

## Article

# Employable through Social Media: An Intervention Study

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**Abstract:** This longitudinal, quantitative study contributes to the debate on technology-based professional development by examining the extent to which a learning (LinkedIn) intervention in a university setting affects an individual's social media use for professional development, and the extent to which this relates to self-reported employability. In addition, we investigated how this relationship is moderated by an individual's motivation to communicate through social media (LinkedIn). Based on social capital theory and the conservation of resources theory, we developed a set of hypotheses that were tested based on longitudinal data collected from university employees (N = 101) in middle- and high-level jobs. First, in line with our expectations, social media use for professional development was significantly higher after the learning intervention than before. Second, partially in line with our expectations, social media use for professional development was positively related with the employability dimension anticipation and optimization. Third, contrary to our expectations, motivation to communicate through social media (LinkedIn) did not have a moderating role in this relationship. We concluded that the learning intervention has the potential to foster social media use for professional development, and in turn, can contribute to individuals' human capital in terms of their employability. Hence, the intervention that forms the core of this empirical research can be a sustainable and promising human resource management (HRM) practice that fits the human capital agenda.

**Keywords:** social media use for professional development; learning intervention study; motivation; employability; sustainable human resource management

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## 1. Introduction

Professional development acquired through formal training and informal interactions with peers has become key for individuals' careers and organizations' competitiveness, as they allow individuals to enhance and maintain their employability in ever changing markets [1,2]. Enabled by technological developments, new suppliers have emerged and social media use has been increasingly integrated in organizational landscapes [3]. Consequently, in past decades, traditional face-to-face classroom learning has gradually been replaced by technology-based learning [4]. For example, LinkedIn, the world's largest professional online network, with over 740+ million users in more than 200 countries

and territories worldwide [5], has recently shown its potential to function as a professional learning platform [6]. This type of technology-based learning can be characterized as being less individual and more social, open, and collaboration-oriented [7], and allows people to learn from subject-matter experts and role-alike peers [8]. With millions of people worldwide having started to use social media to learn and develop themselves [9], Egypt forms a highly interesting country for scholarly work on the impact of social media, given that the social and political upheavals at the beginning of the second decade of the 21<sup>st</sup> century created a rapid rise in social media use [10]. More specifically, Sobaih, Moustafa, Ghandforoush and Khan [11] showed that social media might have a great value in the Egyptian context, in particular as a learning tool. Furthermore, it is worthwhile to examine its effectiveness in terms of employability enhancement [12], especially now when the COVID-19 pandemic has accelerated the adoption of online learning in organizational contexts [13].

Building on social capital theory [14], which states that network ties can provide access to valuable resources [15,16], it can be argued that using embedded resources in an online network can be useful to develop oneself professionally and enhance one's employability. Additionally, in the specific context of academic careers, informal learning activities, such as networking, have been shown to be solid determinants to employability enhancement of academic staff members [17]. In a similar vein, Miller, Partridge, Bruce, and Hemmings [18] underpinned the importance of social networks in academic careers, and the opportunities to learn from these in a more informal manner. However, although technology-based professional development can be beneficial for these employees and their employers, not all academics may be in favor of communicating through social media for their further growth. Some may lack interest in, or affinity with, technology-based professional development, or do not have the knowledge on how to use the existing social media platforms to professionally development themselves. This implies great challenges for their organization that would like to embrace this new way of learning, e.g., in terms of the institutionalization of social learning [19]. Learning interventions, such as training sessions on how to use social media, can therefore be regarded as an important tool for organizations to foster the adoption of technology-based professional development.

Previous research, however, found that personal motivation to use technology can be an important factor in both engaging in technology-based professional development, and, hence, in employees' learning success [20]. Motivation can be viewed as the energizing component of competent performance [21], that can be reached by communicating in social media networks (in the remainder of the text, motivation to communicate through social media will be addressed as 'motivation'). Based on the conservation of resource (COR) theory [22], it can be reasoned that this motivation can drive employees to both maintain their current resources and to develop new ones, such as knowledge, skills, social contacts, and well-being. Hence, individuals' motivation can be expected to play an important moderating role [23] in the relationship between their actual social media use for professional development and self-reported employability.

The aim of this longitudinal, quantitative study is to contribute to the debate on technology-based professional development and employability, by examining the extent to which a learning (LinkedIn) intervention in a university setting affects individual's social media use for professional development. Moreover, it examines the extent to which social media use for professional development relates to their self-reported employability, and how this relationship is moderated by their motivation. Altogether, by means of this empirical work, we intend to help closing the lack of research on the possible added value of social media use in a professional and career context. Moreover, notwithstanding the fact that over the past decades, the amount of career research using non-Western samples has expanded, there is still an urgent need to overcome the so-called WEIRD perspective (Western, educated, industrialized, rich, and democratic countries) [24] that still dominates the career literature. In this regard, our Egyptian sample is highly welcome, as it

helps to increase our insight into the diversity of meanings ascribed to careers in other economic, cultural and institutional contexts across the globe [24].

