tool to keep up to date and interact with the sports industry</b> ( $\alpha = 0.93$ ); M = 3.68; SD = 0.60					
1	LinkedIn is a good tool to keep informed about sport management issues	3.57	0.72	0.83	0.92
2	LinkedIn can help keep you up to date on the latest developments in the sports industry	3.60	0.68	0.76	0.92
3	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)	3.79	0.73	0.88	0.91
4	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector	3.89	0.76	0.80	0.92
5	LinkedIn can be useful to reflect critically on issues related to sport management	3.54	0.67	0.76	0.92
6	LinkedIn facilitates discussions with professionals on sports industry topics that interest me	3.62	0.68	0.71	0.93
7	I believe that companies are able to appreciate that I know how to manage LinkedIn	3.73	0.73	0.71	0.93
<b>Dimension 2: LinkedIn as a driver of career development</b> ( $\alpha = 0.92$ ); M = 3.70; SD = 0.63					
9	Learning to use LinkedIn could be an experience that will help me in my professional future	3.83	0.77	0.76	0.91
10	I believe that learning to use LinkedIn will be positive for my professional future	3.82	0.79	0.69	0.91
11	The added value of LinkedIn depends on how I manage it personally	3.80	0.74	0.58	0.92
12	If I had to look for a new job, I would use LinkedIn	3.32	0.85	0.60	0.92
13	Having an updated profile on LinkedIn can help me find a job	3.88	0.79	0.77	0.91
14	If I had a company, I would create a specific LinkedIn profile for it	3.68	0.85	0.74	0.91
15	If I had a company, LinkedIn would help me make it more successful	3.51	0.75	0.75	0.91
16	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur	3.62	0.74	0.78	0.91
17	I believe that LinkedIn is a highly recommended social media for sport managers	3.66	0.75	0.78	0.91

### 5.4. Confirmatory Factor Analysis

Then, CFA was performed, taking into account the structure of the EFA. Structural Equations Modelling was used to assess convergent and discriminant validity [62]. The indicators of the model present good adjustment indexes:  $\chi^2$  (gL) = 234.34 (103); S-B $\chi^2$  (gL) = 165.36 (103);  $\chi^2$  / (gL) = 2.28; NNFI = 0.92; CFI = 0.93; IFI = 0.93 RMSEA (CI) = 0.08

(0.058–0.105). The  $\chi^2/gL$  (2.28) is lower than five. Hence, this is in line with the value suggested by the literature [54]. The other indicators, NNFI, CFI and IFI (0.92, 0.93 and 0.93, respectively) have values higher than 0.90. This value is the threshold suggested by the literature for considering a good fit model [55]. Finally, the last indicator is the RMSEA. The literature suggested that this value should be equal to or lower than 0.08 to be considered a good adjustment model [56]. In this case, the RMSEA was 0.08, meeting the criteria. Thus, this model, in general, presents a good adjustment. In Figure 1, all three previous results can be appreciated.



**Figure 1.** Multi-dimensional model of the LPDP-SMS scale (five dimensions). Note: \*\*  $p < -0.01$ ;  $\chi^2(gL) = 234.34(103)$ ;  $S-B\chi^2(gL) = 165.36(103)$ ;  $\chi^2/(gL) = 2.28$ ; NNFI = 0.92; CFI = 0.93; IFI = 0.93 RMSEA (CI) = 0.08 (0.058–0.105).

### 5.5. Convergent Validity Analysis

Next, convergent validity was tested. The internal consistency was calculated by performing Cronbach's alpha (see Table 6). Nonetheless, this index does not contemplate the influence of the other construct reliability. To ensure the measurement's convergent validity, the AVE and CR were performed [59]. The two dimensions presented acceptable values for the AVE (0.56–0.69) and the CR (0.79–0.93). All the AVE dimensions values were higher than 0.50 [59]. Besides this, all CR dimensions values exceed the cut-off level of 0.70 [58]. Hence, the convergent validity of the scale can be ensured.

