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Personality perception based on LinkedIn profiles

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Tilburg University, Tilburg, The Netherlands

Abstract
Purpose – Job-related social networking websites (e.g., LinkedIn) are often used in the recruitment process because the profiles contain valuable information such as education level and work experience. The purpose of this paper is to investigate whether people can accurately infer a profile owner's self-rated personality traits based on the profile on a job-related social networking site.
Design/methodology/approach – In two studies, raters inferred personality traits (the Big Five and self-presentation) from LinkedIn profiles (total n = 275). The authors related those inferences to self-rated personality by the profile owner to test if the inferences were accurate.
Findings – Using information gained from a LinkedIn profile allowed for better inferences of extraversion and self-presentation of the profile owner (r's of 0.24-0.29).
Practical implications – When using a LinkedIn profile to estimate trait extraversion or self-presentation, one becomes 1.5 times as likely to actually select the person with higher trait extraversion compared to the person with lower trait extraversion.
Originality/value – Although prior research tested whether profiles of social networking sites (such as Facebook) can be used to accurately infer self-rated personality, this was not yet tested for job-related social networking sites (such as LinkedIn). The results indicate that profiles at job-related social networks, in spite of containing only relatively standardized information, "leak" information about the owner's personality.
Keywords Recruitment, Online social networks, LinkedIn, Big Five traits, Person perception, Self-presentation
Paper type Research paper

We examine if profiles from a job-related social networking site (LinkedIn) can be used to accurately form impressions of a profile owner's self-rated personality. The use of social networking websites like Facebook and LinkedIn has grown tremendously in the last decade. In total, 92 percent of US companies use social networking sites to pre-screen applications for recruitment purposes (Jobvite, 2012). Recruiters not only look at social networking sites to see someone's prior training or work experience, but viewers of a profile also infer personality characteristics from it (Bohnert and Ross, 2010). Personality affects job performance (Barrick and Mount, 2005) and recruiters therefore look for personalities that fit the job as well as the organization (Kristof-Brown, 2000). Insight into personality traits in the early stages of the recruitment process might help to select the employees that best fit the organization and vacancy. We therefore test whether these profiles on job-related social networking sites allow accurate personality inferences; do inferences based on a profile at a job-related social networking site correlate with self-rated personality of the profile owners?

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The fit between an employee and an organization is important for the employee’s job satisfaction and turnover intentions (Kristof, 1996; O’Reilly et al., 1991). Because of this, a company is not only looking for someone with the right qualifications, but also for someone whose personality fits the job and organization. Personality assessment, both online and offline, has therefore become an important tool in personnel selection (Barrick and Mount, 1991; Dineen et al., 2002; Salgado, 1998). It is perhaps not surprising that many companies use personality tests in the screening of job candidates. Heller (2005), for example, estimates that 30 percent of American companies use personality assessments. However, extensively testing all applicants can be expensive. In cases when personality is a key criterion for selection but no resources are available to test all applicants, a pre-selection that allows one to only test the most promising candidates would increase efficiency. Companies already use application letters and résumés to infer key aspects of the applicant (including personality) to make better choices in the pre-selection phase (Brown and Campion, 1994). Furthermore, research confirms that this works; application letters and résumés contain valid cues to infer certain personality traits (Burns et al., 2014; Cole et al., 2003a, b).

Similar to inferring personality from an application letter or résumé, one can quite accurately infer someone’s personality based on profiles at social networking sites such as Facebook (Back et al., 2010; Tskhay and Rule, 2014), or even predict job performance from such profiles (Khuemper and Rosen, 2009; Khuemper et al., 2012; cf. Van Iddekinge et al., 2013). Profile viewers’ estimates of the personality traits of profile owners correlates between 0.22 and 0.41 with the actual personality (a combination of self- and other ratings on a given trait) of the profile owners across the traits of extraversion, agreeableness, openness to experience, and conscientiousness (Back et al., 2010). For example, cues in the profile picture (clothing style, a rebellious pose, etc.) or the number of groups one is a member of can help to predict personality (Stopfer et al., 2014; Gosling et al., 2011). Such online-based personality predictions are more closely related to actual personality than to the ideal personality of the profile owner (a self-rating of how the profile owner would ideally want to score on a given trait; Back et al., 2010). This suggests that profiles provide cues that allow others to estimate the actual personality of a profile owner, rather than how (s)he wants to appear.

In short, personality inferences based on social network profiles (such as Facebook) have been found to be possible. However, job-related social network profiles (such as LinkedIn) differ from social network profiles in a number of ways that makes it necessary to test whether personality can also be inferred from those profiles.

**Why study personality perception based on job-related social networking sites?**

An obvious reason why studying personality inferences based on job-related social networking sites is important, is that these sites are very popular with recruiters, more so than typical social networking sites such as Facebook (Nikolaou, 2014; Roulin and Bangerter, 2013). LinkedIn is for example used by 92 percent of recruiters (Jobvite, 2012). It is perhaps no surprise that profiles on job-related social networks are used, as they obviously contain relevant information such as work experience. Indeed, Roulin and Bangerter (2013) found that both recruiters and applicants think that profiles at job-related social networking sites are good indicators of person-job fit. Furthermore, the information on job-related social networking sites (such as profiles on LinkedIn) has been found to be more honest than paper résumés (Guillory and Hancock, 2012). Guillory and Hancock indicate that it seems that the openness of the internet forces people to be accurate and not inflate one’s résumé.

Another reason to investigate job-related social networks instead of general social networks is that very few general social network profiles are open to the general public. For example, 80 percent of Americans indicated that their Facebook profiles are set to
private and can only be seen by their friends (Madden, 2012). Even if one could predict job performance based on someone’s Facebook profile (Kluemper and Rosen, 2009; Kluemper et al., 2012), recruiters cannot use Facebook for pre-screening candidates if only 20 percent of profiles are accessible. In contrast, people see their profile at a job-related social networking site as an online résumé that they are willing to share with others (including recruiters) for job-related purposes (Roulin, 2014). This makes it possible to use job-related social networks as a tool for general pre-screening purposes.

It is clear that recruiters regularly use job-related social networking sites such as LinkedIn in their screening of candidates. It is also clear that people infer personality traits based on profiles of social networking sites, and that this information subsequently influences evaluations of whether someone is suited for a job (Bohnert and Ross, 2010). However, we do not know how accurate personality inferences from profiles at job-related social networks are. Although the work of Nikolaou (2014) demonstrates that HR professionals prefer using job-related social networks over the more social networks, there are at least three factors that threaten their potential in screening for personality traits.

First, people are likely to post information more deliberately on job-related social networking sites like LinkedIn than they do on social networking sites like Facebook. On social networking sites, someone might for example post information about using excessive amounts of alcohol with friends, which potential employers could interpret in a negative light in the selection process (Roulin, 2014). For job-related social networking sites, it seems likely that profile owners are aware that colleagues, customers, or potential employers will view their profile, which is why they more carefully consider what they put online (Roulin and Levashina, 2016). Self-presentation concerns might be particularly salient for job-related networking sites, which could restrict the range of possible expressions people make, thereby making it more difficult to predict personality (Back et al., 2010).

Second, social networking sites are typically more dynamic than job-related social networking sites. Theories on personality indicate that personality traits leave behavioral residue (Gosling et al., 2002), as individuals who score high on a certain personality trait are more likely to engage in activities indicative of those personality traits. Furthermore, even if the profile owner does not share certain activities, friends might do so (Stoughton et al., 2013). These traces of past behavior are more likely in the more dynamic profiles (that include interactions with others) at social networks, than at the typically more static profiles at job-related social networks that function as an online résumé.

Third, the more static nature of job-related social networking sites also reflects a difference in how much information is typically available. A profile on a social networking site (such as Facebook) can, in theory, be endless as posts can be added at will and this history of posts remains available. For LinkedIn, the amount of text is limited to the categories provided by the profile. Indeed, Tskhay and Rule (2014) conclude in their meta-analysis on inferring personality from social networking sites that more text makes personality inference more accurate (especially for a trait like extraversion, see John and Srivastava, 1999). Because more information allows for more accurate assessment of personality (Funder, 1995), information on general social networking sites might be more predictive of actual personality than information on job-related sites.

To summarize, although job-related social networks are often used in the selection process, little empirical research actually exists on it (Roth et al., 2013; McFarland and Ployhart, 2015). One reason for this set of studies is therefore to bridge the gap between research on personality inferences from online presence (that typically investigates social networks such as Facebook) and the recruitment practice (that typically uses job-related social networks such as LinkedIn). Furthermore, there are some reasons to expect less accuracy when inferring personality from profiles at job-related social networks than from social networks, so testing this is important.
The current studies

In two studies, we gathered the samples of LinkedIn profile owners who filled out a personality measure and consented to have raters infer their personality from their profile. Personality impressions were based on the Big Five (Costa and McCrae, 1992), which are:

1. conscientiousness: people who score high on this trait are well-organized and goal-directed;
2. emotional stability: people who score high on this trait are even tempered, calm, and not easily stressed out;
3. extraversion: people who score high on this trait are sociable, enthusiastic, and emotionally expressive;
4. openness to experience: people who score high on this trait are open to new experiences, creative, and unconventional; and
5. agreeableness: people who score high on this trait are sympathetic and warm persons, who prefer to avoid confrontation.

We chose these traits because they are generally considered the core dimensions of personality (Costa and McCrae, 1992), typically used in other research on personality impressions based on social networking sites (Tsikhat and Rule, 2014), and are important predictors of various aspects of employee performance (Barrick and Mount, 2005). In Study 2, we extended our analysis to include trait self-presentation, which reflects the eagerness and self-confidence to present oneself (Van der Linden et al., 2011).

Study 1

Method

LinkedIn profile owners were recruited via online posts and asked to participate voluntarily in a study on personality perception. In return for participating, they received a summary of their scores on the personality traits that we measured. The respondents were separated into a student sample (62 current full-time students, 35 females, $M_{age} = 23.1, SD = 2.78$, range 19-35) and a working sample (116 employed people, 61 females, $M_{age} = 36.8, SD = 10.87$, range 22-65).

The respondents filled out the Big Five on the TIPI-measure (Gosling et al., 2003; for Dutch translation, see Denissen et al., 2008). This is a short, ten-item measure that sacrifices reliability (i.e. two items covering a single underlying dimension) for relative scale breadth (i.e. items with different content that potentially cover at least two facets of the underlying dimension). Reliability of those measures was low ($r$: conscientiousness = 0.49, emotional stability = 0.49, extraversion = 0.52, openness to experience = 0.35, agreeableness = 0.14). This is similar to the values reported in other studies (e.g. Denissen et al., 2008; Gosling et al., 2003). Gosling et al. (2003) explain that the TIPI was created as a short measure with moderate construct breadth, which has the unavoidable consequence of lower reliability. More specifically, given that traits like extraversion are quite broad, if a researcher can only use two questions to measure this trait, the overlap between the two questions should not be too substantial. With too much overlap, it would not be possible to capture the entire construct. For example, trait extraversion could have very reliably been measured with items like “I talk a lot” and “I am talkative” (creating a high Cronbach’s $\alpha$); but this would not capture the breadth of the construct extraversion, as that also includes traits like enthusiasm. This is why for scales with only a few items $\alpha$s can actually be misleading when evaluating their usefulness (Kline, 2000; Wood and Hampson, 2005).

Most importantly, studies showed that the TIPI has content validity: the Big Five traits as measured by the TIPI predict outcomes that it theoretically should, and the test-retest
reliability is good (Denissen et al., 2008; Gosling et al., 2003). Table I contains the means and standard deviations of self-rated personality on these traits.

Ten psychology students (six females, four males) rated the profiles in our laboratory in return for course credit. Five students rated all profiles from the student sample, the other five rated those from the working sample. Raters saw a profile on one half of the computer screen, and indicated their estimate of each personality trait of the Big Five via a survey program on the other half of the screen. The order of the profiles was randomized for each rater. Traits were scored on a scale from 0 (extremely low score on that trait) to 100 (extremely high score on that trait), with 50 indicating an average score on that trait. A slider scale was used that always started at the midpoint of the scale. The exact description of each trait given to raters was based on the description of traits in the TIPI. Raters were not financially incentivized in this study, but they knew that they would learn whether they had succeeded in correctly predicting the personality traits (they received feedback on whether their impressions correlated with self-rated personality of profile owners, and how their correlations compared to those of other raters). The raters’ mean ratings (including standard deviation) for each trait are presented in Table I.

Results and discussion
Table I provides the interrater reliability of the five raters for each personality trait per sample. The ICCs (intraclass correlation coefficients tested with two-way random model with absolute agreement for average measures, see McGraw and Wong, 1996) were all satisfactory to good (for reference values, see Landis and Koch, 1977). For each profile, raters’ estimates of a trait were combined into an average. Table II contains the correlations between the raters’ average personality estimate with the self-rated personality by the profile owner. We found that the raters’ estimates of extraversion were significantly related

Table I.
Mean and standard deviation of self-rated personality and raters’ consensus per trait in Study 1

<table>
<thead>
<tr>
<th>Trait</th>
<th>Student sample</th>
<th></th>
<th>Working sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-rated</td>
<td>Raters’ average</td>
<td>Self-rated</td>
<td>Raters’ average</td>
</tr>
<tr>
<td></td>
<td>personality</td>
<td>trait estimate</td>
<td>personality</td>
<td>trait estimate</td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD) ICC</td>
<td>M (SD)</td>
<td>M (SD) ICC</td>
</tr>
<tr>
<td>Extraversion</td>
<td>4.52 (1.43)</td>
<td>58.79 (13.84)</td>
<td>0.73</td>
<td>5.10 (1.31)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>58.11 (10.56)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.59</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>5.29 (1.00)</td>
<td>56.21 (9.38)</td>
<td>0.54</td>
<td>5.58 (0.84)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55.60 (10.10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.58</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>4.99 (1.34)</td>
<td>58.82 (12.16)</td>
<td>0.63</td>
<td>5.40 (1.16)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>60.63 (8.79)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>4.85 (1.34)</td>
<td>61.84 (9.13)</td>
<td>0.57</td>
<td>5.47 (1.13)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55.93 (8.85)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.49</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>4.87 (1.18)</td>
<td>49.82 (14.12)</td>
<td>0.68</td>
<td>5.37 (1.54)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>52.87 (10.14)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.57</td>
</tr>
</tbody>
</table>

Notes: Self-rated traits measured on a scale from 1 to 7. Raters’ trait estimates on a scale from 0 to 100. ICC’s reflect interclass correlation tested with two-way random model with absolute agreement for average measures.