This empirical work has multiple contributions to scientific and societal debates in the field. More specifically, first, by presenting a longitudinal, quantitative study, we provide insights into the usefulness of training as an employability-enhancing practice in professional settings. Second, we contribute to the increasing scholarly research on using social media (i.e., LinkedIn) as a platform to learn [6,25], and its long-term effects on employability. Third, we contribute to earlier knowledge by gaining understanding on the variation in effectiveness of technology-based learning activities on employability, by assessing the moderating role of motivation in this relationship. The present study also has some practical relevance. The use of technology-based learning can not only improve cost-effectiveness of employee development, but can also enhance employees' access to both internal and external resources. By examining the effects of training on social media use for professional development, and its effectiveness in terms of employability, this study can provide guides for policymakers concerned with organizational and human resource development, herewith taking into account individual differences.

In the next section, an overview of the scholarly literature on employability, social media use for professional development, and motivation is given, resulting in our research hypotheses. After that, an explanation of the research methodology will be outlined, including a detailed description of the intervention and the operationalization of our key variables. Subsequently, the results will be presented. This paper concludes by summarizing its main findings and discussing the study's implications, limitations and recommendations for future research and managerial practice.

## 2. Theory and Hypotheses' Development

### 2.1. Employability

Sustainable employability has become increasingly important and a shared responsibility between individuals and organizations, in which the latter party should preferably provide access to employability-enhancing practices [26]. Employability is an individual characteristic that is defined as the "capacity of continuously fulfilling, acquiring, or creating work through the optimal use of competences" [27] (p. 453). In our empirical study, the psychological notion of employability is adopted, referring to the subjective perception of an employee on their possibilities, in terms of competences, to obtain and maintain work [28]. This notion is in line with Katz and Kahn [29] who posited that one's perceptions are the main drivers of one's behavior. We follow Van der Heijde and Van der Heijden [27], who proposed a five-dimensional operationalization of employability, including one domain-specific (occupational expertise) and four more generic competences (anticipation and optimization, personal flexibility, corporate sense, and balance).

First, the dimension of occupational expertise refers to having the right skills for the job, having the right knowledge (including meta-cognitive), and being socially recognized by relevant others. Second, the dimension anticipation and optimization comprise the capability to prepare for and adapt to the best possible results in a personal and creative manner. Third, the dimension personal flexibility refers to the ability to adapt to all kinds of changes that do not pertain to one's immediate job domain in the internal and external labor market. Fourth, the dimension corporate sense refers to an individual's participation and performance in different work groups, such as organizations, teams, occupational communities, and other networks. Here, participation and performance refer to, amongst others, sharing responsibilities, knowledge, experiences, feelings, credits, failures, goals, etc. Finally, the fifth and last dimension, balance, refers to an individual's competences to merge and align conflicting employers' and employees' interests, or at least to make a well-considered decision among them. Using a competence-based measurement for employability has the advantage of determining potential that already is or may be converted into action [27,28].

## 2.2. Social Media Use for Professional Development

Previously, knowledge has been detected as one of the definite sources of durable competitive advantage in the organizational context [30]. However, managing one's knowledge is a complex and heterogeneous area [31]. From a cognitive science or knowledge science perspective, Wiig [32] was one of the first authors who put knowledge management on the map. Although there is not one single definition of knowledge management, the general belief is that it relates to "unlocking and leveraging the knowledge of individuals so that this knowledge becomes available as an organizational resource" [31] (p. 932). This unlocked and leveraged knowledge can have different forms, of which one of the most common divisions is between tacit and explicit knowledge [33]. According to Nonaka and Von Krogh [34], tacit knowledge (obtained from experience) is subjective, while explicit knowledge (obtained from rationale) is objective by nature. The combination of these two forms of knowledge enables the creation of new knowledge. Knowledge creation demands a permanent interaction between different types of knowledge, both tacit and explicit, held by different entities as individuals, groups, and organizations [35].

As both tacit and explicit knowledge can be effectively exchanged through technology-based knowledge management systems [36], social media comprises a promising tool for fostering individuals' professional development activities. However, the latter is not an easy task, especially since knowledge is considered to be an intangible asset. Yet, managing people's knowledge is critical for an organization's capacity to learn, to expand its knowledge base, and to stimulate employees to share their knowledge to sustain an organization's success [37]. All in all, this makes learning and development salient in organizations nowadays and stands high on the HRM agenda [38].

## 2.3. The Effectiveness of Training in Social Media Use for Professional Development

Technology integration may be viewed as inescapable and just a further extension of daily operations [39]. Yet, putting technology-based learning and development activities (e.g., managing one's knowledge) high on the organization's HRM agenda does not mean that the implementation to stimulate employees' employability is an easy job. One of the challenges of the optimal use of social media is to motivate employees to engage in professional development activities [19]. It may well be that some individuals just do not understand the functioning of new systems, such as technology-based (social media) tools implemented to foster interaction with others. To optimize professional development, it is key that employees are confident in working with the adopted new technologies. In this respect, social capital theory [14], with its premise that relationships and interaction are an important resource for social action, might offer a promising perspective, in that professional relationships can easily be made through the social media platform LinkedIn. Obviously, people need to be well-prepared to work with its functionalities.

