



## Full length article

## Examining the criterion-related validity evidence of LinkedIn profile elements in an applied sample

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## ABSTRACT

As social media use has grown over the past decade, both academics and practitioners have increasingly debated the appropriateness of using data from social networking sites in hiring contexts. Although the use of social media in recruitment and staffing processes has become commonplace, a corresponding increase in empirical investigations of this practice has not been achieved. Now more than ever, industrial-organizational (I-O) psychologists and data scientists are well positioned to offer evidence-based insights regarding this common practice. Despite being the most widely used professional social networking site, validity evidence of the relationship between LinkedIn profile elements and organizationally relevant criteria remains equivocal, and researchers have specifically called for more work on LinkedIn as the basis for social media assessments. Using a field sample of financial services professionals, the present study seeks to examine the criterion-related validity of LinkedIn incumbents' professional profiles ( $n = 486$ ) using objective sales performance metrics. In addition to potential privacy and ethical concerns, and with few exceptions, the results largely suggest that LinkedIn profile characteristics are not strongly correlated with organizational metrics. Potential uses, recommendations, and limitations based on the criterion-related evidence are discussed herein.

## 1. Introduction

Social networking sites, and LinkedIn more specifically, have perennially changed the nature of the recruitment, job seeking, and personnel selection landscape. As social media use has risen over the past decade, so has interest in using social networking sites as part of recruitment and hiring processes. This practice is so pervasive, in fact, that 70%–84% of recruiters and hiring managers report searching social media sites for recruitment and screening purposes, with Facebook being the most frequently used (CareerBuilder, 2017; Kluemper et al., 2016; SHRM, 2016a, 2016b). Although the pervasiveness of social media use is undeniable, the form, function, and applications of these platforms are ever changing. Social networking sites, and the data contained in them, remain as diverse as their potential applications in recruitment and staffing processes.

Social networking sites are considered a subset of social media that require each user to create a unique profile. Boyd and Ellison's (2007) widely cited definition of social networking sites is a web-based platform which "allow(s) individuals to (1) construct a public or semi-public

profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system." Presently, organizations can use several different social media platforms to research candidates including Facebook, Twitter, Instagram, LinkedIn, and information gleaned from "Google" searches. Each of these platforms offer unique information about potential job applicants and, as a result, have different potential applications to assist organizations with recruitment and staffing decisions.

The term "social media assessments" has been used to describe the review of online information from websites and platforms designed to connect individuals for use in employment decisions (e.g., selection, promotion, reassignment; Roth et al., 2016). Researchers have indicated several sites that can be used as the basis of social media assessments (e.g., Facebook, LinkedIn, Pinterest), and have specifically called for more research on LinkedIn as an information source for social media assessments (Roth et al., 2016; Roulin & Levashina, 2019; Van Iddekinge et al., 2016).

Scholars and practitioners have debated the appropriateness of using

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data from social networking sites in hiring contexts for over a decade. The interest in using data contained on social networking sites range from practices like cybervetting, where an applicant's social media and web presence are examined by a hiring manager, typically for signs that the applicant would make a less-than-ideal employee (e.g., profanity or substance use), and often in an unstructured way (Becton et al., 2019; Berger & Zickar, 2016; Berkelaar, 2014); to structured ratings of Facebook or LinkedIn profiles for specific job-relevant characteristics (Chiang & Suen, 2015; Liu & Campbell, 2017; Van Iddekinge et al., 2016). Further, a growing body of research has examined methods of scoring social media data, typically from Facebook or Twitter, for actual and perceived personality characteristics (Akhtar et al., 2018; Azucar et al., 2018; Liu & Campbell, 2017; Park et al., 2015). Although research on social media in hiring contexts has evinced a number of insights, the lag between research and dissemination, combined with the rapid rate of change in social media user preferences and proliferation of new techniques to evaluate data often results in a divide between research and practice.

With some potential applications of social media in mind, it should be noted that many of these techniques are not standardized or easily scalable, present possible ethical or legal challenges, and have the potential to incorporate information that is not job relevant (Vaughn et al., 2019). As just one example, Facebook profiles frequently contain information about race, gender, sexual orientation, disability status, political affiliation, national origin, and other protected or job-irrelevant characteristics (Zhang et al., 2020). However, much of the earlier empirical studies conducted to date have studied criterion-related validity evidence associated with Facebook profile information, perhaps due to Facebook's prominent position as the largest social networking site available to researchers and participants (e.g., Kluemper et al., 2012; Kluemper & Rosen, 2009; Van Iddekinge et al., 2016; Zhang et al., 2020). Although job-irrelevant information can be found on LinkedIn (e.g., identifiable information regarding protected class group membership), the focus of the present study is on evaluating information gleaned from LinkedIn for several reasons.