### 5.6. Discriminant Validity Assessment

Finally, the discriminant validity of the scale was assessed. Two criteria were used for it. First of all, the correlations between the different dimensions should be lower than 0.85 [60]. As can be observed in Table 7, the correlation met the criteria ( $r = 0.73$ ). Secondly, the correlation between the two dimensions (off-diagonal elements) both across the down column and the raw column should be lower than the square root of AVE values [59]. The correlations between the two dimensions are presented off-diagonal. The square root of AVE values is presented in bold as a diagonal element. Finally, comparing the correlational values between dimensions with the AVE values' square root, the establishment of discriminant validity is ensured.



**Table 6.** Factorial loads of the items, AVE, CR, and the square root of the extracted mean-variance.

Item No.	Items (16 Items, 2 Dimensions)	$\lambda$	CR	AVE	Square Root AVE
<b>Dimension 1: LinkedIn as a tool to keep up to date and interact with the sports industry</b> (M = 3.68, DT = 0.60; alfa = 0.93)					
1	LinkedIn is a good tool to keep informed about sport management issues	0.869			
2	LinkedIn can help keep you up to date on the latest developments in the sports industry	0.775			
3	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)	0.918			
4	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector	0.836	0.93	0.66	0.82
5	LinkedIn can be useful to reflect critically on issues related to sport management	0.797			
6	LinkedIn facilitates discussions with professionals on sports industry topics that interest me	0.725			
7	I believe that companies are able to appreciate that I know how to manage LinkedIn	0.779			
<b>Dimension 2: LinkedIn as a driver of career development</b> (M = 3.64, DT = 0.63; alfa = 0.91)					
9	Learning to use LinkedIn could be an experience that will help me in my professional future	0.812			
10	I believe that learning to use LinkedIn will be positive for my professional future	0.719			
11	The added value of LinkedIn depends on how I manage it personally	0.619			
12	If I had to look for a new job, I would use LinkedIn	0.619			
13	Having an updated profile on LinkedIn can help me find a job	0.790	0.92	0.57	0.75
14	If I had a company, I would create a specific LinkedIn profile for it	0.749			
15	If I had a company, LinkedIn would help me make it more successful	0.771			
16	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur	0.817			
17	I believe that LinkedIn is a highly recommended social media for sport managers	0.845			

**Table 7.** Correlation between dimensions and the square root of the extracted mean-variance.

Dimensions	Dimension 1: LinkedIn as a Tool to Keep up to Date and Interact with the Sports Industry	Dimension 2: LinkedIn as a Driver of Career Development
Dimension 1: LinkedIn as a tool to keep up to date and interact with the sports industry	<b>0.82</b>	
Dimension 2: LinkedIn as a driver of career development	0.73 ***	<b>0.75</b>

Note: \*\*\*  $p < -0.001$ . The square roots of AVE in bold.

### 5.7. Intragroup Comparisons: Post-Test Versus Pre-Test

Finally, the pre-test and post-test averages of the two dimensions of the scale were compared. As shown in Table 8, the post-test averages were higher than the pre-test means in both dimensions. The pre-test mean for the first dimension was 3.68 (SD = 0.60), while the post-test mean was 4.23 (SD = 0.48). The effect size was large (Cohen's  $d = 0.98$ ). Within this dimension, all items presented statistically significant differences between the pre-test and post-test scores. In all cases, post-test scores were higher than pre-test scores. Of these, the item "LinkedIn is a good tool to keep informed about sport management issues" stands out as it was the one with the largest effect size (Cohen's  $d = 0.99$ ). On the other hand, it is also worth highlighting that in the item "LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector", the effect size was the smallest (Cohen's  $d = 0.65$ ).