Table II.
Correlations between raters’ inference of trait and self-rated personality by profile owner in Studies 1 and 2 (accuracy)

<table>
<thead>
<tr>
<th>Profile sample</th>
<th>Study 1</th>
<th>Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student</td>
<td>Working</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.37**</td>
<td>0.24**</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.14</td>
<td>0.29**</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.20</td>
<td>0.06</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>0.18</td>
<td>-0.05</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>0.13</td>
<td>0.39***</td>
</tr>
<tr>
<td>Self-presentation</td>
<td>0.29**</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Limited profile refers to same profile as full profile, but with name and picture removed. **p < 0.01; ***p < 0.001
to self-rated extraversion by the profile owner in both samples. In the working sample, but not the student sample, the raters’ perceived openness and agreeableness correlated with self-rated personality by the profile owner. As we only found this relationship for openness and agreeableness in one of our two samples, a main goal of Study 2 was to replicate our study to test whether these traits could reliably be inferred from a profile in a new sample.

**Study 2**

In real-life situations in which a recruiter wants to prescreen candidates, candidates typically have a relatively similar background when they are applying for the same job. The main reason is that people with similar personality traits find similar jobs or organizations interesting (Holland, 1997). Furthermore, personality predicts which education people choose (Humburg, 2017), and having followed certain educational paths makes certain career paths more likely. This homogeneity in personality traits of people applying to a job or organization may make it more difficult to accurately infer personality. Study 2 therefore used a sample from within one organization in order to replicate our initial study in a more homogenous sample. This choice should make it more difficult to replicate the results of Study 1.

To be able to reach this more homogeneous sample we had to use a different Big Five questionnaire (the G5-R; Van der Linden et al., 2011), as this was the questionnaire typically used by the company, we recruited our participants from. In addition to the Big Five traits used in Study 1, the G5-R also includes a measure for trait self-presentation. This trait contains the tendency to be dominant, energetic, achievement-oriented, and self-confident, and is defined as the eagerness and ambition with which one tries to present oneself. Both ambition (Huang et al., 2013) and having a proactive personality (Crant, 1995) relate positively to performance at work, so trait self-presentation is likely to also positively affect job performance and could be a valuable trait to predict when pre-screening candidates.

Two other changes were made as well. First, we incentivized raters to be as accurate as possible. Second, we also had one set of raters infer personality based on the profiles from which we had removed the name and picture of the profile owner. This allowed us to test whether personality inferences accurately predicted self-rated personality without information on gender and outward appearance.

**Method**

Employees of a large Dutch human resources development company (involved in consultancy, assessments, and training) were asked to participate in a study on personality perceptions (97 employees out of the approximately 250 employees participated; 46 males/51 females; age was indicated in categories, with 23 percent being 35 or younger, 35 percent being 36-45, 32 percent being 46-55, and 10 percent being 56+). If they consented, they filled out the Big Five on the abbreviated 36-item G5-R (Van der Linden et al., 2011). The reliability of the traits was satisfactory for all traits: ($\alpha$: conscientiousness = 0.70, emotional stability = 0.79, extraversion = 0.78, openness to experience = 0.72, agreeableness = 0.69, self-presentation = 0.84). Descriptive statistics are presented in Table III.

In total, 20 psychology students (11 females, nine males; $M_{age} = 20.60$, SD = 2.21) were recruited to rate the profiles in return for course credits. Ten students rated all profiles in full, the other ten rated all profiles without the picture and name of the profile owner (and thus effectively also without gender information). The raters received printed color versions of the profiles, in a different order for each rater, and rated each profile on each trait on a scale from −4 to +4 with the extremes of each trait on the endpoints. For example, for extraversion, −4 had the label “very introverted” and +4 was labeled “very extraverted.”
The slider scale (that measured responses to 1 decimal) always started at the midpoint of the scale. Description of the traits was again based on the personality measure itself, using the description associated with the scale. This time, we also handed out a €50 bonus to each of the two best-performing raters, to provide an extra incentive to work on the task with their full attention. Furthermore, they also knew we would tell them how well they had done compared to the other raters. The raters’ mean ratings (including standard deviation) for each trait are presented in Table III.

Table III was provided below:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Self-rated personality</th>
<th>Raters’ average trait estimate and consensus full profile</th>
<th>Raters’ average trait estimate and consensus limited profile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>ICC</td>
</tr>
<tr>
<td>Extraversion</td>
<td>3.78 (0.53)</td>
<td>0.71 (0.98)</td>
<td>0.76</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>3.61 (0.46)</td>
<td>1.84 (0.59)</td>
<td>0.61</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>3.36 (0.60)</td>
<td>1.53 (0.68)</td>
<td>0.59</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>3.64 (0.65)</td>
<td>1.03 (0.79)</td>
<td>0.64</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>4.26 (0.36)</td>
<td>0.94 (0.77)</td>
<td>0.48</td>
</tr>
<tr>
<td>Self-presentation</td>
<td>3.36 (0.70)</td>
<td>1.04 (1.07)</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Notes: Self-rated traits measured on a scale from 1 to 5. Raters’ trait estimates on a scale from −4 to +4, with for example the endpoints labeled as extremely introverted (−4) to extremely extraverted (+4). ICC’s reflect interclass correlation tested with two-way random model with absolute agreement for average measures. Data separately presented for raters who rated the full profile and those who rated the limited profile (without name and picture).

The results and discussion:

Table III provides the interrater reliability (ICC) of the raters for each personality trait. ICC’s are presented separately for the raters of the full profiles and the raters who rated the profiles without the picture and name. The consistency amongst raters was satisfactory to good, in some cases even excellent (for reference values, see Landis and Koch, 1977). Table II contains the correlations between rater’s averaged personality estimates of a trait with profile owner’s self-rated personality.

For extraversion, we again found that the average score of the raters correlated with the self-rated extraversion of the profile owner, but not for the other traits from the Big Five. Even though all profile owners were working for the same company and might thus have been more similar to each other (at least based on their type of work), we still replicated the extraversion finding from Study 1 that self-rated extraversion can be inferred from someone’s LinkedIn profile. The other Big Five traits could not be reliably predicted by raters in Study 2. We therefore think it is unlikely that these traits can be accurately inferred from LinkedIn profiles.

In this study, we also included trait self-presentation, which reflects the personality trait eagerness and ambition to present oneself to others. The results indicate that for self-presentation there was also a correlation between profile owners’ self-reports and raters’ inferences. This suggests that people can pick up this trait somewhat accurately based on a LinkedIn profile (the effect size being similar to that of trait extraversion).

Finally, as can be seen in Table III, the accuracy of raters did not seem to depend on whether or not a picture and name were present in the profile. Even raters who rated the profile without this information (and thus had no information about gender or outward appearance), were similarly accurate in their predictions for self-rated extraversion and self-presentation.

To conclude, our main finding is that we found correlations between the raters’ perception of extraversion with self-rated extraversion (both in Studies 1 and 2). Whether this correlation...
is strong enough to use it in pre-screening candidates is an important question. To get better insight into the feasibility of using inferred extraversion for pre-screening candidates (if one wanted to do so), we tested if raters can accurately identify the more extraverred individual from each possible pair of profiles. With 97 profiles, there are 4,656 possible comparisons between two profiles. From this set, we selected the pairs in which the profile owners differed in their self-rated extraversion (4,244 pairs). The profile rated as higher in extraversion by raters[2] was also the more extraverted person (based on self-ratings of the profile owner) 60.2 percent of the time. This implies that the odds of selecting the person with higher self-rated extraversion from a pair increases to 1.51 compared to a baseline of random guessing. This seems like a sizeable effect that might help in pre-screening candidates if one has a large number of candidates and only limited resources to find extraverted candidates. When looking for introverted or extraverted candidates, having a set of raters look at LinkedIn profiles and estimate scores on trait extraversion, might help in pre-screening (and the same holds for trait self-presentation).

General discussion
The basic question that started this research was whether personality traits can be predicted based on someone’s profile on a job-related social networking website (i.e. LinkedIn). Earlier research on social network profiles (such as Facebook; Back et al., 2010) found that traits can be predicted, but it was not clear if this was also possible with job-related social networks. We found that LinkedIn profiles can be used to predict self-rated extraversion (Studies 1 and 2) and self-presentation (Study 2) of profile owners to some degree. Agreeableness and openness to experience were successfully predicted in the Study 1 working sample, but this finding did not replicate in the Study 1 student sample or in Study 2. In general, the Big Five traits besides extraversion could not accurately be predicted from job-related social networking sites.

Practical usefulness
Earlier research found that extraversion is related to job performance of managers and sales executives (Barrick and Mount, 1991), affective organizational commitment (having an emotional attachment to the company you work for; Erdheim et al., 2006), and well-being (Ozer and Benet-Martinez, 2006). Self-presentation is also likely to be of importance for organizations, as facets that are part of trait self-presentation such as ambition (Huang et al., 2013) and having a proactive attitude (Crant, 1995) are important predictors of job performance. As impressions of extraversion and self-presentation based on job-related social networking sites appeared to be (somewhat) accurate, profiles on these sites might therefore be used to prescreen job applications. The chance of selecting the person higher in extraversion from a pair of candidates is 60.2 percent when using a LinkedIn profile, which means that one is 1.5 times as likely to actually select the person with the higher (self-rated) trait extraversion as the person with lower trait extraversion.

Note that our findings indicate that our raters could not reliably infer the other traits from the Big Five (agreeableness, conscientious, emotional stability, and openness to experience) based on a LinkedIn profile. This is also an important insight, as many recruiters use profiles at job-related social networking sites for screening for desired personality traits (Roulin and Bangerter, 2013), which might not be effective for many traits.

Limitations and future research
It may be possible to predict the Big Five traits beyond extraversion based on LinkedIn profiles, despite the relatively low accuracy found in the current study. In our studies we tested whether raters could infer personality from a LinkedIn profile, not how they did so.
Although we did not ask them what type of cues they used, we conducted an exploratory analysis of the predictive value of profile cues from Study 2. We coded some possible cues on the LinkedIn profiles and found some relationships between profile cues (e.g. aspects of the picture or group membership) and self-rated personality (see the appendix that can be found via the link provided in footnote 1). For example, exploratory analysis suggests that more conscientious people were more likely to include a picture and had less connections to other profiles. However, we noted that raters did not seem to pick up on this (based on the lack of a correlation of these cues with raters’ perceptions of conscientiousness). At the same time, raters seemed to have thought that those who wore formal clothes were more conscientious, which was in fact not true. Future research could specifically test which cues “leak” information about personality, and whether raters can be trained to use more predictive cues to assess a broader range of personality based on job-related social networking profiles.

In our study, the personality of the profile owner was self-rated by the profile owner. We realize that self-rated personality is only one option to assess actual personality, with ratings made by others and behavioral observations being other possibilities (McCrae and Costa, 1987). Self-ratings were found to not always be fully accurate, but they overlap considerably with other possible measures. Future research could test whether the inferred personality of profile owners also relates to, for example, co-worker’s perception of the personality of the profile owner.

Another possible limitation is that the raters were untrained psychology students who had followed a course on personality psychology, but had no experience in recruitment and personnel selection. It would be interesting to see whether experienced HR staff or recruitment specialists would be more accurate in their inferences. These experts who administer personality assessments have had the opportunity to learn: when they meet a candidate, they have an initial impression of the candidate’s personality, and the outcomes of a personality assessment allow them to learn how accurate their initial impression was. Given that feedback on one’s past performance allows improvement (Balcazar et al., 1985), these experts might become better over time at estimating personality of a candidate. However, whether this also holds for inferences based on social media profiles remains an open question.

**Conclusion**

Earlier research found that people can form accurate personality impressions based on social network profiles, but it was unclear whether this finding extended to profiles on job-related social networking sites (e.g. LinkedIn). This is important because job-related social networks are primarily used in the recruitment process. They contain more relevant information, they are more accessible to recruiters, and using them is seen as more ethical. Using job-related social network profiles for pre-screening might therefore circumvent some problems associated with more purely social networking sites (e.g. Facebook, see Davison et al., 2011; Brown and Vaughn, 2011). Profiles on job-related social networks are, however, created more deliberately and include very little interaction with other people. Still, our research finds that the traits extraversion and self-presentation can be inferred from profiles at job-related social networks: inferences based on profiles at LinkedIn correlated with self-rated scores on those traits. This implies that information about important personality traits (extraversion and self-presentation) leaks through the deliberately and carefully created profiles on job-related social networks.

**Notes**

1. An online appendix with exploratory analyses, study materials, and an anonymous version of the data of Study 1 can be found at the Open Science Framework, http://doi.org/10.17605/OSF.IO/6CV75
2. For 0.4 percent of cases raters had predicted the exact same extraversion scores for each member of a pair of profile owners. In those cases, we calculated half as correct inferences (assuming that they would be guessed correct at chance level when forced to choose for those 0.4 percent of cases).
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You can’t always get what you want? Leadership expectations of intrapreneurs
Jana Deprez and Martin Euwema
KU Leuven, Leuven, Belgium

Abstract
Purpose – The purpose of this paper is to examine the leadership expectations of young employees in intrapreneurial jobs.
Design/methodology/approach – Group interviews were conducted with 42 young intrapreneurs and 13 leaders of a Dutch ICT consultancy firm. Data were coded and analyzed using qualitative data analysis software.
Findings – The authors find ten different expectations on leadership. Young intrapreneurs expect to have a personal connection, sufficient feedback, ample freedom, and trust, clear directions when asked and a leader who is a role model.
Research limitations/implications – This qualitative study was conducted in one organization. It however sheds a first light on expectations of employees with intrapreneurial job requirements.
Practical implications – In order to motivate and guide young intrapreneurs, direct supervisors should aim not to breach expectations. By getting to know their employees on a personal basis, taking the time to coach them in their career goals, showing intrapreneurship themselves, focusing on an open relationship, and providing a challenging and dynamic environment, direct supervisors build a strong and cooperative relationship.
Originality/value – This paper is one of the first to look at the relationship between direct supervisors and intrapreneurial employees. Doing so, it also expands the current knowledge of Implicit Leadership Theory by exploring expectations of young intrapreneurs and adds to the full-range leadership theory by showing the importance of investigating its subdimensions.

Keywords Transformational leadership, Intrapreneurship, Implicit Leadership Theory, Leadership expectations, Young employees

Paper type Research paper

Introduction
You cannot expect your employees to exceed the expectations of your customers if you do not exceed your employees’ expectations of management Howard Schultz, CEO, Starbucks.

In today’s dynamic context, organizations seek new ways of gaining a competitive advantage. Traditionally top management teams were the drivers of renewal, however more and more emphasis is put on intrapreneurial individuals who renew and innovate from the bottom up (De Jong et al., 2015). Intrapreneurship is even claimed to be part of many employees’ job descriptions (Accenture, 2015). Young people are more willing to take the risks that are connected to intrapreneurship (Kacperczyk, 2012) and they find it easier to depart from the customary (Goll et al., 2008). Accordingly, companies attract young and dynamic employees to fill intrapreneurial jobs. However, intrapreneurship requires a specific organizational support system (Ireland et al., 2006). And particularly young employees might not live up to the challenge without proper support and encouragement, and accordingly leave the organization (Kacperczyk, 2012).