First, LinkedIn is a widely used social networking platform that was intentionally designed for professional networking, job searching, and career development, and has been found to contain job-relevant information (Roulin & Levashina, 2019; Weidner et al., 2016). Several sites have been identified as sources of information for social media-based assessments (e.g., Facebook, Twitter, LinkedIn; Roth et al., 2016), and although it is our overall contention that data from social networking sites should not be used to inform personnel decisions at present, the professionally oriented nature of LinkedIn makes it more suited to such practices. Second, research supports the notion that applicant reactions have significant and meaningful effects on attitudes, intentions, and behaviors (Hausknecht et al., 2004; McCarthy et al., 2017), and job applicants have more favorable reactions toward the use of information posted on LinkedIn compared to other social media platforms such as Facebook (Stoughton, 2016; Stoughton et al., 2015).

Third, compared to platforms such as Facebook, information on protected class membership (e.g., age, national origin, disability) may be less visible on LinkedIn (Levashina et al., 2017). While some protected class information can be gleaned from LinkedIn profiles, Facebook readily allows users to explicitly display their birth year, gender identity, national origin (listed under "Hometown" or "Current City and Hometown"), religious affiliation or beliefs, political affiliation or beliefs, family members (listed under "Family and Relationships"), and sexual orientation (Zhang et al., 2020). This is important when considering that the use of such information as the basis for selection decisions is illegal (Brown & Vaughn, 2011; Vaughn et al., 2019), and can result in biased decisions and discrimination (Van Iddekinge et al., 2016). Along with the presence of job-relevant experience and information (Roulin & Levashina, 2019), LinkedIn is arguably the most directly job-related social networking site in that it allows other users to provide written recommendations and skill endorsements that appear on a user's profile.

Taken together, if social networking sites provide meaningful information in a staffing context, LinkedIn offers considerable promise for ensuring job relevance and minimizing potential legal concerns.

Finally, the state of empirical studies investigating the criterion-related validity of data from social networking sites remains limited and equivocal (Vaughn et al., 2019; Zhang et al., 2020). Among the few studies that have been published, results have been mixed in assessing the potential utility of social media assessments and the likelihood to result in adverse impact (e.g., Aguado et al., 2019; Roulin & Levashina, 2019; Van Iddekinge et al., 2016; Zhang et al., 2020). For example, Van Iddekinge et al. (2016) found that ratings of applicants' Facebook information were unrelated to supervisor ratings of job performance, turnover intentions, and actual turnover. Further, these social media ratings did not contribute incremental validity above and beyond more traditional predictors. Conversely, Roulin and Levashina (2019) found that hiring recommendations based on LinkedIn assessments were positively associated with several career success indicators (i.e., finding a job in one's field of study, number of jobs, and promotions). The current study contributes to this burgeoning body of work by exploring the relationship between LinkedIn profile elements and the on-the-job performance of financial services professionals. Specifically, we examine whether any relevant attributes from a LinkedIn profile are significantly related to on-the-job performance as measured by sales performance metrics.

Given the mixed findings surrounding the relationship between social media data and key organizational outcomes, the present sample of financial sector employees is uniquely suited to examining these relationships given the relevance to their profession. To maintain anonymity of the organization providing the data, the term financial services professional was used to describe a specific sales-oriented financial services role within a financial sector organization. As such, the employees in sample of financial services professionals all had similar work responsibilities and were held to the same key performance metrics. A job analysis of this sales-orientated role indicated the importance of building one's client base using a variety of methods. Successful financial services professionals must build their practice with an entrepreneurial spirit, be resourceful and consistently explore new ways to grow their client base, and go above and beyond to develop their practice. For the specific financial services professional role in our sample, LinkedIn can be used to engage with prospective clients, get endorsements, and receive recommendations, making their LinkedIn profile a key business focus for them. As such, if there are relationships between social media data and key performance criterion, this population is where we should expect to observe these relationships.

## 2. The use of social media data in staffing decisions

### 2.1. Theoretical foundation

Among the most pressing concerns regarding the empirical investigation and use of social media data in staffing contexts is the lack of theoretical clarity (Vaughn et al., 2019). Although the practice of using social media in staffing contexts continues to outpace theory, researchers have begun to offer promising conceptual frameworks to guide research on social media (McFarland & Ployhart, 2015; Roth et al., 2016).

For example, McFarland and Ployhart (2015) argue that social media can be considered a relatively unexplored type of context that has effects on the cognition, affect, and behavior of individuals within organizations. The contextual framework proposed by McFarland and Ployhart (2015) identifies discrete and ambient features of social media that distinguish social media contexts from other digital communication media (e.g., email) and physical (e.g., face-to-face) contexts. These mediums of communication can then be placed along a contextual continuum of dimensions such as permanence, verifiability, synchronicity, anonymity, and accessibility (McFarland & Ployhart, 2015). As

one example, content posted to social media can be verified or cross-examined by others (i.e., greater verifiability), whereas information in face-to-face and other digital communication (e.g., email) may be more difficult to verify. Importantly, this framework offers theoretical guidance that is not bound to a specific platform and a specific topic (e.g., using Facebook to screen applicants). Several prominent and well-established theories, such as social exchange theory, social contagion theory, and social network theory, can then be interpreted and integrated in the “context” of social media.