**Table 8.** Pre-test and post-test means comparisons of the LPDP-SMS items and dimensions.

Item No.	Dimensions	Pre-Test M (SD)	Post-Test M (SD)	Z	p	Cohen's d
	<b>Dimension 1: LinkedIn as a tool to keep up to date and interact with the sports industry</b>	3.68 (0.60)	4.23 (0.48)	−4.65	0.000	0.98
1	LinkedIn is a good tool to keep informed about sport management issues	3.57 (0.72)	4.24 (0.64)	−4.42	0.000	0.99
2	LinkedIn can help keep you up to date on the latest developments in the sports industry	3.60 (0.68)	4.17 (0.67)	−4.18	0.000	0.84
3	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)	3.79 (0.73)	4.28 (0.59)	−3.88	0.000	0.74
4	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector	3.89 (0.76)	4.32 (0.55)	−3.16	0.002	0.65
5	LinkedIn can be useful to reflect critically on issues related to sport management	3.54 (0.67)	4.24 (0.59)	−4.77	0.000	0.98
6	LinkedIn facilitates discussions with professionals on sports industry topics that interest me	3.62 (0.68)	4.19 (0.66)	−4.38	0.000	0.85
7	I believe that companies are able to appreciate that I know how to manage LinkedIn	3.73 (0.73)	4.21 (0.60)	−3.67	0.000	0.72
	<b>Dimension 2: LinkedIn as a driver of career development</b>	3.70 (0.63)	4.12 (0.49)	−3.95	0.000	0.80
9	Learning to use LinkedIn could be an experience that will help me in my professional future	3.83 (0.77)	4.22 (0.66)	−3.10	0.002	0.54
10	I believe that learning to use LinkedIn will be positive for my professional future	3.82 (0.79)	4.24 (0.59)	−3.12	0.002	0.60
11	The added value of LinkedIn depends on how I manage it personally	3.80 (0.74)	4.17 (0.67)	−2.36	0.018	0.52
12	If I had to look for a new job, I would use LinkedIn	3.32 (0.85)	3.86 (0.78)	−3.00	0.003	0.66
13	Having an updated profile on LinkedIn can help me find a job	3.88 (0.79)	4.17 (0.69)	−2.02	0.044	0.39
14	If I had a company, I would create a specific LinkedIn profile for it	3.68 (0.85)	4.06 (0.75)	−2.68	.007	0.47
15	If I had a company, LinkedIn would help me make it more successful	3.51 (0.75)	4.07 (0.61)	−4.27	0.000	0.82
16	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur	3.62 (0.74)	4.13 (0.67)	−3.59	0.000	0.72
17	I believe that LinkedIn is a highly recommended social media for sport managers	3.66 (0.75)	4.21 (0.60)	−4.00	0.000	0.81

Concerning the second dimension, the pre-test average was 3.70 (SD = 0.63), while the post-test average was 4.12 (SD = 0.49). The effect size, in this case, was also large (Cohen's  $d = 0.80$ ). Regarding the items that compose this dimension, statistically, significant differences were also found between pre-test and post-test scores. In all cases, post-test scores were higher than pre-test scores. It should be noted that in the item "If I had a company, LinkedIn would help me make it more successful" the effect size was the largest (Cohen's  $d = 0.82$ ). On the contrary, the item "Having an updated profile on LinkedIn can help me find a job" was where the effect size was the smallest (Cohen's  $d = 0.52$ ).

## 6. Discussion

Alongside a current crisis like COVID-19 it is essential to provide sustainable and meaningful educational environments and experiences that allow students to be ready for today's societal and labour challenges [17], preparing students for their future professional career [15,16]. To this respect, social media has become a useful resource while creating online or blended learning environments [6], something which is positive in a context where the COVID-19 pandemic continues to impose restrictions on the mobility of people, where social distancing has become one of the main elements to control the spread. With this in mind, this study explores the educational potential of LinkedIn when it is introduced through experiential learning in an educational innovation, to develop the students' professional profile and bring them into contact with the sport industry.