In previous scholarly work, it has already been noted that training is key to the introduction of IT. For instance, Culpan [40] stated that "... the most important factor involved in successfully introducing IT is that of providing appropriate training for employees" (p. 168). In line with Culpan [40], Rosenbusch [41] argued that to reach a successful implementation of state-of-the-art technologies, the introduction of workplace technology must be accompanied by training and the creation of support mechanisms for all involved. In view of the continued influx of technology incorporation in the workplace, adequate training [2] has been central in the past decades. We assume that interventions can be used to efficiently and effectively train employees in using new technologies and to make them acquainted with using social media for professional development. Based on this, the first hypothesis is proposed:

**Hypothesis 1 (H1).** *A learning intervention to train the use of social media positively influences professionals' actual social media use for professional development purposes.*

#### *2.4. The Relationship Between Social Media Use for Professional Development and Employability*

Social media and the social use of the web offer professionals, amongst others, new opportunities to learn and develop. In line with social capital theory [14], the unlocked resources in people's relationships that have been formed through social media provide tremendous opportunities for social action. Currently, LinkedIn is the world's largest online professional network [5], making it the predominant tool for professional social media use. Historically, organizations who wish to retain control over their knowledge used to block social media on the shop-floor level. Nowadays, however, social media has become more and more integrated within the organizational landscape [3], as it offers organizational members great opportunities to remain informed and to develop themselves in multiple ways [42]. By integrating the concepts of social action, unlocking and leveraging the knowledge of individuals, and social media, Sigala and Chalkiti [42] presented a three-layer framework with different levels of social media exploitation for managing individuals' professional knowledge.

The first and lowest exploitation level represents individuals' technology use related to searching, storing, categorizing, and linking information. On this level, employees in the organization may use LinkedIn to find up-to-date information and to keep up with new professional developments. For example, the global perspective of LinkedIn allows people to draw information from a certain area in a heartbeat, compared to drawing from the more traditional knowledge gathering sources, such as books or journals.

The second exploitation level represents individuals identifying and participating in social networks for developing and maintaining interpersonal relationships, and for sharing, discussing, and negotiating information with others. On this level, the use of LinkedIn allows employees to relate with others, both within and across organizations, often overcoming the physical boundaries of existing relationships. Talking about new aspects in the professional field becomes much easier while using the online environment. This level is different from the first one because "the people are not solely passive receivers of information coming from various networks, but they are also active discussers and users of this information with other people in the networks. Thus, by going from exploitation level one to two, social media supports not only inner, but also external cognitive knowledge management processes" [42] (p. 50).

The third and highest exploitation level represents individuals' use of technology for (co)-creating knowledge. In this third level, employees can use LinkedIn to discuss insights and combine these with insights from others in order to create new knowledge on specific topics. Furthermore, through LinkedIn, employees have much easier access to new information and to combine these new insights to (co)create new knowledge and to learn.

Learning can be seen as the cornerstone of the enhancement of employability [43], which makes professional development through social media a highly interesting field of research. Some scholars have linked technology-based learning [1] and social media use [12] to employability enhancement. To maintain one's fundamental qualifications (i.e., knowledge and skills) and, hence, one's employability, participating in the ample development opportunities that social media provides can be viewed as essential and, therefore, both formal and informal learning activities [cf. 17] through this medium can be recommended. In general terms, formal learning is related to gaining structured knowledge through educational settings, while informal learning is related to everyday practices through non-educational settings [44]. Through learning, employees can expand their knowledge base.

In a recent study, Froehlich, Segers, Beausaert, and Kremer [45] found support for the assumption that employees who engage in information-seeking behavior show higher levels of all five employability dimensions, as distinguished by Van der Heijde and Van

der Heijden [27]. In particular, Froehlich and colleagues [46] found that both formal and informal learning can enhance employability. Focusing on academic careers, Miller et al. [18] underpinned the importance of social networks, and the opportunity they provide to learn in an informal manner. In a similar vein, Van der Klink et al. [17] showed that networking in academic careers, being an informal learning activity, is a strong antecedent for employability. Based on these insights, the second hypothesis is proposed:

**Hypothesis 2 (H2).** *Social media use for professional development purposes is positively related to employability.*

### *2.5. The Moderating Role of Motivation in the Relationship between Actual Social Media Use for Professional Development and Employability*