Prior research has indeed shown the benefits of a broader supportive intrapreneurship culture (e.g. Kuratko et al., 1990). More specifically, management support is seen as one of the most important drivers for intrapreneurship (Elenkov and Manev, 2005). For example,
the willingness of top management to facilitate and support (Hornsby et al., 2009) and their commitment and style (MacMillan, 1986) is shown to enable intrapreneurship in employees. Direct supervisors usually have a stronger impact on employee behavior than top management (Chiaburu et al., 2013). However, in intrapreneurship research, direct supervisors have received little attention (Deprez, 2017). Therefore, it is unsure how these leaders can best support intrapreneurship in their employees. In this research, we thus investigate the expectations toward leadership by young employees in intrapreneurial jobs.

Expectations toward leaders have received ample attention in literature. A relevant framework in this respect is offered by Implicit Leadership Theory (ILT). ILT focuses on the unspoken expectations employees have about their leaders (Eden and Leviatan, 1975). Fulfilled expectations lead to positive outcomes, such as increased job satisfaction, in-role, and extra-role performance (Suazo et al., 2008). Unfulfilled or breached expectations, on the other hand, negatively impact job performance and organizational citizenship behaviors (Bal et al., 2010). People from different cultural backgrounds (Sy, 2010) and job titles (Smothers et al., 2011) appear to have different expectations and thus require different things from their leaders to fulfill these expectations. Today little is known about the specific needs and expectations of young employees in intrapreneurial jobs. Therefore, in order to be able to fulfill these employees’ expectations, a first important step is investigating these needs and expectations.

Using a qualitative research design, we performed group interviews with 56 individuals within a large Dutch IT consultancy organization. This organization has a focus on intrapreneurship, as they view employees’ renewal initiative as key to their success. As such, intrapreneurship is even said to be part of their job descriptions. Furthermore, they exclusively select young, highly educated, and intrapreneurial individuals for their prestigious traineeship, thus providing us with an opportunity to investigate our research question. This paper contributes to the previous literature in two ways. First, it expands the knowledge on how to manage young talent in intrapreneurial jobs. As such, it may aid (HR) managers to increase the intrapreneurship in their organization. Second, this research adds to the expanding knowledge on leader expectations. More specifically, it highlights the ILTs of young employees in intrapreneurial jobs. Last, we add to the current knowledge on transformational leadership, by discussing how focusing on its different subdimensions could be necessary in different contexts.

Theoretical framework

ILT

This research focuses on the leadership expectations of young employees in intrapreneurial jobs. Expectations about leaders stem from the conceptualization of an ideal leader (Ehrhart, 2012). According to Lord et al. (1984), each person has a cognitive representation of a prototypical leader, including ideal characteristics and abilities. This representation, termed ILT, is activated when an employee interacts with a leader and is shaped by this individual’s perceptions and expectations (Lord and Maher, 1991; Offermann et al., 1994). When encountering leaders, employees automatically compare them to this prototype, to judge their effectiveness (Probert and James, 2011). When leaders live up to these expectations, it positively impacts affective commitment, mental health, and work engagement (Parzefall and Hakanen, 2010).

One of the most widely used ILT operationalizations is based on the work of Offermann et al. (1994) and consists of eight dimensions: six prototypic, namely sensitivity, dedication, charisma, attractiveness, intelligence, and strength, and two antiprototypic, namely tyranny and masculinity. These dimensions have been successfully found in both student and organizational settings (Epitropaki and Martin, 2004). However, there relative relevance in contexts could change as leadership is a socially constructed phenomenon that is time, place,
and person specific (Osborn et al., 2002). Thus, more and more researchers have investigated ILTs in specific contexts. Most attention has been given to different cultural contexts. For example, the GLOBE project (Chokar et al., 2013; House et al., 2002) showed substantial differences in expectations toward leaders, however also consistent patterns across societal cultures. Furthermore, different organizational and functional contexts, e.g. private and public universities (Smothers et al., 2011), salesmen and engineers (Sy et al., 2010), and expatriate employees (Stock and Genisyurek, 2012) also demonstrate different leader expectations.

Intrapreneurial job and behavior

Today, the business world glorifies the intrapreneurial spirit of employees. Intrapreneurship, or entrepreneurship within existing organizations (Antoncic and Hisrich, 2003), is even claimed to be present in up to 75 percent of companies (Accenture, 2015). This can entail intrapreneurial projects for a selected number of employees (e.g. Virgin Group – Cook, 2015), allowing sufficient time for experimentation (e.g. Google – Block, 2015), or requiring employees to continuously innovate and improve existing products and services as part of their job description (e.g. Microsoft – Gates, 1990; and Amazon – Hof, 2004). As a whole, these jobs are characterized by autonomy, task variety, and external contacts (Stam et al., 2012). Intrapreneurial behaviors are a combination of proactive, innovative, and risk-taking behaviors (De Jong et al., 2015) used to create more value than anticipated with the resources they have at hand (Stevenson and Jarillo, 2007). Including these behaviors as part of a job description improves their favorable evaluation (Ashford et al., 1998), and can lower the threshold for individuals who are less inclined to act in this way (Ireland et al., 2009).

Organizations, especially in industries such as finance, retail, and IT, are inclined to attract young employees when they want to increase or re-boost intrapreneurship (Posthuma and Campion, 2008). Given their limited experience, young employees are presumed to see the organizational context with “new eyes,” and as such spot opportunities where others do less so. According to some authors, younger individuals are less rigid and more risk oriented (Wiersema and Bantel, 1992), and have less commitment to the status quo (Goll et al., 2008). Young talents are therefore recruited with the expectation to take initiatives for renewal. As organizations often rely on young employees to fill in these intrapreneurial jobs, we chose to investigate their leadership expectations in this research.

Leadership expectations of employees in intrapreneurial jobs

While certain leadership styles have been found to impact perceptions of job characteristics (for a review, see Parker et al., 2017), little is known about the leadership styles that are best suited for intrapreneurial jobs. Furthermore, current research on team leaders of intrapreneurial employees has been scarce. The few studies that have been conducted, mainly focus on facilitating the efficiency of the intrapreneurial process and disregard personal differences (Deprez, 2017). However, previous research does reveal a higher need for achievement and autonomy (Rauch and Frese, 2007), focus on independence and flexibility (Major et al., 2006), and enjoy turbulence (Crant, 2000) for intrapreneurs. All aspects that could be particularly difficult to manage by leaders.

Looking at age-related expectations, previous research yields mixed results. For example, while some young employees desire personal attention (Chen and Choi, 2008) and support from supervisors (Broadbridge et al., 2007), others expect freedom (Jurkiewicz, 2000). These differences could thus be related to personality, rather than to mere age (Deprez et al., 2015). Expectations form and develop throughout the life span (Rousseau, 2001). Young employees have idealized expectations (Vos et al., 2003). Older employees’ expectations are built on experience and thus resistant to new impressions (Rousseau, 2001). Investigating young intrapreneurs should thus provide an “untainted” or “pure” view of intrapreneurs’ expectations. In general, it is very challenging to fulfill employees’ expectations (Low and Bordia, 2011).
The nature of young employees in these intrapreneurial jobs could add even more to this. Concluding, our research question is as follows:

**RQ1.** What do young employees in intrapreneurial jobs expect from their leaders?

Up to date, to the best of our knowledge, only two studies investigated the effect between leadership styles and employees’ intrapreneurial behaviors: one on transformational leadership (Moriano *et al.*, 2011) and one on authentic leadership (Valsania *et al.*, 2016). It’s not surprising that one of the few studies investigating this relation focused on transformational leadership, as this component of “full-range leadership theory” proposed by Avolio *et al.* (1999) still is one of the most studied leadership styles (Avolio *et al.*, 2009). And even though many have found that transformational leadership positively impacts innovative behavior, a behavior closely related to intrapreneurship (e.g. Nederveen Pieterse *et al.*, 2009; Peterson *et al.*, 2009), others find mixed results. For example, a meta-analysis by Rosing *et al.* (2011) discusses how transformational leadership yields different results depending on the phase of the innovative process (e.g. meta-analysis by Rosing *et al.*, 2011). However, most research aggregates the four subsaspects of transformational leadership (idealized influence, individual consideration, inspirational motivation, and intellectual stimulation) into an aggregated scale. This lack of differentiation could also be the cause of these differing results as there are quite some differences in the perceptions of these different subsaspects (Verschueren, 2014). Furthermore, the other two components of the full-range leadership theory, i.e. transactional and passive-avoidant leadership received far less attention related to innovation (Rosing *et al.*, 2011), and they are also usually aggregated. The different subsaspects of full-range leadership theory could thus prove an interesting framework while investigating the expectations of employees in intrapreneurial jobs. This leads to a second research question:

**RQ2.** Which aspects of the full-range leadership theory do young employees in intrapreneurial expect most from their leaders?

**Research site and methods**

*The IT company*[1]

For this study, we wanted to select an organization with intrapreneurial jobs. Consultancy is generally considered a very competitive sector, where employees work independently on projects. We chose a Dutch IT consultancy company that is known for its innovative and efficient approach. This company is part of a global IT market leader. Worldwide, they pride themselves in finding innovative solutions that fit the needs of each specific customer demand. Intrapreneurship is greatly emphasized in The IT Company. The job description of young consultants consists of the following tasks: developing new products, or adjusting existing ones to best fit the customers’ needs (and not specifically their initial request); managing their own project to create the most value for the resources they get; and allowing room for growth in new software, while improving existing one. Their job description thus requires them to seek for ways to create the most value possible with the resources at hand (proactive), creating or adapting products (innovative), and really fulfill a customer’s need, risking resources and reputation when this need is not fully compatible with the customer’s initial requests (risk). Furthermore, employees receive high flexibility and autonomy in their jobs and job content is tailored to personal needs, thus structurally enabling intrapreneurship. Trainees mostly work independently on projects and as such their performance is easy to track. Bottom-up-driven improvements are highly valued and evaluated as high performance.

**Sample and procedure**

Prior to these interviews, moderators and observers were briefed on their role as the facilitator, the scope of the research, and the context of the company. In order to ensure maximum
similarities between these groups, moderators also received a standardized introduction text and structured interview questions prior to these group interviews. Moderators ensured that all participants were able to express their opinions and asked additional questions to get deeper insights into the topics. The order of questions varied in each subgroup in order to prevent sequence effects. Furthermore, observers focused on group dynamics, kept track of time, audiotaped, and transcribed the interviews for further analyses.

In total, we interviewed 56 individuals: 42 employees in intrapreneurial jobs (in six groups) and 14 of their direct supervisors (in two groups). These group interviews were conducted simultaneously in separate rooms. Each group interview lasted about 40 minutes (ranging from 36 to 45 minutes), combining into a total of 5 hours and 22 minutes of recorded materials. The interviews with the intrapreneurial employees were used to provide answers for our research questions. The group discussions with the direct supervisors, on the other hand, were used to describe the company context and to ensure the intrapreneurial nature of the job descriptions.

Data analysis
The audiotapes were transcribed per verbatim by the researchers. The transcribed texts were coded by assigning codes to text segments that represent key information, tentatively grouping similar codes, and later aggregating cluster concepts. Due to the limited previous empirical research related to our research questions, the analyses for our first research question were conducted following the principles of grounded theory (Glaser and Strauss, 1967; Strauss and Corbin, 1994). This entails continuous interaction between data collection and concepts to develop theory. As such, analyses were not a linear, but an iterative process. Throughout the coding process, the researchers systematically reviewed materials, to adjust tentative concepts and variables. Where there was incongruence, we discussed until consensus. To facilitate the analysis, the researchers used qualitative data analysis software (Nvivo 11). Observer transcripts provided additional information used to discard any negative process effects. In order to improve the readability and clarity of our results section, we chose to use the word “intrapreneur” in discussing our findings, to denote employees in intrapreneurial jobs.

For our second research question, instead of developing a codebook based on the principles of grounded theory, we used the subaspects of the full-range leadership theory as theoretical concepts. The coding process was similar as for the previous research question. We used the same transcribed text, and coded it using the new codebook. During the coding process, the research team systematically discussed the quotes that could be interpreted in different ways and debated until consensus arose on the coding. Exemplary quotes and definitions for all full-range leadership-related concepts can be found in Table II, in the results section below.

Results
Expectations of young employees in intrapreneurial jobs
The summarized results for our first research question are represented in Table I, the five most prevalent categories will be discussed in greater detail in the next paragraph.

1. Have personal attention and connection:

I want my leader to show genuine interest in me. I find it impossible to be just a number in the crowd. I want him to get to know me on a personal level. To ask how I'm doing on and outside the job.