Taking a different approach, Roth et al. (2016) offer theory-based propositions and research directions to guide the use of social media in employee-selection-related decisions. Namely, Roth et al. (2016) explore the decision-making processes involved in social assessments, the underlying constructs and validity of social media assessments, subgroup differences and potential adverse impact, and applicant reactions to the use of these assessments. Given the dearth of empirical and theoretical work on social media assessments, Roth et al. (2016) pull from a diverse set of theories to inform their propositions, including the inferred information model (Johnson, 1987), the theory of reasoned action (Jaccard & Wood, 1988), image theory (Potter & Beach, 1994), and relational demography theory (Tsui et al., 1992).

Finally, the present study draws upon signaling theory to suggest that social media features can be used as an honest signal of an applicant's qualifications (Bangerter et al., 2012; Spence, 1973). Signaling theory acknowledges that personnel selection involves an information exchange between job market actors (i.e., job applicants and organizations) that sometimes have conflicting interests (Bangerter et al., 2012). It is argued that these parties do not necessarily have an incentive to provide accurate information about their ability and commitment to the employment relationship unless it is to their advantage (Bangerter et al., 2012). For example, job applicants may engage in faking or inflation of their abilities, while organizations may intentionally withhold negative information about the job and the organization. Despite these phenomena, signaling theory describes a mechanism by which parties with partly conflicting interests (and thus an incentive for deception) can nevertheless exchange accurate information (Bangerter et al., 2012).

With signaling theory in mind, organizations may consider the information contained on applicants' social networking sites as a more honest signal of applicants' characteristics than information gathered from traditional assessments such as résumés and interviews. A commonly held assumption regarding social media profiles is that they are used to create and communicate highly idealized perceptions (Green, 2013). While research indicates that the development of social media profiles often involves some level of self-promotion and narcissistic self-presentation (Mehdizadeh, 2010; Nistor & Stanciu, 2017), recruiters consider the information contained in the social network profiles as more honest than the information presented in résumés (Guillory & Hancock, 2012). Further, even the earliest social media work has suggested that digital identity claims made on online convey valid information about the owner (Gosling et al., 2007; Vazire & Gosling, 2004).

Using the contextual dimension of verifiability (McFarland & Ployhart, 2015), this finding is perhaps because others (e.g., friends, co-workers, and supervisors) can make comments about the truthfulness of the information contained on social networking sites. Given the public nature of LinkedIn profiles, at least to colleagues and connections, LinkedIn may be considered an extended online résumé that is verifiable by others with first-hand work experience with an individual. With the theoretical underpinnings of signaling theory in mind, the proceeding section describes research regarding LinkedIn in staffing contexts.

## 2.2. LinkedIn as a hiring tool

As the most widely used primarily professional social networking site, LinkedIn has had major implications for recruiters and hiring managers, job seekers, and organizations. This claim is supported by

findings indicating that it is used by over 40% of potential job seekers (Collmus et al., 2016), 94% of hiring managers for recruitment purposes (Guilfoyle et al., 2016), and 85% of hiring managers who use social media to screen applicants (Kluemper et al., 2016). In fact, LinkedIn has been identified as the primary medium used by recruiters to communicate with prospective talent (SHRM, 2016a). In addition to using LinkedIn as a recruitment tool, hiring professionals use it to make evaluative inferences regarding the individual characteristics of job applicants (Aguado et al., 2019). For example, Caers and Castelyns (2011) found that recruiters believed they were able to determine the maturity, conscientiousness, and emotional stability of individuals using LinkedIn profiles. Further, Chiang and Suen (2015) demonstrated that recruiters positively perceive person-job, person-organization, and person-person fit when a LinkedIn profile had high-quality arguments (i.e., convincing job-relevant information) and source credibility. While studies have suggested that managers glean perceptions of personality and fit from social media information (Caers & Castelyns, 2011; Chiang & Suen, 2015), existing empirical evidence does not provide a clear link to their ability to do so accurately.

In the absence of robust evidence of its validity, the use of LinkedIn for staffing decisions presents potential problems for job seekers and organizations. In order to fully grasp the job-relevance of LinkedIn profiles in a hiring context, an understanding of the information contained on LinkedIn profiles is essential. LinkedIn allows users to display information about their educational background, professional experiences, projects they have worked on, extracurricular activities (e.g., volunteering or professional associations), skills they possess, as well as the computer programs they have mastered (Shields & Levashina, 2016). LinkedIn may be thought of as similar to other biodata sources and can serve as an extended online résumé (Kluemper, 2013; Zide et al., 2014). A survey of 70 hiring managers regarding their perceptions of LinkedIn compared to traditional selection methods found that hiring managers LinkedIn to be equivalent to résumés in terms of construct validity for assessing personality, and to have only slightly less predictive validity for assessing skills and cognitive ability (Roulin & Levashina, 2019).