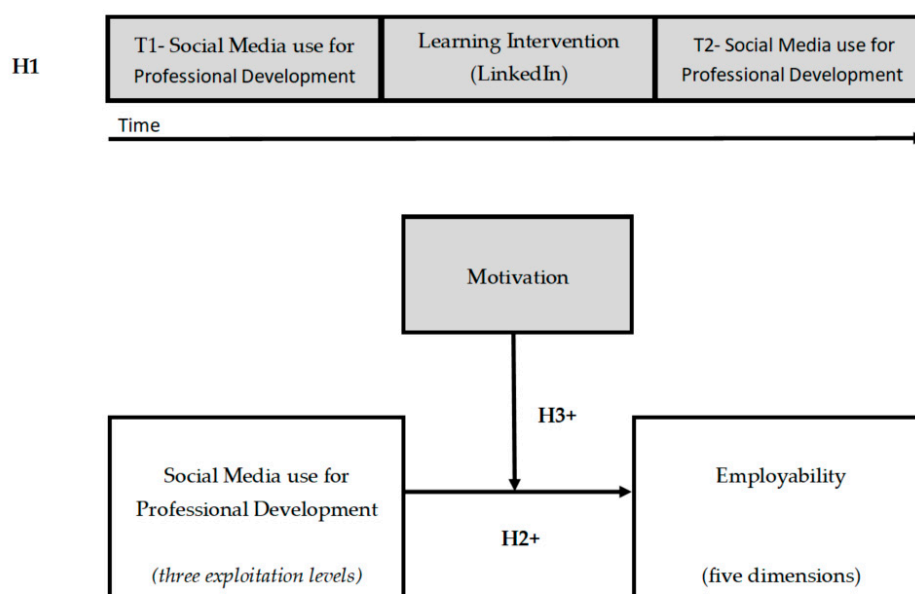
The early introduction of social media platforms, but also the (continuous) launching of new features within existing platforms, are at some point “foreign to the user” [47] (p. 580). Bryant, Sanders-Jackson, and Smallwood [48] found that people are initially willing to learn these new technologies in order to stay connected with others in their networks. Although they are willing to learn these new technologies, the step towards using new, sometimes unknown features of a social media platform and communicating through social media, however, may be daunting for some people. In this light, Spitzberg [9] noted that it is necessary to take a person’s own motivation to communicate through technologies into account when trying to understand its effectiveness. In line with COR theory [22], the preservation of individuals’ current resources and the development of new resources that are available on and developed through LinkedIn are assumed to be associated with motivation. More specifically, employees’ motivation to communicate through social media facilitates them in working with the information on the platform, and as a result to develop themselves. Hence, with respect to technology-based learning, motivation can be regarded to be a critical factor [20]. Especially in the context of our empirical study, where social media (i.e., LinkedIn) is used as a development tool, the careful integration of technology-based learning in the working organization is an important point of concern. This relates to the fact that learning and motivation are inseparable from each other [49], and that in order to optimize technology-based learning, core attention for a sound integration at the workplace is key [50]. As psychologists have found (e.g., [51]), people that are motivated to learn are more likely to engage in things they believe will help them to learn. Following this line of reasoning, we argue that people who are motivated to communicate through social media are more likely to benefit from it in terms of their employability enhancement. Their motivation may, for example, stimulate them to spend more time on getting acquainted with the technicalities involved in communicating through social media. Indeed, in a recent study, Wang et al. [23] found that motivation to use social media had a positive moderating effect in the relationship between social media use and social learning. Based on this, the following moderation hypothesis is proposed:

**Hypothesis 3 (H3).** *Motivation moderates the positive relationship between social media use for professional development purposes and employability, such that this relationship is stronger when the individual is highly motivated.*

## **3. Methodology**

### *3.1. Procedure and Sample*

This study used a two-wave longitudinal design [52,53], with a learning intervention (LinkedIn) that was implemented between T1 and T2 (see the conceptual model depicted in Figure 1).



**Figure 1.** Conceptual model visualizing our research hypotheses.

All participants who participated in the learning intervention (LinkedIn) were university employees of an Egyptian university located in Cairo. The university has a combined focus on teaching and research, with an average age of the participants of 32.85 years (*SD* is 8.31), and 37% were male. They had several job types at middle and higher levels of functioning and were spread amongst all faculties of the university. In total, 101 matched samples were created by matching the T1 and T2 data of the individual participants.

### 3.2. The Learning Intervention

The overall aim of the learning intervention was to increase university staff members' social media (LinkedIn) use for professional development. It was executed between the T1 and T2 measurement. The T1 measurement functioned as a base-line measurement and after a time span of three months all data of the T2 measurement was collected. LinkedIn was chosen as the social media tool in this study because it is most strongly related to the professional setting of the type of participants in comparison with other social media tools. Moreover, the intervention approach needed to be generic in order to allow academic staff with various disciplinary backgrounds to participate. However, it also needed to allow for domain-specific development so that all participants could learn and identify personal room for improvement. In addition, it was important that the intervention took place in a computer room with good internet facilities. Finally, another important characteristic of the intervention was that it had to be evidence-based, and thus needed to include scientifically validated learning techniques.

The intervention consisted of a 2h session that was held at the campus of the case university. Prior to the session, all participants were instructed through email on how to create a LinkedIn profile, and all participants had a functioning LinkedIn profile at the start of the session. This email also included a request to fill in the T1 base-line measurement on the research variables. The session had two main topics: LinkedIn in general and learning with LinkedIn. Overall, the session included a blended learning style with online and offline interaction. For the interaction to work, small groups of 10–15 participants were created in order to allow room for personal feedback. The content of the first part of the session included sharing some background about the platform and a peer review exercise with a checklist of the LinkedIn profiles of the participants. The second part of the session focused on opportunities to learn through the LinkedIn platform. This included

explanations of the (advanced) search engine, the use of '#' (hashtag), influencers and company pages to find information, as well as the newly added work button in LinkedIn for learning, insights and SlideShare. This second part also included an exercise to practice with the platform and to find and learn from new information. After the session, participants were invited to fill in the T2 measurement.