Our interviewees often discussed despising being a number. They require a personal connection with their leader and colleagues. They share personal information and both work- and non-work-related stories. Next to more formal interaction, they find it very important that their leader stops by with a cup of coffee, invites them for drinks after work,
<table>
<thead>
<tr>
<th>Content clusters</th>
<th>Description</th>
<th>Exemplary quote</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Have personal attention and connection</td>
<td>Build a personal, informal relationship. Provide the possibility of personal discussions and interactions</td>
<td>I need a genuine interest from my manager. That she's not just connecting when she expects some bumps on the road, but that she takes an interest in me, as a person</td>
<td>22 (52%)</td>
</tr>
<tr>
<td>(2) Provide feedback</td>
<td>Receiving both positive and negative feedback from a manager</td>
<td>I want my manager to tell me what I need to further develop and how. Initiative for this contact should be a two way street, it shouldn't be too fixed</td>
<td>20 (48%)</td>
</tr>
<tr>
<td>(3) Give freedom and trust</td>
<td>Allow and entrust trainees with content and process autonomy</td>
<td>I enjoy working with my manager. I have the freedom to say which direction I want to go. I determine my own planning. My manager tells me he sees I'm working hard and that he trusts my judgement. That keeps me going</td>
<td>17 (40%)</td>
</tr>
<tr>
<td>(4) Provide clear directions when asked</td>
<td>Help trainees to make decisions and facilitate challenging interactions when asked</td>
<td>It's important to know the boundary conditions and limits of my projects and that I have the freedom to operate within these. But when in doubt, my manager should help me to bite the bullet</td>
<td>13 (31%)</td>
</tr>
<tr>
<td>(5) Be a role model</td>
<td>Encourage intrapreneurial behavior through actions, words or both</td>
<td>When I look at my manager, I see someone who has accomplished a lot. Her career is a real success story, and I aim to follow in her footsteps</td>
<td>12 (29%)</td>
</tr>
<tr>
<td>(6) Challenge to grow</td>
<td>Provide challenges in the current job that ensure personal growth and fit future career aspirations</td>
<td>I ask my managers to keep me in the loop on professional opportunities within the company. I want to know if and when they're thinking about me, what they see as my professional next steps and how my current and next projects fit this developmental path</td>
<td>10 (24%)</td>
</tr>
<tr>
<td>(7) Show appreciation</td>
<td>Verbally or physically show appreciation (especially when tasks are tedious)</td>
<td>I would prefer that my manager shows me his appreciation. A bottle of wine, some flowers, a giftcard. Heck, even a pat on the back would be a boost for me</td>
<td>9 (21%)</td>
</tr>
<tr>
<td>(8) Provide transparent information</td>
<td>Proactively share information on the company context and opportunities</td>
<td>I currently miss an overview of opportunities. When I see colleagues getting specific projects that I would have wanted, I get no explanation as to why I wasn't asked. I wasn't even aware that those projects existed. More transparency would be nice</td>
<td>6 (14%)</td>
</tr>
<tr>
<td>(9) Give expert advice</td>
<td>Provide insight into own past learning experiences and give personal expert opinion</td>
<td>I enjoy asking a second opinion from my manager. He's always truthful with me and he openly discusses his take on things without binding me to his suggestions</td>
<td>3 (7%)</td>
</tr>
<tr>
<td>(10) Add to informal and decentralized context</td>
<td>Promote informal communication with self and other managers</td>
<td>The context here is very informal. I appreciate it that my manager allows me to contact partners with questions, without him thinking that I go “over his head”</td>
<td>3 (7%)</td>
</tr>
</tbody>
</table>

Table I. Summary of results
or has short conversations with them when they cross each other in the hallway. They want to be heard when they have problems. For example, one trainee indicated his leader came up to him and asked how he was doing when he was looking tired. Even though it was a personal problem, his leader took the time to listen and help him where possible. This personal contact also makes it easier for our interviewees to be more vulnerable toward their leader (e.g. when receiving developmental feedback).

2. Provide feedback:

Like everyone, I have some major blind spots. To me it's very important that my leader discusses these with me. It's the only way I can learn and grow. Because my leader gives me the feeling that I'm doing well, I am especially interested in discussing my weaknesses. It helps me to keep becoming better in my job.

In general, our interviewees indicate a strong need to learn and to grow. Receiving both positive and negative feedback is a main source of energy for them. However, our interviewees generally agree that their need for both types of feedback changed throughout their employment. In the first couple of months of their employment, they felt unsure about themselves. As such, they felt a strong need for positive feedback in that stage. Once they felt they were doing a good job, they found it easier to show vulnerability toward their leader and also discuss their "points of development." Even more so, after a couple of positive feedback conversations, our interviewees felt they needed this "negative" feedback because it was the only way for them to grow. The young intrapreneurs also felt strongly that feedback should not be limited to the "official" moments, but was part of the day-to-day interaction with their leader.

3. Give freedom and trust:

I do not want to be managed. I want to find my own way and take risks how I see fit. I want to define how I get appraised. My leader trusts me and acknowledges that this is the best way to increase my productivity.

Our interviewees mention a high level of freedom and autonomy as a major driver for and the most important way to show intrapreneurship. They prefer working for leaders who allow scheduling their time, pursuing their interests, and making decisions. Thus, they prefer to take full ownership, some even without consulting their leader at all. These intrapreneurs enjoy finding their own way and appreciate that they are allowed to fail and take risks as long as they learn from it. They attribute their freedom to trust and appreciation from their leader.

Despite the general flexibility, some projects require more repetitive or less interesting tasks. In this case, they are not able to get freedom and autonomy. Our interviewees point out that in such cases, leader openness and sincerity about their suboptimal conditions buffers the negative effects of low autonomy. Furthermore, they indicate the positive buffering effect of appreciative messages and promised autonomy in future assignments.

4. Provide clear directions when asked:

I'm very driven to do my job well. I want to go above and beyond. However, in my enthusiasm, I sometimes do not estimate correct timings or I get lost in too many new ideas and possibilities. I'm lucky to have a leader who gives me all the freedom I desire, but also guides me and helps me make decisions when I need her to.

Next to absolute freedom, some interviewees require three types of directions. First, they need a leader to "protect them against themselves." For example, when they have too many ideas and tend to get carried away, a leader is the ideal person that facilitates their process, without making them feel controlled. Second, physically working in clients' offices, interviewees experience conflicts. For example, when multiple client contacts all insist on different, sometimes contradictory tasks, leaders help facilitate a solution and improve their
Leadership expectations of intrapreneurs

working conditions. Last, leaders set broad general guidelines, deadlines, and processes which allow young professionals to focus less on the administrative aspects and to focus their creativity on content.

Thus, while intrapreneurs prefer autonomy and freedom, this works best within certain boundaries. Leaders facilitate this and to provide clear directions, but only when asked.

5. Be an inspirational role model:

My leader is very flexible. If I contact him, he’s always able to help me within 24 hours, regardless of his schedule. This is perfect as sometimes I get stuck and instantly need new input.

Leaders set a good example. Our interviewees describe them as being open to input, responsive to feedback, independent, creative, proactive, and flexible. While for most interviewees, the positive effect of role modeling was rather implicit, some also indicated it more explicitly. Three interviewees, for example, stated that they mirror the behaviors of their leader. Next to the behavioral aspect, leaders also verbally encourage intrapreneurship. In coaching, young professionals are inspired to take even more initiative. Leaders reward intrapreneurship implicitly (e.g. by investing more in coaching and career management of young professionals who show these behaviors) as well as explicitly (e.g. providing additional training and verbal praise). While most young professionals give examples of either behavioral or verbal role modeling, modeling both (i.e. when they show behavioral integrity) is most beneficial.

Expectations of the full-range leadership theory

For our second research question, we conducted additional analyses, based on the full-range leadership theory. The summarized results for this research question are represented in Table II. The results will be discussed in greater detail in the paragraph below.

When looking at the results in Table II, a few trends arise. First, it becomes apparent that mainly transformational leadership is expected from leaders. This seems congruent with the overall interest in transformational leadership when it comes to stimulating initiative-seeking behaviors. However, while transactional and passive-avoidant leadership are generally regarded less positive, we did notice that our respondents do mention these as expectations, be it less than the transformational leadership.

Second, looking at the subsaspects of the full-range leadership theory, all of our respondents generally expect a leader to show individual consideration. More specifically, many respondents discuss how they want a coach, someone to aid them in their development. “A minimum requirement for leaders is that they actually take an interest in me. That they take the time to meet up, get to know me and my career goals, and help me grow.” In general, as also mentioned in the previous section, the focus on growth and development is very prevalent with our interviewees. They feel that coaching them in this regard is one of the main responsibilities of their leader. “If my leader only had time for one task, it would be to coach me. I do not need an expert, I’ll get knowledge elsewhere. I need someone to track my development, keep me on my path and work with me towards the future.”

Third, next to the overall focus on individual consideration, about one-third of the interviewees also expect idealized influence from their leaders. They often mentioned the ideal attributes and norms in a leader; more specifically: being an honest, open, flexible, proactive, and powerful. Our respondents often referred to the specific role modeling behaviors in this regard, which open the way for them to also be the best they can be. “I like it when my supervisor is not afraid to be vulnerable and share his own weaknesses. It helps me to open up myself too.” About equal attention was put on contingent rewards. Those who did discuss the latter did so because they felt that while their performance should be easy to track, today in their organization, leaders often do not actually do so. “All too often our appraisal talks are as such: I know you did a lot of hard work but I cannot find any proof in your file, thus I cannot
appraise you. Ideally, I want to be valued for all the hard work I actually do. Appraisals should be transparent.” Even though it is likely that other intrapreneurs also feel that their performance is invisible, it is possible that in this specific instance we have an overrepresentation of the importance of focusing on contingent rewards due to some company specific frustrations in our interviewees.

Last, some aspects of the full-range leadership theory hardly received any attention at all. Virtually no interviewees mention inspirational motivation, very little discuss the subdimensions of management by exception. This could indicate that for employees working in intrapreneurial jobs, not all aspects of the full-range leadership theory are worth putting effort in as a leader. Thus, while previous research has emphasized the importance

### Table II.
Summary of results for the second research question

<table>
<thead>
<tr>
<th>Content clusters</th>
<th>Description</th>
<th>Exemplary quote</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transformational leadership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Idealized influence</td>
<td>Socialized charisma of the leader (being perceived as confident, powerful, and focusing on ideals and ethics). Actions centered on values, beliefs, and a sense of mission</td>
<td>My ideal leader is open and transparent. Honest. Not make meaningless promises they can’t keep. Being a role model themselves</td>
<td>14 (33%)</td>
</tr>
<tr>
<td>(2) Individual consideration</td>
<td>Advising, supporting, and paying attention to the individual needs of followers, allowing them to develop and self-actualize</td>
<td>I want my leader to know me and my work. To have a genuine interest in me. To search for new projects or promotions that would best suit my developmental process</td>
<td>29 (69%)</td>
</tr>
<tr>
<td>(3) Inspirational motivation</td>
<td>Energizing followers by viewing the future with optimism, ambitious goals, and communicating that this vision is achievable</td>
<td>I want someone who I can look up to. Who inspires and motivates me</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>(4) Intellectual stimulation</td>
<td>Appeal to followers’ sense of logic and analysis by challenging to think creatively and find solutions to difficult problems</td>
<td>I want to be stimulated. Someone I can brainstorm me. Who can trigger me to solve complex problems. Who sets the bar a bit higher every time</td>
<td>5 (12%)</td>
</tr>
<tr>
<td><strong>Transactional leadership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Contingent reward</td>
<td>Clarifying role and task requirements and providing material or psychological rewards contingent on fulfillment of contractual obligations</td>
<td>I need my manager to show appreciation. It doesn’t even have to be a bonus, a bottle of wine would be great too</td>
<td>10 (24%)</td>
</tr>
<tr>
<td>(2) Management by exception</td>
<td>Active vigilance of a leader whose goal is to ensure that standards are met</td>
<td>I want my manager to tell me how to do my job. To teach me to be efficient and make sure I’m good at what I do</td>
<td>4 (10%)</td>
</tr>
<tr>
<td>(active)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Passive/avoidant leadership</strong></td>
<td>Leaders only intervene after noncompliance has occurred or when mistakes have already happened</td>
<td>Especially when I just started, I wanted a manager who watched me and how made sure to interfere when I did something wrong</td>
<td>3 (7%)</td>
</tr>
<tr>
<td>(1) Management by exception</td>
<td>Absence of a transaction or interaction of sorts with respect to leadership</td>
<td>I prefer to have my freedom. Just leave me be. If I really need a supervisor, I will let you know, but until then, I’d rather just do things on my own</td>
<td>4 (10%)</td>
</tr>
<tr>
<td>(passive)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Even though it is likely that other intrapreneurs also feel that their performance is invisible, it is possible that in this specific instance we have an overrepresentation of the importance of focusing on contingent rewards due to some company specific frustrations in our interviewees.
of being a transformational leader, in our case inspirational motivation and intellectual stimulation could be irrelevant for employees in intrapreneurial jobs. More specifically, our respondents mostly described that their job hold sufficient challenge or they seek this challenges more by themselves: “I do not want any manager to hold my hand and give me jobs. I'll go out and seek interesting things to do by myself. My boss should not be responsible for me being able to learn in my job.”

Discussion
The present study contributes to the literature on ILT by examining the leader expectations of 42 young employees working in intrapreneurial jobs in an IT consulting company. This research wanted to gain insight into how they want to be managed and what they expect from their leaders as fulfilling these expectations has an important impact on employee behavior and wellbeing. We analyzed our data first using the grounded theory framework, and using the full-range leadership theory.

Theoretical contributions
This research adds to the current research knowledge in three ways. First, we add to the existent knowledge on ILT. More specifically, while there has been some research on implicit leader theories for different job types (e.g. salesmen and engineers (Sy et al., 2010) and university workers (Smothers et al., 2011)), little to nothing was known about the expectations of employees in intrapreneurial jobs. Thus, in this research, we investigated leadership expectations in a setting that was not previously the focus of such research. Doing so, we noticed that mainly the sensitivity dimension of the original ILT model, which refers to a compassionate, understanding, warm and helpful leader, and charisma, which refers to a leader as an enthusiastic, dynamic, and inspiring role model (Offermann et al., 1994), were deemed important for intrapreneurs. The other ILT dimensions, such as dedication, attractiveness, intelligence, and strength, received substantial less attention. While some researchers found similar ILTs over different employee groups (Epitropaki and Martin, 2004), our research does seems to show the importance of the context specific investigation of ILTs.

Second, doing so, we also add to the scarce current knowledge on the connection between intrapreneurship and leadership. In this study, we found evidence for some core aspects of intrapreneurs that is congruent with the previous research (a preference for autonomy and freedom, and having a great need to develop themselves and learn new skills and competences; Crant, 2000). However, this view can be nuanced as a result of our research findings. For example, while intrapreneurs do prefer challenge, employees in intrapreneurial jobs seem to find sufficient challenge in their tasks. The role of the leader should thus not be to add additionally to this, but rather to keep a long-time career perspective in mind.

Last, we also add to the existent knowledge on the full-range leadership theory. More specifically, we investigated the different expectations that are related to the different subaspects of this theory. Doing so, we showed that while most research on full-range leadership theory aggregates its subaspects. More specifically, transformational leadership scholars generally aggregate idealized influence, individual consideration, inspirational motivation, and intellectual stimulation into the overarching transformational leadership scale. Similarly, transactional and passive-avoidant leadership scholars generally do not mention subaspects (i.e. contingent reward and management by exception (active) for the former, and management by exception (passive) and laissez-faire for the latter). However, our research demonstrates that not all subaspects are deemed equally important to our interviewees. We thus find that there is actually real value in looking at the differences within these aggregated scales, more specifically focusing on these subaspects. Following the different emphasis on these subaspects, it could be interesting for other researchers to
also further differentiate between these subscales instead of investigating transformational leadership as a whole. Also, leaders only have limited amount of energy and time to invest in their employees. Supervisors of employees in intrapreneurial jobs should focus on individual consideration, before anything else. Informal interpersonal contact is important for young intrapreneurs, as they especially dislike hierarchies and bureaucracies (Sørensen, 2007). However, the idealized preferences of these young intrapreneurs might also be subject to other age effects. For example, for employees in early career stages, it is normal to feel unsure and need extra encouragement (Busch et al., 2008) and to want to grow (Wong et al., 2008). There might thus be an overestimation of some effects, due to age.