Prior research has found that information contained in résumés such as education, work experience, and extracurricular activities tend to positively relate to recruiter ratings (Cole et al., 2003; Thoms et al., 1999; Tsai et al., 2011). Given that research supports the presence of job-relevant information on LinkedIn (Roulin & Levashina, 2019; Weidner et al., 2016), recruiters may give more favorable evaluations to LinkedIn profiles that contain more of this information.

In addition to biodata such as work experiences, LinkedIn allows users to provide written recommendations and skill endorsements that appear on a user's profile, and even highlights endorsements from those highly skilled in the area endorsed (Vaughn et al., 2019). Receiving an endorsement from a highly skilled user in a desired skill area may increase a recruiter's favorable perceptions of an applicant as well as their comfort with their qualifications to perform the job (Vaughn et al., 2019). These features create positive user experiences and, in line with previous research, the use of this information can elicit favorable reactions from both applicants and internal decision makers (Stoughton, 2016; Stoughton et al., 2015; Vaughn et al., 2019).

With these findings in mind, most of the research on LinkedIn has neglected evidence about its validity (Aguado et al., 2019). A research review surfaced three published studies which examined LinkedIn profile content in a criterion-related validity context. Aguado et al. (2019) found four major factors underlying LinkedIn profiles (i.e., professional experience, social capital, updating knowledge, and non-professional information) that are significantly related to productivity, absenteeism, and the potential for professional development. Using information from LinkedIn profiles, Robinson et al. (2013) reported modest relationships with intention to stay, engagement, and LinkedIn-coded turnover. Roulin and Levashina (2019) sought to demonstrate the reliability, temporal stability, and validity of LinkedIn assessments. Ratings

of applicant skills, personality, and cognitive ability based on LinkedIn profiles displayed acceptable reliability and temporal stability. Further, these initial LinkedIn-based ratings correlate with self-reports for more visible skills (i.e., leadership, communication, and planning) and personality traits (i.e., extroversion), and for cognitive ability (Roulin & Levashina, 2019). More favorable ratings were given to longer profiles, those with a picture, and profiles with more connections (Roulin & Levashina, 2019). In addition to limited evidence of adverse impact, LinkedIn-based hiring recommendations are positively associated with indicators of career success (Roulin & Levashina, 2019).

### 3. The present study

As with other personnel selection tests, social media assessments need to be evaluated in terms of reliability, validity, adverse impact, and other factors associated with personnel selection tests (Roulin & Levashina, 2019). Namely, the present study seeks to add to this burgeoning body of research by examining the criterion-related validity of LinkedIn profile features to predict sales performance metrics in an applied sample of financial services professionals. Given the limited theoretical foundations and empirical research on social media profile features associated with criterion-related validity, we propose to explore the relationships associated with LinkedIn profile features using research questions. Looking beyond the characteristics of LinkedIn profiles, simply possessing a profile may be indicative of a commitment to professional development, building connections, and advancing one's career. As previously noted, financial services professionals can use LinkedIn to engage with prospective clients, get endorsements, and receive recommendations, making their LinkedIn profile a key business focus for them. Using a sample of financial services professionals, we also seek to explore whether simply having a LinkedIn profile is associated with sales performance metrics.

*Research Question 1:* What is the relationship between LinkedIn profile elements and objective sales performance metrics?

*Research Question 2:* Does having a LinkedIn profile predict objective sales performance metrics?

Considering observed differences in social media use across subgroups, the present study also seeks to examine profile elements and validity evidence across subgroups. For example, some findings suggest that social media use varies by sex, with females (78%) slightly higher in their use rate compared to males (65%; Pew Research Center, 2019). While Facebook and Twitter use is the same across sex, females are more likely to use Instagram and Pinterest, whereas males are more likely to be on LinkedIn (Pew Research Center, 2019). Compared to men, researchers have also suggested that females are less likely to post problematic content (e.g., substance use, profanity) on social networking sites (Karl et al., 2010; Peluchette & Karl, 2010).

Further, research also suggests that females tend to have higher verbal ability and writing ability than males (Hough et al., 2001; Roth et al., 2010), and these differences may manifest in the content posted to social networking sites. Using Facebook profiles, Van Iddekinge et al. (2016) found that female participants scored significantly higher than male participants for both suitability and overall KSAO ratings. These differences appeared to be the result of higher ratings of conscientiousness for female participants, particularly on items related to maturity and integrity (Van Iddekinge et al., 2016).

Looking at LinkedIn specifically, sales/marketing professionals, and men overall, were more likely to post personal information on their LinkedIn pages (Shahani-Denning et al., 2017; Zide et al., 2014). Aguado et al. (2019) demonstrated significant differences in LinkedIn profiles of information and communication technology professionals in relation to gender. Using factors associated with LinkedIn content, women scored higher on the "breadth of non-professional information" and "breadth of interaction on LinkedIn" factors compared to men (Aguado et al., 2019). These findings, at a minimum, suggest the potential for observed differences as a result of sex.