The content of the session was created in collaboration with a LinkedIn employee and LinkedIn expert. The LinkedIn employee occupied a managerial function and took part in a face-to-face interview with the first author of this paper and gave valuable feedback on the (new) learning opportunities of the platform to be included in the intervention. The LinkedIn expert worked at the University of Applied Sciences in the Netherlands and was engaged in providing a paid LinkedIn course to university students and external professionals. As such, our learning intervention was based on a widely used LinkedIn training for students and professionals, which focused on the particular learning aspects of the platform.

During the intervention, two trainers who both hold a PhD and who are working at the Dutch University of Applied Sciences were available. They were thoroughly instructed about the learning materials prior to the sessions by the LinkedIn expert and the first author of this paper. The adherence to the intervention was controlled for by using one similar format for all sessions, including a content checklist for the trainers.

### 3.3. Measures

Employability was measured using the thoroughly validated 22-item short-form, five-dimensional instrument by Van der Heijden et al. [28]. This instrument is based on the 47-item Five-Factor Employability instrument [27]. The measurement scale consists of the following five dimensions: occupational expertise (5 items); anticipation and optimization (4 items); personal flexibility (5 items); corporate sense (4 items); and balance (4 items). All items were scored on a six-point Likert-type scale that ranged from, for instance, not at all/never (1) to considerable degree/very often (6), depending on the item's wording. Example items were: "I consider myself ... competent to weigh up and reason out the 'pros' and 'cons' of particular decisions of working methods, materials, and techniques in my job domain" (for occupational expertise; Cronbach's alpha = 0.77); "I consciously devote attention to applying my newly acquired knowledge and skills" (for anticipation and optimization; Cronbach's alpha = 0.70); "I adapt to developments within my organization ..." (for personal flexibility; Cronbach's alpha = 0.73); "In my organization, I take part in forming a common vision of values and goals" (for corporate sense; Cronbach's alpha = 0.89); "The time I spend on my work and career development on the one hand and my personal development and relaxation on the other are ... evenly balanced" (for balance; Cronbach's alpha = 0.88).

Social media use for professional development scale based on Sigala and Chalkiti [42] was used. This scale consists of three exploitation levels: the first exploitation level (4 items related to the use of social media for searching, storing, and reading information for personal or public use); the second exploitation level (four items reflecting the use of social media for networking, sharing, and discussing information with others); and the third exploitation level (two items measuring the exploitation of web 2.0 for (co)-creating and generating new knowledge). Example items were: "When using social media for professional purposes, I use at least one social media tool in order to read information" (for exploitation level 1; Cronbach's alpha = 0.91); "When using social media for professional purposes, I use at least one social media tool in order to update my personal profile and status" (for exploitation level 2; Cronbach's alpha = 0.89); "When using social media for professional purposes, I use at least one social media tool in order to participate in online discussions for creating new knowledge" (for exploitation level 3; Cronbach's alpha = 0.84).

The moderator variable, motivation was measured by five items based on the CMC (computer-mediated communication) competence measure for motivation by Spitzberg



[21]. The items were rephrased to explicitly refer to 'social media' instead of 'computer'. All items were scored on a five-point Likert-type scale that ranged from not at all true of me (1) to very true of me (5). An example item was: "I am very motivated to use social media to communicate with others." (Cronbach's alpha = 0.95).

#### 3.4. Data Analysis

First, the quality of the data and the corresponding assumptions for multivariate analysis was tested (i.e., linearity, normality, and homoscedasticity) [54]. As no violations of the assumptions were found, we proceeded with the analysis. Our research hypotheses (see Figure 1) were tested by employing SPSS version 25 in combination with the PROCESS macro by Hayes (2017). For testing Hypothesis 1 in SPSS, the effect of the intervention was estimated using a dependent sample T-test with bootstrapping. The analysis of Hypothesis 2 was done in SPSS by conducting five different series of multiple linear regression analyses, one for each of the five employability dimensions. For Hypothesis 3, Model 1 in PROCESS [54] was used, and to better interpret the results, all continuous predictor variables were centered. Table 1 presents the means, standard deviations, and correlations between the study variables. Table 2 presents the results of the multiple linear regression analyses, and Table 3 presents the analysis using the PROCESS macro.

**Table 1.** Means, standard deviations (SD) and correlations between the model variables.

	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Social media use for professional development _ exploitation level 1	4.69	1.55								
(2) Social media use for professional development _ exploitation level 2	4.48	1.51	0.71 **							
(3) Social media use for professional development _ exploitation level 3	4.48	1.50	0.71 **	0.77 **						
(4) Motivation	3.18	0.76	0.31 **	0.36 **	0.41 **					
(5) Occupational expertise	4.93	0.65	0.00	0.08	0.02	0.10				
(6) Anticipation and optimization	4.32	0.77	0.04	0.24 *	0.06	−0.06	0.53 **			
(7) Corporate sense	4.67	0.86	0.11	0.18	0.21 *	0.03	0.53 **	0.52 **		
(8) Personal flexibility	4.51	0.62	0.02	−0.05	−0.06	−0.08	0.55 **	0.45 **	0.57 **	
(9) Balance	3.78	0.86	0.19	0.24	0.14	0.08	0.39 **	0.58 **	0.41 **	0.38 **

N = 101, \*  $p < 0.05$ , \*\*  $p < 0.01$ .**Table 2.** Regression analyses for perceived Social media use for professional development and Motivation as predictor of five employability dimensions.