**Limitations and future research**

Our study is not without limitations. Although leadership perceptions of intrapreneurs could be logically generalizable to other industries, our sample is limited to an IT consulting company. Therefore, it would be interesting to replicate this study in different intrapreneurial contexts, such as, for example-tail or other service companies. Also, we opted to investigate young intrapreneurs. We expected to find a “purer view” of intrapreneurial expectations, as their young age makes expectations untainted by experience and compromise. However, it is unsure if these expectations (e.g. the high need for feedback) are generalizable for older intrapreneurial individuals as well, or whether they are subject to the above mentioned age effects.

Additionally, while some expectations were discussed very often (e.g. the need for feedback and freedom – 20 and 17 times, respectively; or importance of individual consideration – 29 times), others emerged less often (e.g. the need for expert advice and an informal context – both three times; or inspirational motivation once). This could imply that also within the group of young intrapreneurs, expectations differ. More specifically, while the results of this research shed a light on certain expectation trends, it is possible that these expectations do not fit all the intrapreneurs’ perspective.

Last, this research opted for the use of group interviews. Group processes have the benefit to help people explore and clarify their views in ways that would be less easily accessible in a one-to-one interview or surveys (Kitzinger, 1995). They have the added benefit of giving a good overview of generally accepted trends within a group, in an efficient manner. However, doing so, they have the potential risk of inducing group biases on the results (Patton, 2005). Future research could use individual interviews or survey methods to build on this study.

**Practical implications and conclusion**

Based on our results, we can draw five best practices for (HR-)managers seeking to retain and get the best results from intrapreneurs. First, leaders should spend as much time and effort getting to know their employees as possible. Having a genuine interest and bonding on a personal level is the ideal way to be able to better understand the needs of your employees. It helps leaders to be the coach these employees desire.

Second, challenge intrapreneurs to grow and learn. Given the challenging nature of their projects, leaders should not necessarily stimulate them intellectually. However, helping them to move from one interesting project to the next, and keeping an eye out for new opportunities is highly appreciated. If not possible, at least provide time and opportunity for continuous reflection and feedback on the tasks that are at hand. An intrapreneurial focus can be useful in ever task, even if it is to a small extent.

Third, companies should allow leaders to play an important role. As intrapreneurs prefer autonomy, leaders should grant this. However, this can be difficult, as organizations have specific protocols, rules, and regulations. Even then, or especially then, leaders should be allowed to create a certain level of autonomy within the boundaries of their team, to keep their intrapreneurs motivated. For example, formally juniors were not allowed to give presentations to the boards of their customer companies. However, it is an option that
project leaders allows competent juniors to do this anyhow, while they are present. Doing so, they grant autonomy and trust to their employees, while sheltering their employees from the negative effects of official policies.

Next, leaders should be open and sincere. Leaders are one human and as such will definitely have their flaws. Also, they are not always able to provide fun and interesting tasks or cannot share interesting information at the right moment in time. Openness about this will make intrapreneurs trust their leaders more, making them feeling confident to take risks and initiative.

Last, it is possible that amongst intrapreneurs, expectations differ, e.g. according to their personality or current personal situation. In conducting this research, it became clear that most employees know very well what they do and do not expect. The easiest way for leaders to meet individual expectations is to build an open and personal relationship in which all employees are comfortable to share information, and use it as the basis of a strong cooperation.

In conclusion, our study explored the leader expectations of young intrapreneurs in an IT consulting company. Doing so, this research aimed to shed a light on the leadership behaviors which are preferred by young employees in intrapreneurial jobs. The results from this study highlight that leaders and organizations are wise to provide sufficient feedback, freedom, trust, and support to young intrapreneurs.

Note
1. All proper names are pseudonyms, including the name of the firm.

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**Further reading**


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Leader pride and gratitude differentially impact follower trust

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Abstract
Purpose – Current research suggests a positive link between followers’ perceptions of their leaders’ expression of positive emotions and followers’ trust in their leaders. Based on the theories about the social function of emotions, the authors aim to qualify this generalized assumption. The purpose of this paper is to demonstrate that followers’ perceptions of leaders’ expressions of specific positive emotions – namely, pride and gratitude – differentially influence follower ratings of leaders’ trustworthiness (benevolence, integrity, and ability), and, ultimately, trust in the leader.

Design/methodology/approach – The hypotheses were tested using a multimethod approach combining experimental evidence (n = 271) with longitudinal field data (n = 120).

Findings – Both when experimentally manipulating leaders’ emotion expressions and when measuring followers’ perceptions of leaders’ emotion expressions, this research found leaders’ expressions of pride to be consistently associated with lower perceived benevolence, while leaders’ expressions of gratitude were associated with higher perceptions of benevolence and integrity.

Originality/value – This paper theoretically and empirically establishes that leaders’ expressions of discrete positive emotions differentially influence followers’ trust in the leader via trustworthiness perceptions.

Keywords Emotions, Leadership, Trustworthiness, Pride, Gratitude, Trust

Paper type Research paper

Introduction
Trust is a key component of effective leadership (Dirks and Ferrin, 2002). It encourages communication, cooperation, and team learning (Burke et al., 2007), as well as job satisfaction, organizational commitment, and performance (Yang and Mossholder, 2010). In building followers’ trust, leaders must appear trustworthy in terms of “benevolence” (willing to do good regarding their followers), “integrity” (adhering to mutual moral principles), and “ability” (having skills and competencies needed for success) (Mayer et al., 1995). In light of the desirable outcomes of trust, identifying antecedents of leaders’ trustworthiness is crucial for fostering individual and organizational functioning alike.

With the affective component of trust being well established (McAllister, 1995), research shows that the experience of positive emotions toward others (Williams, 2001) and incidental emotions (Dunn and Schweitzer, 2005) both promote trust. Not only does the experience of positive emotions elicit trust, observing others’ emotion expressions...
Facial characteristics have been found to influence perceptions of trustworthiness (Willis and Todorov, 2006), and, based on research on smiling (Krumhuber et al., 2007), it has been established that leaders’ positive emotion expressions enhance trust in them (Gooty et al., 2010).

Yet, generalizing from smiling (i.e. happiness) to all discrete positive emotions may be premature. As discrete emotions are elicited from an individual’s appraisal of a situation, they carry information about the expresser’s personality, goals, and motivations (Van Kleef, 2009). Thus, beyond the specific situation, leaders’ expression of discrete positive emotions, such as pride and gratitude, may differentially influence followers’ perceptions of leaders’ trustworthiness.

Pride and gratitude are highly important in organizations, both in terms of their being frequently experienced (Hu and Kaplan, 2015) and as a crucial motivational resource (Baer et al., 2015; Fehr et al., 2017). Yet, while both are experienced following positive outcomes (Ellenbein, 2007), they differ in their attribution of responsibility. Whereas, on an individual level, pride arises from seeing oneself as responsible for a positive outcome (Leary, 2007), due to effort or competence (Martens and Tracy, 2013), gratitude results from seeing another person as intentionally responsible for a positive outcome (Tsang, 2006). Thus, leaders expressing gratitude or pride after a shared positive outcome may be seen as praising followers’ actions (Algoe and Haidt, 2009) or highlighting their own achievements (Tiedens et al., 2000), which may be particularly informative concerning leaders’ trustworthiness.

Showing differential effects of leaders’ expressions of pride and gratitude on followers’ perceptions of leader trustworthiness and their trust in leaders contributes to theory and practice in several ways. It connects the social function of emotions (Van Kleef, 2009) to trust in leaders by showing how pride and gratitude differentially influence trustworthiness perceptions and trust. Thereby, results demonstrate the differential function of discrete positive emotions in leadership (Hu and Kaplan, 2015). Moreover, understanding emotion expressions represents an important dimension of emotional intelligence (Ashkanasy and Dorris, 2017), with the ability to influence others via emotion displays even suggested as an additional dimension (Côté and Hideg, 2011). Demonstrating how leaders’ expressions of pride and gratitude influence followers’ perceptions of leaders’ trustworthiness therefore also contributes to research on leaders’ emotional intelligence and emotional labor (Humphrey et al., 2008).

In this context, this research amends the practical conclusions for leadership from emotional intelligence research (Riggio and Reichard, 2008). As leadership education on emotional intelligence should build on empirical evidence (Walter et al., 2011), we provide leaders with information on how expressions of pride and gratitude impact followers’ perceptions of leaders’ trustworthiness. This may help leaders to act in emotionally intelligent ways, and in deciding when to express or control their emotions (Humphrey, 2012).

This paper used a multimethod approach to combine the indications of causality from an experiment, in which leaders’ emotion expressions in response to a joint work success were manipulated (Study 1), with the broader generalizability of a field study asking followers about their perceptions of their leaders’ emotion expression (Study 2).

**Development of hypotheses**

According to the “emotions as social information” model, observers use information inherent in emotion expressions to make inferences regarding the situation and the expresser (Van Kleef, 2009). Being connected to specific expressions, discrete emotions provide differentiated information beyond the valence of a situation, as they are also connected to specific eliciting events. Moods, in contrast, only differ in positive or negative valence (Barsade and Gibson, 2007). Because emotions are connected to specific appraisals, their expression provides the same information on these appraisals across contexts, while
observers differ in their reaction, depending on the appropriateness of the emotion and information communicated therein (Van Kleef et al., 2011).

Pride and gratitude differ by attributions of responsibility, with a positive outcome being attributed to either the self (pride) or others (gratitude) (Weiner, 1985). Both pride and gratitude may also be experienced at the group level, in response to a common identity or shared climate in an organization (Fehr et al., 2017; Hu and Kaplan, 2015). However, as emotions are prevalently examined on the individual level (Algoe and Haidt, 2009; Shariff and Tracy, 2009), we follow this conceptualization. In communicating differential attributions of responsibility, pride and gratitude provide crucial information about leaders (Martinko et al., 2011). Leaders expressing self-referential pride emphasize their own competence and status (Shariff and Tracy, 2009), while leaders expressing gratitude toward followers communicate a prosocial, other-regarding attitude (Algoe et al., 2008). When expressed in appropriate situations, this qualitative difference between leaders’ expressions of pride and gratitude likely influences perceptions of leaders’ trustworthiness – that is, their benevolence, integrity, and ability.

Benevolence encompasses behaviors that respect and benefit followers’ interests, above what is formally required and even if leaders do not profit from them (Mayer et al., 1995). This implies feelings of closeness between leaders and followers, which are important preconditions for leaders being perceived as benevolent (Antonakis and Atwater, 2002). The expression of pride, however, serves a social distancing function, as it enhances the social standing of the expresser compared with others (Fischer and Manstead, 2008). In comparison, gratitude expressions serve an affiliative function that promotes social cooperation (Tsang, 2006). In leader-follower relations, leaders expressing gratitude toward their followers acknowledge followers’ role in a success, which may demonstrate direct support of followers’ interests in a shared positive situation (Amabile et al., 2004):

H1. Leaders expressing pride are perceived as less benevolent than leaders expressing gratitude.

Integrity encompasses moral behaviors, such as acknowledging others’ responsibility for a positive outcome and giving them their due in a success (Michie and Gooty, 2005). Integrity may be especially important in joint success situations, because leaders are prone to self-serving biases and to attributing successes to themselves rather than to others (Martinko et al., 2007). Because expressions of pride signal one’s responsibility for success (Martens and Tracy, 2013), leaders may consequently be perceived as taking credit away from followers. Leaders prioritizing self-interest over the interests of the group are likely to incur negative follower reactions (Tee et al., 2013). In contrast, expressions of gratitude publicly acknowledge that others had a part in a success, and are associated with moral behavior in general, such as considering others’ rights and interests (Michie and Gooty, 2005):

H2. Leaders expressing pride are perceived as having less integrity than leaders expressing gratitude.

Ability is based on signals of competence, such as demonstrating expertise or being associated with a positive outcome. Leaders expressing pride explicitly signal their role in a success, and pride expressions increase perceptions of individual expertise (Martens and Tracy, 2013). Pride also increases individuals’ perseverance (Williams and DeSteno, 2008), thus likely fostering existing competencies. In contrast, leaders expressing gratitude may undermine their association with a success because they actively communicate others’ pivotal role in achieving it. Because leaders are expected to experience pride rather than appreciation in shared successes (Tiedens et al., 2000), they additionally risk not complying with prototypes of successful leaders, which may be perceived as lack of ability:

H3. Leaders expressing pride are perceived as having higher ability than leaders expressing gratitude.
Trust depends on whether one is willing to make oneself vulnerable to someone, and is dependent on perceptions of that person’s benevolence, integrity, and ability (Mayer et al., 1995). Because all three dimensions relate uniquely to trust (Colquitt et al., 2007), benevolence, integrity, and ability should underlie the indirect effects of leaders’ expressed emotions on trust:

\[ H4. \] There will be indirect effects of leaders’ expressions of pride and gratitude on trust in leaders through perceived leader benevolence, integrity, and ability.

### Study 1

Hypotheses were tested with a one-factorial experimental design using written vignettes that described a leader who informed their team about a shared success in a marketing pitch (adapted from Tiedens et al., 2000). The use of vignettes represents a common approach in research on leaders’ emotion expressions (Eberly and Fong, 2013; Madera and Smith, 2009; Schaubroeck and Shao, 2012). The shared success situation was particularly suitable, as its positive valence and the fact that both the leader and followers contributed to the success warrant the leader expressing both gratitude and pride.

**Method**

In addition to the focal emotions, we included a neutral control condition and a happiness control condition. Because happiness is, like pride and gratitude, experienced in response to positive outcomes, yet does not imply responsibility for them (Weiner, 1985), this comparison ruled out the possibility that differences were solely driven by valence.

**Participants.** Overall, 271 students were recruited, 251 of whom completed all demographic variables (male, 61.51 percent; mean age, 22.56 years, SD = 4.06). The majority (82.94 percent) had job experience in internships or part-time work.

**Procedure.** Participants were approached on the campus of a large German university and a link to the study was posted on social networks, allowing for individual participation via a paper-and-pencil or online questionnaire. Participants were randomly assigned to one of the experimental conditions. After reading the vignette, they rated the leader on the focal variables.

**Experimental manipulation.** Emotion expressions were manipulated verbally and non-verbally. Manipulations of expressions of pride (Tracy and Robins, 2007), gratitude (Hertenstein et al., 2006), and happiness (Campos et al., 2013) were based on previous research. The neutral condition accentuated emotional neutrality. Leaders’ gender was randomly modified through a German male or female first name to allow generalizability across genders (Lewis, 2000). The full vignette is presented in the Appendix.

**Dependent variable.** Trust was assessed with five items (Mayer and Gavin, 2005) adjusted for the vignette scenario (e.g. “If someone questioned the team leader’s motives, I would give the team leader the benefit of the doubt”) and rated on a five-point scale (1 = disagree strongly to 5 = agree strongly), \( \alpha = 0.72 \).