In addition to potential sex differences, we also sought to examine subgroup as a function of race. According to the Pew Research Center (2019), 73% of White, 69% of Black, and 70% of Hispanic Americans report using some form of social media. In terms of social media content, researchers have found that Black and Hispanic individuals are more likely to post content related to their ethnic heritage (Grasmuck et al., 2009). Further, racioethnic minorities are more likely to participate in social and political causes via social media compared to their White counterparts (Lieu, 2011). With this body of aforementioned findings in mind, we set forth the following research question.

*Research Question 3:* Are there subgroup differences in LinkedIn profile elements?

### 4. Method

#### 4.1. Sample

To explore these relationships, concurrent criterion validation data was collected from an organization in the financial services industry. The financial services professionals in this sample shared similar major work responsibilities and were held to the same sales performance metrics that were designated as the primary indicators of performance in this role within the partnering organization. Given the similarity in the type of work among this sample of financial services professionals, we believe the sales performance metrics were not confounded by the specific type of work done by these employees. A sample of 486 incumbents took an assessment and the organization provided objective metrics of their job performance. Approximately 11 months following this initial assessment, the LinkedIn profiles of the incumbents with at least six months' tenure were collected for the current study ( $n = 486$ ). The LinkedIn profiles were pulled using a web scraping tool, and trained raters confirmed that the web-scraping application program interface (API) had pulled the correct profile. Of the original sample, 368 of 486 (75.5%) had a matched and verified LinkedIn profile. Looking at demographic variables, 83% of men had verifiable profiles, whereas only 79% of women had verifiable profiles. Further, 83% of Caucasian and 74% of African American incumbents had verifiable profiles.

#### 4.2. Procedure

The LinkedIn profiles were pulled using a web scraping tool that gathers publicly viewable data, and trained raters confirmed that the web-scraping application program interface (API) had pulled the correct profile. The LinkedIn profiles were saved as PDFs and rated by trained raters. Further, additional elements were extracted from the profiles via web scraping. Raters verified the correct profile was pulled by examining approximate start date, job position, and organization match. In addition to ensuring that the correct profile was pulled, the raters verified that the automated data pulled from the web-scraping API was accurate as well. LinkedIn profile elements were then coded by the raters using pre-determined categories that reflect the information contained in these social media profiles.

#### 4.3. Measures

##### 4.3.1. LinkedIn profile elements

After confirming that the web-scraping API had pulled the correct profile, the raters dichotomously coded (i.e., yes/no) the following features: profile picture present, professional headshot as profile picture (i.e., a high quality headshot with professional attire), company logo as background picture, summary section present, whether the individual was still currently employed at the organization, whether the individual had multiple concurrent roles, and whether the employer was listed in the employee's interests. The raters then coded the highest degree obtained and the number of recommendations received, recommendations given, awards received, and number of memberships to groups related to



the industry. Finally, the level of detail provided surrounding work experiences were coded, with 0 = no work experience listed in the profile, 1 = the user only provides the job title/role and the organization for each experience listed, and 2 = the description contains information about the job profile, key responsibilities, and/or accomplishments.

#### 4.3.2. Objective sales performance metrics

To examine the criterion related validity of LinkedIn profile elements, the organization provided two objective sales performance metrics that are important to success in the financial services professional role. These metrics are the primary performance criteria used to determine how successful an employee is in terms of their level of production in the role. The first metric assesses for net new sales revenue the financial services professional has added to their portfolio for the entire year. We refer to this metric as “Bringing in New Business.” The second metric reflects the expansion of current customers and is the total number of customers in that financial services professional’s book of business with a value greater than a predetermined monetary value threshold. We refer to this metric as “Expanding Current Business.” A minimum tenure requirement of six months was used for purpose of this analysis, as this was the minimum time at which meaningful metric data was available.

## 5. Results

The results can be found in Table 1. In response to research question 1, our results suggest that most of the profile elements were not significantly correlated with the objective sales performance metrics. Among the significant relationships, those whose included a summary section scored higher on objective metrics that were linked to success in the role (Expanding Current Business  $r = 0.16$ , Bringing in New Business  $r = 0.18$ ). The other characteristics that were related to the metrics were characteristics specific to the current employer, which may not generalize to a new employer. Specifically, listing the employer in one’s interests was related to Expanding Current Business ( $r = 0.12$ ), and having the company logo as a background picture was significantly correlated with both metrics (Expanding Current Business  $r = 0.14$ , Bringing in New Business  $r = 0.18$ ). Further, LinkedIn profile behavior of listing oneself as currently employed by the organization at the time of data collection provided the strongest relationships observed to sales metrics (Expanding Current Business  $r = 0.27$ , Bringing in New Business  $r = 0.26$ ). This relationship provides little utility in a selection context, as there would be no way to assess this profile characteristic prior to hire at the current organization.