Variable	Occupational Expertise T2			Anticipation and Optimization T2			Corporate Sense T2			Personal Flexibility T2			Balance T2		
	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$
Constant	3.35	0.46		3.20	0.49		3.44	0.53		3.49	0.45		2.08	0.51	
Occupational expertise T1	0.30	0.08	0.37 ***												
Anticipation and optimization T1				0.25	0.09	0.27 **									
Corporate Sense T1							0.22	0.09	0.26 *						
Personal flexibility T1										0.27	0.08	0.34 ***			
Balance T1													0.34	0.10	0.33 ***
Social media use for PD_1	−0.05	0.06	−0.13	−0.10	0.07	−0.20	−0.10	0.09	−0.17	0.03	0.06	0.07	0.04	0.08	0.06
Social media use for PD_2	0.06	0.07	0.13	0.25	0.08	0.48 **	0.05	0.10	0.08	−0.01	0.07	−0.02	0.15	0.09	0.26
Social media use for PD_3	−0.06	0.07	−0.14	−0.11	0.08	−0.22	0.11	0.10	0.19	−0.08	0.07	−0.20	−0.12	0.10	−0.20
Motivation	0.13	0.07	0.15	−0.01	0.11	−0.11	0.00	0.13	0.00	0.03	0.10	0.03	0.04	0.13	0.04
R <sup>2</sup>	0.16			0.18			0.11			0.12			0.17		

N = 101, \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Social media use for PD\_1 = Social media use for professional development \_ exploitation level 1, Social media use for PD\_2 = Social media use for professional development \_ exploitation level 2, Social media use for PD\_3 = Social media use for professional development \_ exploitation level 3.

**Table 3.** Moderation of Motivation in the relationship between Social media use for professional development and the five employability dimensions.

Moderation	Occupational Expertise T2				
	B	T	p	F	R <sup>2</sup>
Social media use for PD_1 * Motivation	-0.08	-1.25	0.22	4.38	0.16
Social media use for PD_2 * Motivation	-0.06	-1.10	0.27	3.89	0.15
Social media use for PD_2 * Motivation	-0.08	-1.54	0.13	4.60	0.17
Moderation	Anticipation and optimization T2				
	B	T	p	F	R <sup>2</sup>
Social media use for PD_1 * Motivation	-0.08	-1.04	0.30	2.67	0.10
Social media use for PD_2 * Motivation	-0.07	-1.13	0.26	3.64	0.14
Social media use for PD_2 * Motivation	-0.06	-0.83	0.41	2.54	0.10
Moderation	Corporate sense T2				
	B	T	p	F	R <sup>2</sup>
Social media use for PD_1 * Motivation	-0.08	-0.94	0.35	2.31	0.09
Social media use for PD_2 * Motivation	-0.02	-0.32	0.75	2.32	0.09
Social media use for PD_2 * Motivation	-0.05	-0.72	0.47	2.62	0.10
Moderation	Personal flexibility T2				
	B	T	p	F	R <sup>2</sup>
Social media use for PD_1 * Motivation	-0.05	-0.84	0.40	2.66	0.11
Social media use for PD_2 * Motivation	-0.04	-0.81	0.42	2.81	0.11
Social media use for PD_2 * Motivation	-0.04	-0.79	0.43	3.10	0.12
Moderation	Balance T2				
	B	T	p	F	R <sup>2</sup>
Social media use for PD_1 * Motivation	-0.03	-0.39	0.70	3.93	0.15
Social media use for PD_2 * Motivation	-0.06	-0.90	0.37	4.52	0.17
Social media use for PD_2 * Motivation	0.03	0.35	0.73	3.63	0.14

N = 101. Social media use for PD\_1 = Social media use for professional development \_ exploitation level 1. Social media use for PD\_2 = Social media use for professional development \_ exploitation level 2. Social media use for PD\_3 = Social media use for professional development \_ exploitation level 3.

## 4. Results

### 4.1. Descriptive Statistics

The correlation coefficients between the exploitation levels of social media use for professional development are relatively high, varying between  $r = 0.71$  and  $r = 0.77$  with a  $p < 0.05$  (see Table 1). Furthermore, the correlation coefficients between the five dimensions of employability varied between  $r = 0.38$  and  $r = 0.58$  and are all significant ( $p < 0.05$ ).