In relation to the study's first objective, an innovative educational experience is shared where LinkedIn is introduced to develop the students' professional profile and as a tool to keep up to date and interact with the sport industry. In this sense, the LinkedIn educational innovation shared in this work could provide insights to sport management faculty that will guide social media's possible future inclusion in educational settings, as some authors have stipulated [24,26]. For example, the educational innovation presented pioneers on how to introduce LinkedIn through experiential learning. In this regard, after the experience, we concur with McCorkle and McCorkle [35] about online discussion groups' educative potential. LinkedIn's private class groups offer the opportunity to create a trustworthy environment where students can discuss sport management issues concerning the course syllabus or topical issues that may interest the students. Thus, faculty can stimulate the interaction and reflection among students enabling experiential learning. To that effect, we also highlight the potential of LinkedIn to create groups of sport management students from different parts of the world. This could enrich the educational possibilities of the LinkedIn groups and enable the students to start creating an international network of contacts. Indeed, LinkedIn offers a unique space where the student can be the centre of learning, encouraging them to shape their presence in the professional world as Peterson and Dover [31] state. In the end, LinkedIn facilitates students in gaining experiences through interaction with peers, faculty, and professionals from the sport industry present on LinkedIn. Therefore, due to its characteristics, we consider that LinkedIn does allow the development of the key aspects of experiential learning identified by the authors of Refs. [36–38].

Concerning the second objective of the research, the LPDP-SMS has been developed by adapting several items from the work of Scott and Stanway [46] and Adams et al. [47] with the authors adding additional ones to it in order to try to build a suitable instrument to respond to the objective of this study. Hence, the statistical analysis procedures of the scale preliminary validation process confirmed that the LPDP-SMS, composed by 16 items divided into two dimensions, is a reliable and suitable instrument to measure the outcomes of LinkedIn in areas such as professional development, entrepreneurial attitudes and the connection and interaction with the sport industry. Therefore, pending future studies with representative samples to validate the LPDP-SMS, this study offers a new tool to the sport management education community, on an educational issue—social media linked to the students' professional development—that, as López-Carril, Añó and González-Serrano [13] state, has not been studied much until now. Furthermore, it should be emphasised that the

LPDP-SMS is the first of its nature that allows assessing LinkedIn's educational possibilities in sport management education.

While focusing on the two research questions, it is noteworthy that all items showed significant growth in the post-test compared to the data obtained in the pre-test; thus, reflecting the broad educational possibilities and impact that LinkedIn offers to the sport management community. What is especially noteworthy is the first dimension, "LinkedIn as a tool to keep up to date and interact with the sports industry", where Cohen's *d* effect size was huge. Therefore, it seems that the LinkedIn educational innovation was more effective in improving these types of students' perceptions than those related to "LinkedIn as a driver of career development" (second dimension). Nevertheless, it should be noted that in both cases, the improvements in perceptions were quite large in terms of effect size.

Given the positive results obtained in this study, we agree with authors such as Florenthal [34] and Benson, Morgan and Filippalos [63] concerning the recommendation to introduce LinkedIn into university classes as soon as possible, instead of doing so in the final year of the undergraduate cycle or at postgraduate level. The sooner students become aware of the professional world through their interaction with it via LinkedIn, the easier it will be for them to shape their career profile and to learn more according to the professional goals that they set. Furthermore, according to Badoer, Hollings and Chester [15], it is essential for faculty to provide straightforward guidelines on using and making the most of LinkedIn, given that students are more familiar with other more popular social media outlets such as Facebook. Greater importance should be placed on generating quality PDF material, video tutorials, podcasts and similar materials to support pupils.

In short, the results obtained in this preliminary study show that LinkedIn is a suitable tool to develop the students' professional profile. These results concur with the findings from other studies carried out using LinkedIn for educational purposes in other fields of instruction [15,28,30,31]. Furthermore, and specifically in the context of sport management, LinkedIn is a valuable pedagogical tool to create educational environments where students can have their first interactions with sport industry actors, in line with what previous studies have pointed out [13,24]. Therefore, we emphasise the relevance that these learning experiences can add to sport management students' education, Linked(In)g what is taught in the sport management courses with what professional skills the sports industry demands, as several authors claim [16,24,26]. Furthermore, as Peterson and Dover [31] point out, LinkedIn is completely free, so given all the advantages, it is a tool that should be introduced into the classroom for pedagogical purposes given its potential for the development of students' professional profiles.