**Table 1**  
Correlations between predictors and criteria.

Variable	Expanding Current Business	Bringing in New Business
1. Has LinkedIn Profile	−0.02	−0.01
2. Profile picture present	0.02	−0.03
3. Company logo as background picture	0.14*	0.18**
4. Professional headshot as profile picture	0.01	0.01
5. Summary section present	0.16**	0.18**
6. Number of recommendations received	−0.05	−0.06
7. Number of recommendations given	−0.02	0.02
8. Number of awards received	−0.03	0.03
9. Detailed work experience	0.00	−0.01
10. Still employed by the organization who provided metrics	0.27**	0.26**
11. Multiple current roles	−0.06	−0.09
12. Number of groups related to industry	−0.03	0.00
13. Employer listed in interests	0.12*	0.03
14. Highest degree obtained	0.09	0.04

\*  $p < .05$ , \*\*  $p < .01$ .

To examine research question 2, we also tested whether simply having a LinkedIn profile was associated with performance metrics. The performance data of those with verified LinkedIn profiles was compared to those that did not have a verifiable LinkedIn profile. Our results suggest that LinkedIn membership was not significantly correlated with either objective sales performance metric.

Finally, research question 3 sought to examine potential subgroup differences in LinkedIn profile elements. To test this research question, White-Black, White-Hispanic, White-Asian, and sex comparisons were examined with regard to mean differences in LinkedIn profile elements. Table 2 displays the effect sizes of mean subgroup differences in LinkedIn profile elements. Cohen (1988) suggested that  $d = 0.2$  should be considered a “small” effect size, 0.5 represents a “medium” effect size, and 0.8 a “large” effect size. These cutoffs suggest that if two groups do not differ by 0.2 standard deviations or more, the difference is trivial. With that said, if these profile elements are intended to be used in a high-stakes employment context, the magnitude of these effect sizes may warrant further stringency to avoid adverse impact.

An examination of mean sex differences suggests few, if any, differences in profile characteristics. Sex differences favoring men for summary section present ( $d = 0.16$ ), number of recommendations received ( $d = 0.15$ ), and number of recommendations given ( $d = 0.19$ ) approached but did not meet the threshold for a “small” effect. Given that the presence of summary section was among the few significant relationships, the presence of this characteristic may warrant further investigation. With that said, the results reveal no effect of sex on the presence of LinkedIn profile elements.

For the White-Black comparison, a small effect for LinkedIn membership ( $d = 0.23$ ) favoring White employees was observed. However, LinkedIn membership was found to be unrelated to performance in our previous analysis. Small effects in favor of Black employees were found for detailed work experience ( $d = -0.22$ ), multiple current roles ( $d = -0.24$ ), and employer listed in interests ( $d = -0.23$ ). Of note, employer listed in interests was significantly related to the expanding current business performance metric but did not favor the majority group.

For the White-Hispanic comparison, a small-to-medium effect favoring White employees was found for having the company logo as the background picture ( $d = 0.37$ ). Having the company logo as the background picture was significantly related to both the expanding current business and bringing in new business performance metrics. However, in a selection context, it would be highly unlikely that an individual not employed by the organization would have the company logo as their background. The potential implications of this finding are discussed later. Next, a small effect favoring the Hispanic group was observed for highest degree obtained ( $d = -0.23$ ), and a medium-to-large effect for

**Table 2**  
Effect size of mean subgroup differences in LinkedIn profile elements.

Variable	Sex	W-B	W-H	W-A
1. Has LinkedIn profile	0.10	0.23	0.03	0.00
2. Profile picture present	0.00	0.06	0.11	0.06
3. Company logo as background picture	0.00	0.11	0.37	−0.19
4. Professional headshot as profile picture	−0.11	−0.11	0.10	−0.04
5. Summary section present	0.16	0.02	−0.16	−0.12
6. Number of recommendations received	0.15	−0.02	−0.01	0.08
7. Number of recommendations given	0.19	0.00	−0.08	−0.01
8. Number of awards received	0.07	*	−0.66	*
9. Detailed work experience	0.09	−0.22	0.09	0.11
10. Still employed by the organization who provided metrics	−0.02	0.04	0.16	−0.16
11. Multiple current roles	−0.07	−0.24	−0.07	0.04
12. Number of groups related to industry	0.11	−0.07	−0.3	0.19
13. Employer listed in interests	0.00	−0.23	−0.08	−0.17
14. Highest degree obtained	−0.13	−0.05	−0.23	−0.43

Note. W-B = White-Black Comparison, W-H = White-Hispanic Comparison, W-A = White-Asian Comparison, \* = effect sizes unable to be calculated because the means for designated groups = 0.

numbers of award received. However, it should be noted that total mean for awards received was extremely low across all groups and that neither highest degree obtained, nor number of awards received were related to post-hire performance.

Finally, there were no observed differences for the White-Asian comparison. Numbers of groups relating to the industry approached a small effect size ( $d = 0.19$ ), but this profile element was unrelated to performance metrics. A small-to-medium effect in favor of Asian employees was observed for highest degree obtained ( $d = -0.43$ ). Taken in sum, the results suggest few differences in profile elements that favor the majority group.