**Mediators.** The trustworthiness measurement (Mayer and Davis, 1999) was also adapted to the experimental scenario. Benevolence was measured by five items (e.g. “I think the team leader is very concerned about employees’ welfare”; \( \alpha = 0.81 \)), integrity by six (e.g. “The team leader seems to have a strong sense of justice”; \( \alpha = 0.77 \)), and ability by six (e.g. “I feel very confident about the team leader’s skills”; \( \alpha = 0.78 \)), rated on the same scale as trust.

**Manipulation checks.** After rating trustworthiness and trust, the participants rated the extent to which the leader felt pride in him- or herself and gratitude on a six-point scale (0 = not at all to 5 = very strongly).

**Analytic strategy.** One-factorial analysis of variance (ANOVA) models tested the effects of expressed emotions on trustworthiness. ANOVAs were repeated controlling for leaders’
gender, but none of the results changed in size or direction. Given homogeneity of variance, Bonferroni post hoc tests were used to compare the means between conditions (otherwise, Games-Howell post hoc tests were used). The indirect effects were examined in separate analyses for each trustworthiness dimension (Grant and Sumanth, 2009) with 5,000 bootstrap resamples in the PROCESS macro for SPSS (Hayes, 2013).

Results
Table I shows the correlations and reliabilities for trustworthiness and trust.

Manipulation checks. Table II shows the means for all conditions. The leader’s pride in him- or herself was perceived to be significantly higher in the pride than in the gratitude, happiness, or neutral conditions (all \( p < 0.05 \)). Perceived gratitude was significantly higher in the gratitude than in all other conditions (all \( p < 0.05 \)). There were no main or interaction effects of leader gender on the perception of leader emotion expressions. Therefore, the manipulations of pride and gratitude were considered to be successful.

Factor structure. Model fit in a confirmatory factor analysis was assessed with criteria for small samples, with values above 0.90 (Beauducel and Wittmann, 2005) for the comparative fit index (CFI) and below 0.09 (Hu and Bentler, 1999) for the standardized root mean square residual (SRMR) considered acceptable. The four-factor model including separate factors for benevolence, integrity, ability, and trust (\( \chi^2(198) = 378.35, p < 0.05; \) CFI = 0.91; SRMR = 0.07) fit the data substantially better than a one-factor model (\( \chi^2(204) = 647.69, p < 0.05; \) CFI = 0.78; SRMR = 0.09). Two loadings were below the threshold of 0.30 recommended by Stevens (2002). As omitting these items did not change the direction or significance of results, they were retained for hypothesis testing.

Hypotheses testing. Table II shows the means, standard deviations, and significance of differences between conditions. Confirming \( H1 \), benevolence was significantly lower for pride than for gratitude expressions (\( p < 0.05 \)). Less benevolence was ascribed in the pride than in the happiness (\( p < 0.05 \)) and the neutral condition (\( p < 0.05 \)). Compared to the gratitude condition, benevolence ratings were significantly lower in the happiness (\( p < 0.05 \)) and, marginally, in the neutral condition (\( p = 0.05 \)). Supporting \( H2 \), expressing pride resulted in...
lower integrity ratings than expressing gratitude ($p < 0.05$). Also, less integrity was ascribed to pride than to neutral expressions ($p < 0.05$). The difference between the pride and the happiness condition was not significant, and ascriptions of integrity did not significantly differ between the gratitude, happiness, and neutral conditions. $H3$, positing that leaders expressing pride are perceived as having higher ability than leaders expressing gratitude, was not confirmed, as the ANOVA for emotion expression on ability was not significant. $H4$ predicted indirect effects of leaders’ expressed pride compared with gratitude on followers’ trust through perceived benevolence, integrity, and ability. The indirect negative effect of pride vs gratitude on trust was significant through benevolence ($a \times b = -0.33$, 95% CI $[-0.50, -0.20]$) and integrity ($a \times b = -0.31$, 95% CI $[-0.46, -0.17]$), but not through ability ($a \times b = 0.00$, 95% CI $[-0.08, 0.08]$). Thus, $H4$ was partially confirmed.

Discussion
Study 1 confirmed negative effects of leaders’ expression of pride compared to gratitude on perceptions of leader benevolence and integrity, resulting in indirect effects on trust, but there was no effect of leaders’ emotion expression on ability. Due to the experimental vignette design, these effects can be causally attributed to leaders’ emotion expressions (Antonakis et al., 2010). Yet, despite student ratings of vignettes providing comparable results to field studies in emotion and leadership research (Schaubroeck and Shao, 2012) and with the sample’s work experience indicating that participants were able to imagine the described situation, questions of generalizability to work contexts may remain (Gooty et al., 2009).

Additionally, with Study 1 focusing on a shared success, questions may also arise about generalizability across situations (Van Kleef, 2009). As emotions are connected to specific attributions, and, in particular, as leaders’ positive discrete emotions are likely appropriate in a wide range of situations (Newcombe and Ashkanasy, 2002; Van Kleef et al., 2011), effects of leaders’ emotion expressions may be found across situations. Study 2 aimed to address both questions of generalizability with a longitudinal field study.

Study 2
We examined the effects of followers’ perceptions of their direct leaders’ expressions of pride and gratitude on changes in followers’ perceptions of leaders’ trustworthiness and trust across the week. As the effects of pride and gratitude were examined in parallel, the hypotheses on the comparative effects of pride and gratitude from Study 1 were converted into relational hypotheses. We expected negative effects for pride and positive effects for gratitude on benevolence and integrity, and a positive effect for pride and a negative effect for gratitude on ability. These differential effects of leaders’ emotion expressions on trustworthiness should translate into indirect effects on trust.

Method
Participants. Participants were recruited through personal and social networks, and entered a raffle for an iPad as an incentive. Of the 219 individuals registered for participation, 120 completed all surveys (male, 53.33 percent; mean age, 35.52 years, SD = 11.86). All were employed and had worked with their leader for 4.09 years (SD = 5.81) on average.

Procedure. Data collection took place during three workweeks overall, with each participant taking part in only one of the three weeks. Surveys were provided via smartphone and online, and participants received reminders when the next survey became available. They rated their leaders’ trustworthiness and trust in leaders on Monday (T1) and Friday (T6) before work and their leaders’ emotion expressions daily after work on Monday (T2), Tuesday (T3), Wednesday (T4), and Thursday (T5). Thus, predictor and outcome variables were not measured simultaneously (Podsakoff et al., 2012).
Predictors. Followers indicated the extent to which their leader had expressed emotions each day on a five-point scale (1 = rarely or never to 5 = very often). Pride was measured with “proud of him/herself,” “satisfied,” “self-confident,” “like (s)he has achieved something,” and “like (s)he has accomplished something” (Tracy and Robins, 2007; Williams and DeSteno, 2008), α = 0.82-0.92 (T2-T5). Gratitude was measured with “thankful,” “grateful,” “appreciative,” “obliged,” and “expressing appreciation” (Adler and Fagley, 2005; Butt et al., 2005; Emmons and McCullough, 2003), α = 0.91-0.94 (T2-T5).

Criterion. Trust was measured as in Study 1, α = 0.73 (T1) and 0.75 (T6).

Mediators. Leaders’ trustworthiness was measured as in Study 1. The reliabilities were α = 0.91 (T1) and 0.91 (T6) for benevolence, α = 0.86 (T1) and 0.87 (T6) for integrity, and α = 0.94 (T1) and 0.92 (T6) for ability.

Control variables. The participants indicated their leader’s expressed happiness with five items – “happy,” “cheerful,” “enthusiastic,” “glad,” and “joyful” (Lutz et al., 2006; Van Katwyk et al., 2000), α = 0.89-0.93 (T2-T5) – on the same scale as pride and gratitude. Control variables further included leaders’ gender, participants’ gender and age (McClure, 2000), the duration of the leader-follower relationship (Schoorman et al., 2007), and the week of participation (Weeks 1, 2, or 3) as two dummy variables. We also controlled for context by including participants’ daily reports of related positive work events (positive interactions with the leader, reaching goals, and receiving appreciation) at T2-T5.

Analytic strategy. For each trustworthiness dimension, a multiple regression (Grant and Sumanth, 2009) and mediation model (Hayes, 2013) was used to test H1-H4. We analyzed the direct effect of leaders’ emotion expression (summed up as a formative measure across the four daily measures) on outcomes at T6, controlling for outcome levels at T1. Indirect effects were examined with residuals (computed from trustworthiness at T1 predicting trustworthiness at T6) as mediators. Analyses were repeated without demographic and contextual control variables, but the results did not change unless indicated.

Results

Table III shows the descriptive statistics, correlations, and reliabilities for all variables, Table IV shows the results of the regressions analyses.

Supporting H1, there was a negative effect of pride (β = −0.18, p < 0.05) and a positive effect of gratitude (β = 0.20, p < 0.05) on benevolence. Partly supporting H2, the effect of gratitude on integrity was significantly positive (β = 0.40, p < 0.05), but the negative effect of pride was non-significant. H3 was not supported, as there were no significant effects of pride and gratitude on ability[1].

The indirect effect on trust through benevolence was significantly negative for pride (a×b = −0.01, 95% CI [−0.03, −0.002]), but non-significant for gratitude (a×b = 0.01, 95% CI [−0.002, 0.04]).[2] The indirect effect on trust through integrity was significantly positive for gratitude (a×b = 0.02, 95% CI [0.001, 0.05]), but non-significant for pride (a×b = −0.00, 95% CI [−0.02, 0.01]). There was no indirect effect on trust through ability for gratitude (a×b = −0.00, 95% CI [−0.02, 0.00]) or pride (a×b = −0.00, 95% CI [−0.01, 0.00]). Thus, H4 was only supported for benevolence in the case of pride and integrity in the case of gratitude.

Discussion

Study 2 showed that followers’ perceptions of leaders’ expressed pride were negatively related to benevolence, whereas gratitude was positively associated with benevolence and integrity. These effects resulted in indirect effects on trust for pride via benevolence and for gratitude via integrity.
### Table III. Descriptive statistics, reliabilities, and correlations in Study 2

| Variable                        | M     | SD  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
|---------------------------------|-------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Age                             | 35.52 | 11.86 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Gender                          | 1.47  | 0.50 | -0.04| -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Leader gender                   | 1.24  | 0.43 | 0.07 | 0.33 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Relationship duration           | 4.09  | 5.81 | 0.34 | 0.05 | -0.03| -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Positive interactions           | 1.59  | 1.39 | -0.24| -0.13| -0.10| -0.10| -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Reaching goals                  | 1.99  | 1.29 | 0.03 | 0.01 | -0.06| 0.17 | 0.30 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Receiving appreciation          | 1.24  | 1.32 | -0.13| -0.03| 0.00 | 0.02 | 0.39 | 0.44 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Week 1                          | 0.55  | 0.50 | -0.01| 0.04 | -0.04| -0.17| -0.11| -0.07| -0.03| -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Week 2                          | 0.27  | 0.44 | 0.07 | -0.07| -0.03| 0.14 | 0.00 | 0.05 | -0.01| -0.67| -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Benevolence (T1)                | 3.45  | 0.90 | -0.51| 0.08 | -0.01| -0.23| 0.40 | 0.18 | 0.26 | -0.17| 0.08 | 0.91 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Integrity (T1)                  | 3.31  | 0.85 | -0.43| -0.03| 0.04 | -0.12| 0.44 | 0.18 | 0.32 | -0.18| 0.12 | 0.80 | 0.86 | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Ability (T1)                    | 3.61  | 0.95 | -0.28| 0.10 | 0.03 | 0.03 | 0.31 | 0.21 | 0.33 | -0.12| -0.01| 0.61 | 0.61 | 0.94 | -    | -    | -    | -    | -    | -    | -    |
| Trust in the leader (T1)        | 3.04  | 0.76 | -0.44| 0.13 | 0.11 | -0.07| 0.50 | 0.20 | 0.33 | -0.11| 0.06 | 0.77 | 0.75 | 0.62 | 0.73 | -    | -    | -    | -    | -    | -    |
| Perceived happiness             | 10.89 | 3.14 | -0.38| 0.07 | 0.00 | -0.08| 0.37 | 0.23 | 0.30 | 0.11 | -0.08| 0.54 | 0.47 | 0.41 | 0.49 | -    | -    | -    | -    | -    | -    |
| Perceived pride                 | 11.31 | 2.96 | -0.08| 0.05 | 0.01 | 0.06 | 0.22 | 0.21 | 0.31 | 0.20 | -0.11| 0.23 | 0.18 | 0.31 | 0.26 | 0.72 | -    | -    | -    | -    | -    |
| Perceived gratitude             | 10.32 | 3.29 | -0.31| -0.03| 0.05 | -0.03| 0.51 | 0.33 | 0.42 | 0.01 | -0.00| 0.65 | 0.64 | 0.52 | 0.64 | 0.51 | 0.56 | -    | -    | -    | -    |
| Benevolence (T6)                | 3.35  | 0.87 | -0.49| -0.03| 0.05 | -0.14| 0.44 | 0.22 | 0.24 | -0.07| -0.01| 0.86 | 0.75 | 0.56 | 0.71 | 0.37 | 0.21 | 0.69 | 0.91 | -    |
| Integrity (T6)                  | 3.26  | 0.83 | -0.37| -0.10| -0.06| -0.11| 0.50 | 0.29 | 0.29 | -0.09| 0.02 | 0.79 | 0.83 | 0.55 | 0.74 | 0.49 | 0.20 | 0.71 | 0.85 | 0.87 |
| Ability (T6)                    | 3.51  | 0.85 | -0.35| 0.06 | -0.02| 0.00 | 0.42 | 0.26 | 0.40 | -0.10| -0.01| 0.70 | 0.64 | 0.85 | 0.70 | 0.49 | 0.36 | 0.63 | 0.70 | 0.69 |
| Trust in the leader (T6)        | 3.04  | 0.74 | -0.41| 0.13 | 0.09 | -0.02| 0.45 | 0.33 | 0.27 | -0.07| -0.01| 0.73 | 0.71 | 0.65 | 0.85 | 0.52 | 0.25 | 0.65 | 0.77 | 0.82 |

**Notes:** $n = 99-120$ due to missing values. Gender: 1 = male, 2 = female. Cronbach's $\alpha$ in parentheses. Coefficients above 0.18 are significant at $p < 0.05$.  

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General discussion

This research investigated the differential effects of leaders’ expressions of pride and gratitude on followers’ perceptions of leaders’ benevolence, integrity, and ability, and their trust in leaders. Both studies consistently indicated negative effects of pride and positive effects of gratitude on benevolence and a positive association between gratitude and integrity. Ability, however, was unexpectedly not positively influenced by pride expressions.