#### *Limitations and Future Research Lines*

This study is not exempt from several limitations, most of them linked to the sample, which should lead to a prudent consideration of the findings without generalisations. First, the sample size is limited to students who voluntarily completed both the pre-test and the post-test. Although other studies in the educational field sharing practical experiences in social media have similar or lower size samples [15,28,46,47], a larger sample is necessary to be able to make generalisations. Furthermore, the sample was not geographically distributed across different parts of the country, with all students belonging to the same institution which the authors had direct access to, as well as a gender balance issue with a majority of men over women. As a result, there may be certain biases. Furthermore, there was no control group; thus, some of the results obtained may have been produced by uncontrolled elements in the research process. On the other hand, the LPDP-SMS has been tested in Spanish, so in order for it to be used in other cultural contexts, it is required to adapt the language and carry out the corresponding processes to check the psychometric properties. Finally, the research perspective to measure the impact of the educational innovation presented is quantitative, thus disregarding other possible mixed or qualitative approaches that would have enriched the approximation to the phenomenon studied by providing other insights.

The above limitations may serve as a starting point for future studies. First, it would be advisable to implement the LinkedIn educational experience presented in this study with a larger, more representative and heterogeneous sample. Second, control groups should be established, although, at this point, it is worth acknowledging that each course's enrollment capacity may create limitations in making this possible. It would also be worthwhile to propose a re-test to measure the educational experience results' sustainability. On the other hand, it would be advisable to validate the scale in English or other languages, in order to be able to carry out comparative studies on the educational possibilities of LinkedIn. Regarding methodology, we suggest obtaining and/or analysing data from qualitative approaches and techniques (e.g., interviews, focus groups, analysis of thematic content of LinkedIn publications). Finally, given the transversality of LinkedIn, it would be interesting to apply the LPDP-SMS to other similar initiatives in other areas of study (e.g., business, health, politics, marketing) to find out possible differences or similarities depending on the context of each course.

## 7. Conclusions and Practical Implications

This study brings several contributions both at a practical and theoretical level that involve advances in the context of the area of sport management education. Firstly, it shares an educational innovation where LinkedIn is employed as a pedagogical resource based on the experiential learning principles, intending to develop the students' professional profile and creating situations that allow them to interact with the sports industry and keep up to date with the latest news. For this purpose, LinkedIn's class private groups were created, where the faculty proposed activities linked to the course syllabus and current industry issues. Furthermore, students had to work to build their LinkedIn profile and their professional network of contacts according to their professional interests. Thus, this study provides a pioneering educational experience in sport management literature through LinkedIn that may guide future online or hybrid educational proposals by sport management faculty.

Secondly, the LPDP-SMS has been created and pre-validated, showing good psychometric properties. This instrument is the first that explicitly explores the impact that LinkedIn can have on sport management students in aspects such as career development and as a tool through which to interact with the sport industry and keep abreast of its latest developments. In that sense, the LPDP-SMS can help sport management faculty and researchers assess social media's educational possibilities in higher education classes, contributing to future learning proposals. This is relevant in a context where, on the one hand, social media have an increasing role in the day-to-day life of the sports industry, and on the other, where the COVID-19 pandemic has driven online and hybrid learning education. In this sense, LinkedIn can generate sustainable online learning environments that overcome possible restrictions on citizen's mobility. Nevertheless, it is important to stress that the sample is not representative and that no control group was used, which should warrant a cautious approach to the results and future uses of the LPDP-SMS, until its validation in future studies.

Thirdly, based on the results obtained through the LPDP-SMS, with significant increases in all items in the post-test compared to the pre-test data, it is considered that LinkedIn can be a suitable tool to develop the professional profile of sport management students. Furthermore, the results support LinkedIn as a social media that enables and facilitates students' interaction with industry actors (e.g., athletes, coaches, professional clubs, sports brands). Besides this, LinkedIn also allows students to keep up to date with the latest developments in the field. On the other hand, LinkedIn can facilitate course content development through the proposal of activities in private groups, something that offers a wide range of flexibility and possibilities to the sport management faculty. In conclusion, given all the possibilities and potential that LinkedIn offers in future sport managers' education, we encourage sport management faculty to consider the possible incorporation of LinkedIn into their class dynamics as a pedagogical tool.