## 6. Discussion

### 6.1. Theoretical and practical implications

#### 6.1.1. Theoretical implications

Overall, and with few exceptions, our results largely suggest that LinkedIn profile elements are not strongly related to objective job performance. Although it remains our position that data from social networking sites should not be used to inform personnel decisions, the interpretation of our present findings have some potential theoretical implications. Among the few significant relationships, it appears that having a summary section, listing one's employer in your interests, and having the company's logo as the background image significantly correlated with objective performance metrics. We suggest that future research extend this study to other jobs and industries to determine if these results generalize across occupations, as well as replicate to other jobs, industries, and organizations. Interestingly, many of the strongest relationships we found were for LinkedIn behaviors that promoted the employer. This pattern of results suggests that LinkedIn data may be more appropriate for providing information related to performance of current employees rather than prospective employees, potentially as an indicator of organizational commitment. Given that employees were not instructed to engage on LinkedIn in a certain manner, behaviors such as using the employer's logo represent proactive attempts to represent the company. That is to say, an employee's attitudes toward their organization may manifest through behavioral indicators on social networking platforms. Our results suggest that activities such as using the employer's logo in the LinkedIn background picture and following the employer on LinkedIn were both associated with higher performance metrics.

From a theoretical perspective, these LinkedIn profile characteristics may serve as an indicator of the employee's organizational identification, commitment, or engagement. A meta-analysis by [Chu \(2020\)](#) reported small but positive relationships between social media usage and job performance, job satisfaction, work engagement, and work-life conflict. Moreover, [Zhang et al. \(2019\)](#) evidenced that work-related and social-related social media usage positively impacts an employee's organizational commitment through organizational engagement.

More research is needed to understand the mechanisms that make individuals more likely to represent their employing organization in social media content. For financial services professionals especially, LinkedIn can be used to connect and engage with new clientele, making LinkedIn a potential avenue for increasing their sales performance through lead generation and customer retention and engagement. By including company-specific images on one's LinkedIn profile, such as the company logo as the background, an individual's LinkedIn profile can serve as an extension of the company brand or image. Further, when used to engage with new clientele, having official organizational branding may convey a sense of legitimacy and credibility. For clients with brand familiarity or past brand experiences, seeing organizational branding may trigger positive affective feelings, such as brand trust or brand satisfaction ([Ha & Perks, 2005](#)). As just one example, researchers have demonstrated that brand trust is a critical factor in determining purchasing behavior ([Corbitt et al., 2003](#); [Quelch & Klein, 1996](#)).

Finally, we believe there are several directions for future research that warrant further investigation. Although we believe the sales-oriented role held by those in our sample provided an appropriate test of this relationship, future research should seek to identify other types of roles where one might theoretically expect to observe this relationship. Next, it has been suggested that LinkedIn may be thought of as another form of biodata or an extended online résumé. Past work examining perceptions of LinkedIn compared to traditional selection methods found that LinkedIn profiles were considered equivalent to résumés in terms of construct validity for assessing personality, and only possessing slightly less predictive validity for skills and cognitive ability ([Roulin & Levashina, 2019](#)). Although we advise against the use of social media data in hiring contexts given extant validity evidence, if social media-based assessments are to be used they should be evaluated in terms of their validity, reliability, and adverse impact. Despite finding minimal group differences in the presence of LinkedIn profile elements, organizations should be weary of potential adverse impact concerns, especially if these assessments are conducted in an unstructured way. Taken together, there are several promising directions for future research examining the appropriateness of using social media data in a hiring context.

#### 6.1.2. Practical implications

Overall, the present findings add to a body of research that casts serious doubts concerning the appropriateness of using an applicant's social media information during the selection process ([Zhang et al., 2020](#)). Mixed findings in the literature have painted an equivocal picture of the practical utility of social media-based assessments in a hiring context. Even when testing these relationships among a sample (i.e., financial services professionals) where one might expect a link between social media behavior and sales performance, the validity evidence is weak at best. Given the observed results, along with ethical and legal concerns, we strongly encourage organizations to refrain from using social media data and other Internet information (e.g., Google searches) for selection and screening decisions until methods for gathering and evaluating this information are shown to be reliable, valid, and scalable. With that said, research has failed to keep up with the pace of practice and the use of social media information in the hiring process is widespread. Applicants can be encouraged to manage their social media privacy settings or to complete all sections of their professional profiles to make it as comprehensive as possible to increase the chances of receiving more positive ratings ([Roulin & Levashina, 2019](#)).

The observed results relating to subgroup differences suggest few differences favoring the majority group. Namely, there were small effects for having the company logo as the background picture and LinkedIn membership. Although having the company logo as the background picture was related to both performance metrics, this is unlikely to be a concern in a personnel selection context. Further, although a small effect was found for LinkedIn membership, this was unrelated to performance metrics. Small differences in LinkedIn utilization with slightly larger majority group membership representation mirrors broader US-based survey research ([Pew Research Center, 2019](#)). Given that those participant groups with and without an identifiable LinkedIn profile were not found to differ in subsequent on the job performance, there is more reason for caution in advising organizational policy toward utilization of LinkedIn membership and profile data as a means for selecting candidates into financial services roles.