These results complement prior research on gratitude and relationship maintenance (Algoe et al., 2008) by indicating that expressing gratitude leads observers to ascribe integrity and benevolence to expressers, facilitating relationship building. The negative effect of pride on benevolence supports the socially distancing function of pride (Fischer and Manstead, 2008).

The non-significant effect of pride on ability is surprising, considering the well-established relation between pride and competence (Martens and Tracy, 2013). Yet, successful leadership is associated with leaders crediting followers’ contributions (Podsakoff et al., 2006) and endorsing shared interests (Tee et al., 2013). Therefore, leaders’ taking credit for shared successes may lower ascriptions of leadership ability – independently from general task-related ability.

Theoretical contributions

The results highlight differential effects of discrete positive emotions (Lindebaum and Jordan, 2012) in leadership. Supporting the idea that followers make specific inferences in response to leaders’ expressions of discrete emotions (Van Kleef, 2009), expressing gratitude in a positive situation resulted in higher ratings of leaders’ trustworthiness, particularly for benevolence and integrity, than expressions of pride. Additionally, supporting the idea of discrete positive emotions serving distinct social functions (Fischer and Manstead, 2008), this may further the emerging discourse on emotions and trust formation in leadership (Gardner et al., 2009).

The results also contribute to the broad spectrum of leader behaviors such as transformational leadership and justice perspectives already integrated into the framework of trustworthiness (Burke et al., 2007). Leaders’ emotion expressions appear to be a fitting addition as antecedents of trustworthiness.

### Table IV.

<table>
<thead>
<tr>
<th></th>
<th>Benevolence</th>
<th>Integrity</th>
<th>Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>β</strong></td>
<td>β</td>
<td>β</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.08</td>
<td>-0.04</td>
<td>-0.10</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.04</td>
<td>0.00</td>
<td>0.05</td>
</tr>
<tr>
<td>Leader gender</td>
<td>0.02</td>
<td>-0.08</td>
<td>-0.02</td>
</tr>
<tr>
<td>Relationship duration</td>
<td>0.11*</td>
<td>-0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Positive interactions</td>
<td>0.09</td>
<td>0.10</td>
<td>0.11</td>
</tr>
<tr>
<td>Reaching goals</td>
<td>0.02</td>
<td>0.11</td>
<td>-0.01</td>
</tr>
<tr>
<td>Receiving appreciation</td>
<td>-0.04</td>
<td>-0.10</td>
<td>0.07</td>
</tr>
<tr>
<td>Week 1</td>
<td>0.03</td>
<td>-0.01</td>
<td>-0.02</td>
</tr>
<tr>
<td>Week 2</td>
<td>-0.06</td>
<td>-0.11</td>
<td>-0.05</td>
</tr>
<tr>
<td>Benevolence (T1)</td>
<td>0.70*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrity (T1)</td>
<td>-</td>
<td>0.63*</td>
<td></td>
</tr>
<tr>
<td>Ability (T1)</td>
<td>-</td>
<td></td>
<td>0.68*</td>
</tr>
<tr>
<td>Perceived happiness</td>
<td>0.11</td>
<td>-0.17</td>
<td>-0.08</td>
</tr>
<tr>
<td>Perceived pride</td>
<td>-0.18*</td>
<td>-0.05</td>
<td>0.04</td>
</tr>
<tr>
<td>Perceived gratitude</td>
<td>0.20*</td>
<td>0.40*</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Notes: n = 99 due to missing values. *p < 0.05
Finally, the results relate to research on emotional intelligence (Riggio and Reichard, 2008). Demonstrating the differential impact of leaders’ expressions of pride and gratitude on trustworthiness perceptions warrants the claim that leaders need knowledge about emotion expressions. Providing evidence that some emotion expressions have more desirable consequences than others also supports the necessity of leaders’ emotional labor (Humphrey et al., 2008).

Limitations and future research
Following the predominant self-referential approach (Hu and Kaplan, 2015), this research conceptualized pride as an individual emotion in response to one’s achievements. Yet, leaders’ pride expression toward common entities such as teams may be perceived differently, as leaders thereby simultaneously communicate their appreciation of the group. Therefore, future research should examine leaders’ expression of group-based pride.

Relatedly, we examined leaders’ pride and gratitude expressions in the context of a shared success and various situations over the course of a week. Emotions are connected to specific appraisals, which provide similar signals across situations (Van Kleef, 2009). However, although positive emotions may lead to favorable impressions even when expressed in the context of negative feedback (Newcombe and Ashkanasy, 2002), future research needs to test the boundaries of appropriateness for these signals, and, thereby, for leaders’ pride and gratitude expressions.

The differential effects of leaders’ pride and gratitude expressions emerged despite trustworthiness dimensions being highly intercorrelated. High correlations between benevolence, integrity, and ability are commonly found in research (Colquitt and Rodell, 2011; Frazier et al., 2010). Nevertheless, the positive effects of leaders’ gratitude expression might result from this overlap. Therefore, research needs to include mediators such as the assumed attributions underlying pride and gratitude to determine whether the same mechanisms explain these effects.

As the data were collected in Germany, issues about cultural generalizability also arise. Although pride and gratitude are similarly expressed across cultures (Hertenstein et al., 2006; Tracy and Robins, 2007), there may be intercultural differences in reactions to leaders’ emotion expressions. In favor of generalizability, general expectations and implicit leadership theories in Germany have been shown to be highly similar to other Western cultures (Brodbeck et al., 2002; Oyserman et al., 2002). Yet, Western cultures particularly rank individualistic tendencies higher than many Asian cultures (Matsumoto et al., 2008). While Western cultural norms promote independent emotions like pride, Asian cultures more strongly favor emotions related to social interconnectedness (Kitayama et al., 2000; 2006). In line, interdependent emotions like gratitude represent a central moral concept in Asian countries (Naito et al., 2005), but have been less influential in modern Western cultures (McAdams and Bauer, 2004). Due to these differences arising from expectations regarding social interconnectedness, the negative effects of pride found in this study may likely be even stronger when replicated in Asian samples, while gratitude’s positive effects may be less pronounced, as high levels of interdependent emotion might be expected as a matter of course. Future research is necessary to validate these assumed differences.

Finally, emotionally intelligent leaders may adjust their expressions in ways that avoid negative effects of emotional labor (Humphrey et al., 2008), perceptions of inauthenticity (Gardner et al., 2009), and the emotional exhaustion that may come with being trusted (Baer et al., 2015). Therefore, future studies should include these outcomes and scrutinize whether emotionally intelligent leaders profit more intensely from expressing discrete positive emotions.
Practical contributions
In light of our results, we suggest that leaders should think carefully before expressing pride and thereby claiming successes for themselves. Conflicts between leaders and followers most likely arise when their perceptions of contributions to outcomes are incongruent (Martinko et al., 2007). Leaders’ expressions of pride may put leader-follower relationships at risk by decreasing leaders’ trustworthiness in the eyes of followers, while expressions of gratitude foster relationships with followers. For leaders, this highlights the importance of emotionally intelligent conduct, in being aware of their emotions, and in managing their expressions to gain followers’ trust (Gardner et al., 2009). Additionally, even without specific success situations, leaders may promote relationships by showing gratitude to acknowledge followers doing a good job generally (Grant and Gino, 2010).

Notes
1. Gratitude on ability without control variables: β = 0.25, p < 0.05.
2. Without control variables: a × b = 0.01, 95% CI [0.001, 0.03].

References


Appendix

The Study 1 vignette text, manipulating leader gender and leader expressions of pride, gratitude, happiness and neutrality.

Susanne/Christoph Roth has worked as a manager for the advertising agency New Horizons for three years. As a team leader, s/he is responsible for product marketing. S/he is an experienced team leader to whom communication with her/his team is very important. To satisfy clients, s/he pays attention to every detail and keeps up with the latest trends in the field.

This week, Susanne/Christoph and her/his team had a very important meeting with a client to present a new proposal for an ad campaign. The client had launched a public call for tenders, so New Horizons was competing for the job with several other agencies. Susanne/Christoph and her/his team were solely responsible for the design and presentation of the campaign, and had worked toward the presentation for weeks.

Susanne/Christoph’s task was to coordinate the team and hold the final presentation for the client. The team members’ task was to independently create the concept for the presentation and send it to Susanne/Christoph. All of those involved knew that getting this job would enhance the company’s reputation tremendously, as the client is among the most demanding in the industry. The day after the presentation, Susanne/Christoph announces the result during a team meeting; the client was convinced by the campaign and has given the job to New Horizons.

Susanne/Christoph repeatedly emphasizes how important this client is for the agency, and, during the meeting, stands in front of the team, bursting with pride/thanks all team members repeatedly/ beams with happiness/points out that this result is very positive for the agency. When asked by several colleagues, Susanne/Christoph says that s/he is not so much feeling happiness or gratitude/pride or happiness/gratitude or pride, but that s/he is, above all, very proud/grateful/happy. (When asked to by several colleagues, Susanne/Christoph summarizes her/his phone call with the client). At the end of the meeting, s/he talks to each of her/his team members, still standing before them with chin proudly raised and a slight smile/shakes everyone’s hand and again thanks them personally/still beaming with happiness/and objectively talks about their respective contribution to the presentation.

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Putting applicant faking effects on personality tests into context

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Abstract

Purpose – Estimates of the effects of faking on personality scores typically represent the difference from one sample mean to another sample mean in terms of standard deviations. While this is technically accurate, it does put faking effects into the context of the individuals actually engaging in faking behavior. The purpose of this paper is to address this deficiency.

Design/methodology/approach – This paper provides a mathematical proof and a computational simulation manipulating faking effect size, prevalence of faking, and the size of the applicant pool.

Findings – The paper illustrates that reported effects of faking are underestimates of the amount of faking that individual test takers are engaging in. Results provide researchers and practitioners with more accurate estimates of how to interpret faking effects sizes.

Practical implications – To understand the impact of faking on personality testing, it is important to consider both faking effect sizes as well as the prevalence of faking.

Originality/value – Researchers and practitioners do not often consider the real implications of faking effect sizes. The current paper presents those results in a new light.

Keywords Personality, Faking, Personality testing, Applicant distortion, Applicant testing

Paper type Research paper

Personality tests have become an important part of the employment testing process over the last several decades (Zickar and Kostek, 2013) with managers and HR professionals believing that they provide important information about applicants (Rynes et al., 2002). One hundred years of validity data support HR professionals’ beliefs in the utility of personality and other non-cognitive tests (Schmidt et al., 2016; see also Schmidt and Hunter, 1998). Despite the popularity of personality testing, concerns still exist about the quality of the information obtained on these tests. While cognitive ability tests and job knowledge tests have correct answers that reflect abilities, skills, or knowledge, responses to personality tests are less verifiable and more open to applicant response distortion, or faking.

Faking is the process in which applicants distort their responses in order to appear more favorable and to increase their chance of being hired (Fell and König, 2016). Robie et al. (2006) found that assessment specialists working with consulting firms believed that faking was a serious problem for personality tests, but they also believed that they could address the problem. Personnel in organizations using personality tests were not as certain as the consultants selling the tests, with Rees and Metcalfe (2003) reporting that employees who had to make personnel decisions were evenly split about whether it was easy or difficult to identify fakers.

Several researchers have explored faking on personality tests and provide evidence that applicant scores are typically more favorable than incumbent scores (Hogan et al., 2007; Ingold et al., 2015). The result of this work has been a number of meta-analyses that provide estimates of the mean difference between “faked” and “honest” scores on personality tests (e.g. Alliger and Dwight, 2000; Birkeland et al., 2006; Viswesvaran and Ones, 1999). Typically reported as the standardized mean difference, or Cohen’s $d$, these effects sizes are often interpreted as an estimate of the amount of faking that occurred. For example, in comparing their meta-analysis of field studies to Viswesvaran and Ones’s (1999) meta-analysis of laboratory studies, Birkeland et al. (2006) concluded that actual job applicants distort their scores significantly less than participants in “induced-faking” studies.
We caution researchers and practitioners about interpreting these effect sizes as the amount of faking that job applicants engage in or as the potential impact that faking can have on selection decisions. We argue that the nature of both the $d$ statistic and faking itself makes such conclusions inappropriate. Estimates of $d$ will likely be an underestimate of the amount that fakers distort their scores and that the raw interpretation of $d$ can lead to the belief that the impact of faking is less severe than it actually is. The purpose of this paper is to twofold. First, we illustrate why $d$ should not be used to estimate how much job applicants are faking. Second, we provide readers with a useful metric (Tables I and II) to utilize $d$ to evaluate how much fakers have actually managed to change their scores.

<table>
<thead>
<tr>
<th>Percentage faking</th>
<th>Distortion amount (in Cohen's $d$)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>0.2</td>
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Note: Scores presented as $z$-scores to aid interpretation.

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Table I. Standardized mean of applicants engaging in faking by distortion amount and percentage faking

Table II. Amount of faking estimated based on observed effect sizes.
Theoretical rationale

Faking in personality testing has been discussed and examined since the 1930s (Kelly et al., 1936). Although there has been considerable disagreement about whether applicant faking behavior is its own construct (Griffith and Peterson, 2011) or a form of socially desirable responding (Paulhus and Trapnell, 2008), faking is generally seen as the tendency of test takers in high stakes testing to bias their responses to appear more attractive and to increase their chances of being selected (Fell and König, 2016). Given that many responses on personality tests are unverifiable, faking is serious concern for employers using personality tests. To gain a better understanding of faking, researchers have examined both the impact of faking on mean scores as well as the prevalence of faking.

Estimates of faking effects are typically presented in terms of standardized mean difference, or Cohen’s $d$, calculated by comparing two sets of scores such as applicants and incumbents (e.g. O’Connell et al., 2011) or samples presented with different instructions (e.g. König et al., 2015). The $d$ estimates generated by these analyses represent the effect of faking and can be interpreted as the mean difference between the two samples in terms of pooled standard deviations. For example, if a researcher reported that an applicant sample had a mean of 55 with a standard deviation of 10 and an incumbent sample had a mean of 50 with a standard deviation of 10, $d$ would be 0.50 – indicating that the applicants had a mean score half a standard deviation higher, or 5 points, than the incumbents mean score.

Multiple meta-analyses have now examined the effects of faking on personality test scores (Alliger and Dwight, 2000; Birkeland et al., 2006; Viswesvaran and Ones, 1999). Focusing on integrity tests, Alliger and Dwight (2000) reported that overt integrity test score shifted between 0.90 and 1.32 standard deviations due to faking or coaching while personality integrity test scores shifted 0.38-0.36 standard deviations. Viswesvaran and Ones (1999) examined both laboratory and field studies and found that the biasing effects associated with faking increased scores between groups anywhere from 0.48 to 0.65 standard deviations across the Big Five (average $d$ = 0.60). Expanding upon this line of research, Birkeland et al. (2006) focused solely on the difference between job applicants and incumbents, reporting more modest effects ranging from 0.11 to 0.45 standard deviations across the Big Five (average $d$ = 0.26). Based on their smaller $d$-values, Birkeland et al. (2006) concluded that actual job applicants distort their scores significantly less than participants in the “induced-faking” studies examined by Viswesvaran and Ones (1999). Other researchers and practitioners have interpreted these relatively small mean shifts as indicating that applicants do fake, but that generally, the effects of faking on personality scores is not problematic (e.g. Hogan et al., 2007).