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**Institutional Review Board Statement:** The study was conducted according to the guidelines of the Declaration of Helsinki. On the other hand, according to the Institutional Review Board of the University of Valencia: “The approval of the Committee of Ethics is not necessary if you are going to carry out an opinion survey about a topic or issue, professional status or satisfaction with certain matters” (<https://www.uv.es/ethical-commission-experimental-research/en/ethics-researchhumans/preguntas-frecuentes.html> (accessed on 5 January 2021)), the approval of the Committee of Ethics of the University of Valencia was not necessary for this study.

**Informed Consent Statement:** Informed consent was obtained from all participants involved in the study.

**Data Availability Statement:** Not applicable.

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**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

**Table A1.** Final validated version of the Professional Development Potential Sport Management Scale (LPDP-SMS) and its adaptation into English.

Item No.	Original LPDP-SMS in Spanish	LPDP-SMS Adapted to English
1	LinkedIn es una buena herramienta para mantenerse informado sobre temas de gestión del deporte	LinkedIn is a good tool to keep informed about sport management issues
2	LinkedIn puede ayudar a estar al día de los últimos avances en la industria del deporte	LinkedIn can help keep you up to date on the latest developments in the sports industry
3	LinkedIn me facilitará estar conectado con grupos de interés (stakeholders) de la industria del deporte (clubs, gestores del deporte, entidades deportivas, empresas deportivas, etc.)	LinkedIn will make it easier for me to be connected with stakeholders from the sport industry (clubs, sport managers, sport entities, sport companies, etc.)
4	LinkedIn te da la oportunidad de seguir y/o estar conectado con gente importante de mi sector profesional	LinkedIn gives you the opportunity to follow and/or be connected with relevant people in my professional sector
5	LinkedIn puede ser útil para reflexionar de forma crítica sobre temas relacionados con la gestión del deporte	LinkedIn can be useful to reflect critically on issues related to sport management
6	LinkedIn facilita debatir con profesionales sobre temas de la industria del deporte que me interesan	LinkedIn facilitates discussions with professionals on sports industry topics that interest me



Table A1. Cont.

Item No.	Original LPDP-SMS in Spanish	LPDP-SMS Adapted to English
7	Creo que las empresas pueden valorar positivamente que sepa gestionar LinkedIn	I believe that companies are able to appreciate that I know how to manage LinkedIn
9	Aprender a usar LinkedIn puede ser una experiencia que me ayudará en mi futuro profesional	Learning to use LinkedIn could be an experience that will help me in my professional future
10	Creo que aprender a usar LinkedIn va a ser positivo para mi futuro profesional	I believe that learning to use LinkedIn will be positive for my professional future
11	El valor añadido de LinkedIn depende de cómo lo gestione personalmente	The added value of LinkedIn depends on how I manage it personally
12	Si tuviera que buscar un nuevo empleo, utilizaría LinkedIn para ello	If I had to look for a new job, I would use LinkedIn
13	Tener un perfil actualizado en LinkedIn puede ayudarme a encontrar un empleo	Having an updated profile on LinkedIn can help me find a job
14	En caso de que tuviera una empresa, crearía un perfil de LinkedIn específico sobre la misma	If I had a company, I would create a specific LinkedIn profile for it
15	En caso de que tuviera una empresa, LinkedIn me ayudaría a que ésta tuviese más éxito	If I had a company, LinkedIn would help me make it more successful
16	Saber gestionar LinkedIn puede facilitarme emprender	Knowing how to manage LinkedIn can facilitate me to become an entrepreneur
17	Creo que LinkedIn es un medio social muy recomendable para los gestores del deporte	I believe that LinkedIn is a highly recommended social media for sport managers

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