To quantify subgroup differences, the present study used the effect size cutoffs proposed by [Cohen \(1988\)](#). Generally, the profile characteristics examined evidenced small to non-existent sub-group differences. However, if these profile characteristics are intended to be used in a high-stakes employment context, the magnitude of these effect sizes may warrant further stringency to ensure avoidance of adverse impact. When considered alongside evidence that these profile characteristics demonstrated a general lack of job-relatedness based on criterion-related validity evidence, utilization in selection settings is not

advised.

With these cautionary findings in mind, our results suggest that behaviors associated with promoting the employing organization appear to be linked to objective performance metrics. Research suggests individuals leverage social media platforms to promote their personal brand and manage their impressions by sharing information about themselves. While it may be the case that employees that are more engaged are more likely to represent the employing organization in their social media content, it may also be the case that an individual social media profile serves as an effective extension of the company brand. For professional social media platforms such as LinkedIn, organizations can create branded content for their employees to serve as an extension of the organizational brand. While not as relevant for selection contexts, these findings may evidence value in expanding research to other phases of the human capital lifecycle. For example, preliminary evidence suggests that social media behaviors may provide additional data to better understand how current employee use of professional social media, such as LinkedIn, relates to existing models of job performance, turnover, and organizational commitment.

## 6.2. Limitations

Overall, our results suggest that LinkedIn profile characteristics are not strongly related to objective job performance. A limitation of the current study is the use of a concurrent rather than a predictive validation study design. While examining a concurrent validation sample came with inherent benefits (e.g., more confidence in ensuring an accurate match between LinkedIn member profile to organizational employee), using this approach presents some challenges in interpretation of the relationships observed. By focusing the examination of LinkedIn profile elements through the study of existing employees subsequently hired by the organization, it is more challenging to parse degrees of validation evidence associated with prosocial in role company behaviors versus characteristics a candidate may have displayed in their LinkedIn profile pre-hire to the current position as a candidate. Taken together, these findings only reflect the predictive nature of LinkedIn content within a snapshot in time. A major challenge with studying social media in selection is the constantly evolving ways by which social media is being used.

There are other limitations to using LinkedIn as a high-volume pre-hire screening tool, as not all applicants will have a LinkedIn profile. People who are reentering or new to the workforce may not have an extensive LinkedIn presence. Additionally, LinkedIn profiles may not be common among those in entry-level or blue-collar jobs (Osman, 2019). In fact, survey data suggests that only 27% of US adults utilize LinkedIn (Pew Research Center, 2019), relative to the 75.5% of participants in the current study that had an identifiable LinkedIn profile. Thus, relevance of studying LinkedIn characteristics in selection contexts may be more relevant for certain industry types and roles where adoption is more robust.

Finally, it is critical that organizations are evaluating the correct person and matching a candidate to the appropriate LinkedIn profile. Ensuring accurate matching can be difficult when a candidate has a common name. Similar to résumés, LinkedIn can be very inconsistent across people, containing different types of information, different quality of information in terms of content and recency, and can also include job-irrelevant information depending on the specific job.

Another potential difficulty with scaling LinkedIn as part of the selection process is that any structured profile evaluation process can be difficult to scale. LinkedIn does not provide a convenient way to access a large number of profiles simultaneously, requiring the use of web-scraping tools to obtain the needed data from profiles. There has been an ongoing legal battle between LinkedIn and hiQ, a talent management company, over whether hiQ can scrape LinkedIn profiles for their predictive algorithms. The courts currently side with hiQ's right to access publicly available information (Goldfein & Keyte, 2017; Vaughn et al.,

2019), but LinkedIn is continuing to appeal in an effort to keep this data from being accessed in this manner. This could potentially impact future attempts to collect this data for commercial or operational purposes within organizations.

## 7. Conclusion

In conclusion, and with few exceptions, our results suggest that LinkedIn profile characteristics are not strongly correlated with organizational metrics. While there were some subgroup differences in profile characteristics that favored majority groups, these characteristics were either unrelated to objective sales performance or unlikely to be relevant in a selection context. Future research should explore the relationship between LinkedIn profiles and supervisor ratings of performance, in addition to expanding this research to other roles and industries. Of note, we observed relationships between connecting with one's employer on LinkedIn such that having the company branding and logo as a background picture and adding the employer to the incumbent's list of interests were related to objective metric performance. These acts of commitment could be indicators that someone is engaged at work and is performing well. Thus, there may be other talent management metrics worthy of continued investigation as potential criteria (e.g., turnover risk; performance management; engagement). Taken in sum, the present findings cast serious doubts surrounding the validity of using information gleaned from within one's LinkedIn profile in the hiring process. Until methods for collecting and evaluating such information are shown to be reliable, valid, and scalable, we caution organizations from using this information as part of the hiring process.

## Credit author statement

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