While $d$-values of 0.2-0.5 are often interpreted as small to medium effects (Cohen, 1992), we argue that this information can be misleading when interpreting the effects of faking on personality tests. These effects sizes measure the impact of faking on sample statistics, not on applicant scores. More specifically, it is important to remember that $d$ indicates the difference between two samples in pooled standard deviations and not the amount that fakers have distorted their scores. So a $d$ of 0.26 in Birkeland et al. (2006) indicates that the means from job applicants were 0.26 standard deviations more elevated than the means of incumbents, not that faking increased job applicants scores by 0.26 standard deviations. Estimates of $d$ in faking studies can always be interpreted as the amount that faking elevated mean scores; estimates of $d$ can only be interpreted as the amount that faking elevated individual scores when 100 percent of test takers are faking. Unfortunately, if not 100 percent of test takers are faking, than $d$ will underestimate the extent that faking elevated individual scores to produce the observed group difference.

Estimates on the prevalence of faking provide a wide range of how many test takers are actually faking. Early research based on test-retest analyses put the estimates between 14 percent (Dunnette et al., 1982) and 29 percent (Rynes, 1993) of test takers. Research examining
bogus items, job experience questions that participants cannot have experience with (i.e. non-existent tasks), indicate that between 35 percent (Pannone, 1984) and 45 percent (Anderson et al., 1984) will endorse such items. In perhaps one of the best estimates of self-reports using the randomized response technique, Donovan et al. (2003) found that 47 percent of participants admitted to exaggerating positive characteristics while 62 percent admitted to de-emphasizing negative characteristics.

We encourage researchers and practitioners to keep these numbers in mind as they consider faking effect sizes. For example, if observing that an applicant sample had a mean 0.40 standard deviations higher than the incumbent sample mean, this indicates that the effect of faking, spread over the entire applicant sample, is an increase in scores of 0.40 standard deviations. For ease of presentation, if we assume a 100-point scale with a mean of 50.00 and a pooled standard deviation of 10.00, this would indicate that while incumbents had a mean score of 50, the applicants would have a score of 54 (or 0.4 standard deviations above the mean). While this might seem like a small shift, interpreting this estimate to how much individual's faked assumes that all applicants are faking. This is a tenuous assumption given the research on the prevalence of faking. If only 25 percent of the sample are actually distorting their scores, this indicates that the fakers are raising their scores by 1.60 standard deviations on average to obtain the 0.40 observed mean difference. In terms of our example, this would indicate that our 25 percent faking applicants would have an average score of 66 compared to the average incumbent score of 50. This 16-point difference is more worrisome than the initial interpretation of a four-point difference.

Although the algebraic calculations such as the above example can be made quite easily (see Table I), a reference for this effect would be beneficial. To that end we conducted a simple simulation to estimate the boundary effects of faking at different levels. It is our hope that these results will serve a practical purpose for researchers and practitioners thinking about faking effects.

**Method**

Using SPSS 17, we conducted a Monte Carlo simulation of the effects of faking on mean difference estimates. A computational simulation was utilized because of the difficulty of determining the exact amount that test takers have engaged in faking. Additionally, we did not want to focus on any specific personality trait or combination of personality traits. While traits such as conscientiousness and integrity are popular in personality tests, the exact traits utilized in a personnel setting will depend on the job and the desired employee characteristics. Instead, we focus on the impact of faking on a generic “personality” score that could represent any personality trait or combination of personality traits used by different organizations. To illustrate the effect of individuals' faking on group means, we manipulated three variables (level of distortion, percentage of faking, and sample size) and examined their impact on standardized scores.

**Faking effects**

The effects of faking vary both by the trait and the job under consideration, with effect sizes ranging anywhere from 0.11 to 0.93 standard deviations (Viswesvaran and Ones, 1999; Birkeland et al., 2006). For our simulation we examined three levels of distortion: 0.10, 0.50, and 0.90 standard deviations. We believed that this would accurately reflect the amount of faking occurring in most applied settings and provide upper and lower estimates.

**Percentage faking**

Working off of the estimates of the prevalence of faking reviewed above, we varied the amount of test takers intentionally distorting their responses across four conditions from
20 to 80 percent in increments of 20 percent. This range of values represents various levels of faking under different testing conditions. While the 80 percent condition is likely too high, it is provided as an example of the upper limit of distortion.

Sample size
We mapped results for two different sample sizes, 100 and 500 applicants, to represent the impact of faking in both large and small contexts.

Procedure
A total of 500 replications were computed for each of the 24 conditions resulting in 12,000 samples. Data for each sample were generated using SPSS’ matrix syntax and the sample means were exported for analysis. For each sample, we generated honest scores by sampling from a population with a mean of 0 and a standard deviation of 1.00 and generated faked scores by sampling from a population with a mean equal to the faking effect (i.e. 0.10, 0.50, or 0.90) and a standard deviation of 1.00. The specified proportion of honest and faked scores (e.g. 80 percent honest and 20 percent faked) were then combined together to create an average score for the sample. This average is analogous to the estimate of the pooled standard deviation difference between the means because the honest score population had a mean of 0, the distorted score population had means of the faking effects, and the pooled population standard deviation was 1. The mean of this total score across replications can viewed as the mean shift away from 0 due to faking.

Results
As a manipulation check, we first checked the means of the honest scores and the faked scores within each sample. The average mean of the non-distorted score means was 0.002 (SD = 0.125). Non-distorted means only varied by sample size (6,000 samples of n = 100 and n = 500 each; F(1, 11,976) = 18.612, η² = 0.002), but the difference was minimal and reflected the expected increase in sampling error as sample size decreased. The average mean of the faked scores was 0.500 (SD = 0.126). Faked means differed by the percentage faking (3,000 samples of 20, 40, 60, and 80 percent each; F(3, 11,976) = 2.617, η² = 8.440 x 10⁻⁵), and faking effect size (4,000 samples of d = 0.1, 0.5, and 0.9 each; F(2, 11,976) = 40,550.456, η² = 0.871). Mean differences between percentage faking samples were minimal – reflecting sampling error tied to faking sample size – and the means matched the faking effect: d = 0.10 (M = 0.100, SD = 0.126), d = 0.50 (M = 0.500, SD = 0.126), and d = 0.9 (M = 0.900, SD = 0.126). These results suggest that the manipulation of data was successful and followed the specified patterns of the simulation.

The average of the means of the combined samples was 0.252 (SD = 0.227) and these means varied by sample size (6,000 samples of n = 100 and n = 500 each; F(1, 11,976) = 14.914, η² = 1.573 x 10⁻³), percentage faking (3,000 samples of 20, 40, 60, and 80 percent each; F(3, 11,976) = 7,828.970, η² = 0.247), faking effect size (4,000 samples of d = 0.1, 0.5, and 0.9 each; F(2, 11,976) = 24,925.227, η² = 0.524), and the interaction between percentage faking and faking effect size (F(6, 11,976) = 1,637.044, η² = 0.103). It was this final interaction that was the primary interest of the current study, as the effects of sample size were minimal. This interaction is illustrated in Figure 1. Figure 1 shows the average of the means for the combined samples across the different levels of faking effect size and percentage faking.

As expected, Figure 1 shows the combined sample mean was elevated and approached the faking effect as the percentage of faked scores increased. This interaction indicates that when fakers are distorting their scores by 0.1 standard deviation (d = 0.10), the observed mean shift in the sample as a whole will only be between 0.02 and 0.08 standard deviations depending on whether 20 or 80 percent of test takers were faking. At 0.5 standard deviations the observed
mean shift will be between 0.10 and 0.40 and at 0.9 standard deviations the observed mean shift will be between 0.18 and 0.72 depending on the percentage faking.

Because the combined sample means represent the observed mean shift due to faking – the $d$ typically reported when comparing groups – they can be sorted to provide another useful index to understand the effects of faking. All 12,000 samples were coded so that they represented five levels of observed distortion from the honest population: less than 0.1 standard deviations, 0.1-0.2 standard deviations, 0.2-0.4 standard deviations, 0.4-0.6 standard deviations, and more than 0.6 standard deviations. Collapsing across the faking effect and sample size conditions, Table II shows means and 95% confidence intervals representing the range of faking occurring overall and when different percentages of test takers are faking. This provides a slightly more realistic estimate of the effects of faking than the single cells of the simulation as these estimates contain samples with different levels of faking (i.e. 0.1, 0.5, and 0.9). For example, if the observed Cohen’s $d$ for a sample was in the 0.1-0.2 range, Table II indicates the amount fakers are increasing individual scores is estimated at 0.459 standard deviations. If a better estimate of the percentage of test takers faking can be provided, we see in Table II that this value can actually range from 0.162 standard deviations if 80 percent are faking to 0.666 standard deviations if only 20 percent are faking.

Discussion

In one sense, an estimate of faking by comparing two groups is simple and straightforward. The $d$-value provided in these analyses indicates the distance between the means of the two groups in terms of standard deviations. So Birkeland et al.’s (2006) meta-analyzed estimate of $d$ at 0.26 between applicants and incumbents indicates that, on average, the mean applicant score is 0.26 standard deviations higher than the mean incumbent score. This perfectly indicates the impact of faking on sample means. Unfortunately, $d$ is often interpreted as the impact of faking on individual scores. Because it is unlikely that 100 percent of the applicants in that sample are engaging in faking behavior, this has to be an underestimate of the extent to which applicants faking in that sample are actually raising their scores.

Mathematically, if we can estimate the percentage of applicants engaging in faking behavior, we can arrive at a more accurate estimate of how much fakers are inflating their scores. As seen in Table I, with a Cohen’s $d$ between 0.2 and 0.3, if only 20 percent of applicants are engaging in faking behavior, these individuals are raising their scores between 1 and 1.50 standard deviations. If the percentage of fakers is closer to 60 percent, than they are only raising their scores from 0.33 to 0.5 standard deviations. If we return to
Birkeland et al.’s (2006) estimate of 0.26 and utilize the simulation data in Table II we can estimate that observed ds between 0.2 and 0.4 correspond to an average amount of faking of 0.634 standard deviations (averaged across samples with different levels of faking, percentages of fakers, and sample sizes). This estimate of 0.634 is very similar to the average d of 0.60 provided by Viswesvaran and Ones (1999).

The goal of this paper is to highlight the interpretation of estimates of d and to put applicant faking effects into the context of individual fakers. Assuming that a mean shift of 0.26 standard deviations is not practically relevant might be appropriate when considering the entire pool of applicants, but when that indicates that fakers are likely increasing their scores more than half a standard deviation, this becomes more problematic. With those types of shifts fakers will rise to the top of the distribution and will be more likely to be hired. This is exactly the conclusions of Donovan et al. (2014), Mueller-Hanson et al. (2003), and Peterson et al. (2009) who report that fakers rise to the top of score distributions.

While the results displayed in Table I are mathematically sound, we sought to illustrate this effect with a simulation. The overall level of faking across the simulation was 0.5 standard deviations, which either might be high given Birkeland et al.’s (2006) estimates or low given Viswesvaran and Ones’s (1999) estimates. Additionally, the overall prevalence of faking across the simulation was 50 percent. While this is the range of the estimates provided by research, the 80 percent is likely to be overly high. As such, we would caution readers from assuming that this simulation perfectly represents applicant faking, as that likely varies from occupation to occupation and from test to test. Another limitation of the current simulation is that within each sample the level of faking was consistent, drawn from a population that was 0.1, 0.5, or 0.9 standard deviations higher than the non-distorted population. In truth, these probably represent different populations of fakers (Levin and Zickar, 2002), with an applicant sample likely ranging from individuals engaging in small amounts of distortion to those engaging in blatant faking to maximize scores. By collapsing across levels of distortion, we hope that Table II provides a better estimate.

While we believe that the validity of personality and other non-cognitive tests justifies their use in employment situations (Schmidt and Hunter, 1998), we are concerned about claims that applicants fake less than was previously thought (e.g. Birkeland et al., 2006) or that the small d-values obtained in faking studies indicate that faking is not a concern (e.g. Hogan et al., 2007). The purpose of this study was to illustrate that such estimates of d are an underestimate of the effects of faking at the individual level and to provide a quick reference for turning this group statistic into an estimate of the impact of faking on individual scores. Although Table II can be used with just an observed d to estimate how much fakers are actually raising their scores, we encourage practitioners and researchers to utilize test-retest strategies or such tools as bogus items to obtain estimates of the percentage of applicants who are engaging in faking behavior. Using this information along with the data presented in Table II will provide a more realistic estimate of how much faking impacts individual scores than d alone.

Conclusion

Estimates of applicant faking can be misleading if not interpreted in the appropriate context of the amount that fakers are actually raising their scores. Interpreted as d, the mean shift caused by fakers is spread across all of the applicants in the sample, even those who did not fake. While still an accurate description of the sample and the effect of faking on the sample mean, it can lead researchers and practitioners to conclusions that faking is not as problematic as it really is. It is important to keep in mind that unless 100 percent of applicants are engaging in uniform levels of faking, then the amount of distortion that fakers are engaging in could be substantially higher than Cohen’s d. The information in Tables I and II can be used to better understand the true effect of faking on individual test takers. Readers working with
personality tests can utilize one of the proportions of faking estimates provided in the literature or utilize scales such as social desirability scales or bogus items to estimate the proportions of their applicant population engaging in faking. Armed with these more accurate estimates, managers and employees working in selection will be better able to evaluate if faking is a concern in their assessment and decision making processes.

Notes

1. Rynes et al. (2002) actually found that 68 percent of HR professionals agreed that integrity tests were useful for selection and that 82 percent believed that conscientiousness was a better predictor of job performance than intelligence. Although the last part is not true, it does emphasize the perceived importance of personality.

2. This is calculated using the formula for weighted means: $M_w = (M_H \times \rho_H) + (M_F \times \rho_F)$, where $M_w$ is the observed sample mean, $M_H$ is the mean of the non-faking applicants, $\rho_H$ is the proportion of applicants responding honestly, $M_F$ is the mean of the faking applicants, and $\rho_F$ is the proportion of applicants faking. Rewriting this, $M_F = (M_w - M_H \times \rho_H)/\rho_F$. For example, $66 = (54 - 50 \times 0.75)/0.25$.

References


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