### 4.2. The Difference in Social Media Use for Professional Development before and after the Learning Intervention (LinkedIn)

On average, participants reported a higher score for the first exploitation level of social media use for professional development after the learning intervention (LinkedIn) ( $M = 5.09$ ,  $SD = 1.25$ ) than they did before the intervention ( $M = 4.69$ ,  $SD = 1.55$ ). This mean difference of 0.40, *BCa* 95% CI [-0.71, -0.08] was significant [ $t(95) = -2.48$ ,  $p = 0.015$ ], and represented an effect of Cohen's  $d = 0.25$ . This small to medium effect shows that the difference is not trivial, while being statistically significant. Additionally, for the second exploitation level of social media use for professional development, participants reported a higher score after the learning intervention (LinkedIn) ( $M = 4.97$ ,  $SD = 1.14$ ) than they did before the intervention ( $M = 4.48$ ,  $SD = 1.51$ ). This mean a difference of 0.49, *BCa* 95% CI

[-0.79, -0.18] was significant [ $t(95) = -3.16, p = 0.002$ ] and represented an effect of Cohen's  $d = 0.32$ . Finally, in line with the outcomes for the first two exploitation levels, participants reported a higher score for the third exploitation level of social media use for professional development after the learning intervention (LinkedIn) ( $M = 4.85, SD = 1.26$ ) than they did before the intervention ( $M = 4.48, SD = 1.50$ ). This mean difference of 0.37,  $BCa$  95%  $CI$  [-0.64, -0.09] was also significant [ $t(95) = -2.63, p = 0.010$ ] and represented an effect of Cohen's  $d = 0.24$ . With these outcomes, Hypothesis 1 is fully supported by our data.

#### *4.3. The Direct Relationships between Social Media Use for Professional Development Exploitation Levels and the Employability Dimensions*

This section will discuss the results per dimension of employability. Contrary to Hypothesis 2, none of the three exploitation levels of social media use for professional development showed a significant relationship with occupational expertise. In line with Hypothesis 2, the second exploitation level of social media use for professional development, becoming active discussers and users of information, showed a positive relationship ( $\beta = 0.48, p < 0.01$ ) with anticipation and optimization. The other two exploitation levels (level one and three) did not show any significant relationships for anticipation and optimization. Moreover, contrary to Hypothesis 2, none of the three exploitation levels of social media use for professional development showed a significant relationship with corporate sense, flexibility or balance. Overall, partial support is found for hypothesis 2.

#### *4.4. The Moderating Role of Motivation in the Relationship between Exploitation Levels of Social Media Use for Professional Development and the Employability Dimensions*

Contrary to Hypothesis 3, none of the relationships between the three exploitations levels of social media use for professional development and the employability dimensions were moderated by the motivation. No support for Hypothesis 3 is found.

## **5. Discussion and Conclusions**

The COVID-19 pandemic has undoubtedly left its mark on societies and, at the same time, it also facilitated a significant shift towards online learning [13]. As a consequence, the embedding of remote forms of learning (i.e., online learning) is accelerated and, increasingly, replaces traditional face-to-face educational learning [55]. As learning and employability are inseparable from each other [43], the use of social media in the light of employability comes forward. Especially since social media (e.g., LinkedIn) are recognized to be beneficial pedagogical resources and hence, may help to create a sustainable online learning environment [56]. In this study, managing one's knowledge in terms of professional development refers to the general belief that this relates to "unlocking and leveraging the knowledge of individuals so that this knowledge becomes available as an organizational resource" [31] (p. 932). Furthermore, previous research has indicated that one's motivation is an important factor in technology-based learning and one's learning success [20]. LinkedIn comprises the world's largest professional online network and it shows rich potential to function as a platform for professional development and workers' employability enhancement [6]. Besides, from a scientific perspective, Osgerby and Rush [12] emphasized the effectiveness of social media as a development tool that has the potential to contribute to individuals' employability as a topic worth studying.

This longitudinal, quantitative study aimed to contribute to the debate on technology-based professional development, by examining the extent to which a learning intervention affects an individual's social media use for professional development, the extent to which this relates to self-reported employability and how this relationship is moderated by an individual's motivation to communicate through social media (LinkedIn). In the next section, the main results of our empirical work are summarized and discussed.

### *5.1. The Difference in Social Media Use for Professional Development before and after the LinkedIn Intervention*

In line with Hypothesis 1, we found that a well-structured learning intervention can enhance the degree of social media use for professional development. Based on this outcome, we may conclude that learning and development, being a key focus point in organizations nowadays [2], can be realized by a well-structured learning intervention. Building on social capital theory [14], an employee's network ties are important means to gain access to valuable resources. Our research indicates that training employees for using LinkedIn can be beneficial for professional development purposes. Especially in the context of academic careers, Miller et al. [18] underpinned the importance of social networks and the opportunities to learn from these networks in an informal manner. Networking, being an important form of informal learning, comprises one of the main focal points of LinkedIn. Earlier research has also shown that such informal learning activities appear to contribute to the employability of academic staff members Van der Klink et al. [17].

### *5.2. The Direct Relationships between Social Media Use for Professional Development Exploitation Levels and the Employability Dimensions*

In line with Whiting and Williams [57], we have found partial support for the positive relationship between social media use for professional development and employability [see also 1,43]. This finding is also consistent with the notion underlying social capital theory [14]; getting access to resources through network ties. More specifically, in this scholarly work, we have used the three-layer framework developed by Sigala and Chalkiti [42] to measure different levels of social media exploitation for professional development, in order to see how these relate to the five employability dimensions as distinguished by Van der Heijden et al. [28]. In contradiction with our expectations, not all of the three exploitation levels of social media use for professional development were positively related to the five employability dimensions. Only exploitation level 2 (active discussor and user of information) appeared to relate positively to the employability dimension anticipation and optimization. This means that when one goes from being a passive receiver to an active discussor and user of information on LinkedIn, i.e., developing and maintaining interpersonal relations, and for sharing, discussing, and negotiating information with others, one's capability to prepare for and adapt to changes in one's work increases. This outcome is of utmost importance in contemporary working organizations, wherein employees have to enact their jobs and professional lives themselves [58]. Obviously, without knowledge about a certain subject matter (i.e., occupational expertise), people cannot proactively prepare for future work demands. However, in order to really develop their capability to anticipate and optimize on all kinds of work-related changes, they have to share and discuss possible strategies and avenues for promising roads to new expertise growth with important stakeholders. Our study indicates that through networking, people are enabled to align these strategies with expectations of surrounding parties, here-with boosting their employability (see also [59]).

### *5.3. The Moderating Role of Motivation in the Relationship between Exploitation Levels of Social Media Use for Professional Development and the Employability Dimensions*

Although previous research has found that motivation plays an important factor in technology-based learning and one's learning success [20], contrary to our expectations, we did not find a significant moderating role of one's motivation to communicate through social media. Motivation comprises an important element in COR theory [22], where it represents the energizing component of competent performance [21]. It may well be that our sample of university employees are not particularly charmed by technology-based or, in our case, social media-mediated communication and therefore not so much motivated to use these for learning purposes. Academics are often using technology-based communication in their daily work, and they may rather see it as a further extension of daily

operations [39]. In this case, it is more the learning intervention (LinkedIn) as such that has a positive impact on their professional development, rather than their motivation to communicate through social media.

## 6. Practical Implications

This study also adds to the debate on the added value of technology-based learning (through social media) and its impact on employability in contemporary societies. First, it has shown the potential of an intervention on learning through social media for professional development. Where employees, nowadays, are more and more responsible for their own employability, organizations are asked to provide them with access to associated employability-enhancing practices [26]. A structured intervention with requirements such as LinkedIn as social media tool can provide employees with more balanced generic and domain-specific information. Moreover, the facilities that LinkedIn offers and the fact that the learning intervention is evidence-based form a good base to start from. This study also adds to the already existing knowledge on using social media (i.e., LinkedIn) by employees as a platform for learning and employability enhancement [6]. From a social perspective, the implication fits seemingly in the Egyptian context, where a rapid rise in social media use has been seen [10], with great value for social media for learning [11]. Furthermore, the finding that a well-structured learning intervention can enhance the degree of social media use for professional development in the Egyptian context shows the diversity of meanings ascribed to careers in this other economic, cultural and institutional context, overcoming the current dominating WEIRD perspective [24] of career research.

Second, the finding that using social media for professional development partially relates to employability has important implications in terms of sustainable HRM practices that are recommended for organizations. From such a sustainable HRM perspective, it is important that employees are onboard in the changing (technical) environment of social media, especially for the sake of their capability to anticipate to and optimize future changes at work. Social media use for professional development allows employees to work on their employability through innovative and interactive networking in a new type of learning context. For management in working organizations, this study gives evidence-based insights and disputes the thought of blocking social media from the work floor, as it appears to increase the potential to gain a competitive advantage [60]. Furthermore, the implementation of social media adapts to the recent trend, wherein social media becomes more and more integrated in the organizational landscape [3], and increases the amount of social interaction, albeit virtual, on the shop floor.

Finally, this study sheds more light on the role of employees' motivation to communicate through social media in the relationship of social media use for professional development and employability (no significant results were found in this regard). All in all, a well-structured intervention that is designed to increase employees' knowledge and confidence to work with and to use social media for professional development is an approach with great potential in modern working life.

## 7. Limitations and Recommendations for Future Research

Although this longitudinal study has given us some important new insights into the effectiveness of an intervention to foster technology-based learning, and into the relationship between social media use for professional development, motivation and employability, there are also some limitations.

First, the sample used in this empirical work was rather homogenous; all participants were from one university and all had university jobs at middle and higher levels of functioning. This limits the generalizability towards other professions. Especially since other professions may be in contact with social media to lower or higher degrees, this could have influenced our outcomes. Future research could use a more heterogeneous sample to find out more about generalizability.

Second, since the sample originated from one specific university, the demographic characteristics are limited. With an eye to possible cross-cultural and organizational differences and related stages of embedding of social media in the cultural and organizational landscape, more research across countries is necessary. The specific lack of significant results for Hypothesis 3 and the moderating role of motivation might be due to this sampling limitation. More specifically, our participants seem not to be considerably affected by their motivation to communicate through social media, perhaps as technology-based communication is already embedded in their daily work. Future studies may include participants from different countries and/or different organizations, and holding various levels of functioning. Furthermore, future approaches might also take other demographic variables into account.

Third, although the data are interpreted as longitudinal, as done in similar research designs [53], there were only two measurement points in time. Furthermore, there was no control group, meaning that some of the results obtained could have come forward by uncontrolled elements in the research process. Future empirical work could include more measurement points in the longitudinal design [52]. Preferably, a control group would complete this set-up to take away the potential effect of uncontrolled elements in the research process.

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