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Assessing Intentional Resume Deception: Development and Nomological Network of a Resume Fraud Measure

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Abstract

Resume fraud is pervasive and has detrimental consequences, but researchers lack a way to study it. We develop and validate a measure for empirically investigating resume misrepresentations purposely designed to mislead recruiters. In study 1, an initial set of items designed to measure three theorized resume fraud dimensions (fabrication, embellishment, omission) are rated for content validity. In study 2, job seekers complete the measure and its factor structure is evaluated. In study 3, another sample of job seekers is surveyed to verify the measure's factor structure and to provide evidence regarding construct validity. In study 4, working adults who recently conducted a job search are surveyed to determine which individuals are more likely to commit resume fraud and whether resume fraud relates to critical work behaviors. We confirm the three-factor structure of our measure and offer evidence of construct validity by showing that socially desirable responding, Machiavellianism, moral identity, conscientiousness, emotional stability, and agreeableness are related to resume fraud. Additionally, we find that resume fraud predicts reduced job performance and increased workplace deviance beyond deceptive interviewing behavior. Resume fraud is rarely studied despite the negative impact it can have on job-related outcomes. Researchers can use this measure to explore further the antecedents and outcomes of resume fraud and to advise recruiters on how to minimize it. We develop a measure focusing on intentional resume misrepresentations designed to deceive recruiters. This is one of the first studies to examine the antecedents and outcomes of resume fraud.

Keywords Scale development · Resume fraud · Job search · Lying

Screening resumes is almost universally the first step in the hiring process (Lussier & Hendon, 2016). Although recruiters rely heavily on resumes to evaluate job applicants, they often naively assume the information provided in them is accurate. For example, in the early 1990s, the Port Authority of New York and New Jersey investigated how often job applicants misrepresent themselves on their resumes (McGarvey, 1993).

The Port Authority placed ads in local newspapers for an electrician experienced in using a Sontag connector, although no such connector exists. They received 170 resumes attesting to familiarity with the Sontag connector, 55 claiming to be certified or licensed operators and half of this group claiming at least 10 years of experience. Some boldly included examples of projects completed using the Sontag connector.

Since this early attempt to document the prevalence of resume fraud, organizations have increasingly realized that their applicant files are rife with fraudulent resumes and not only from rank and file employees. For example, David Tovar, Wal-Mart's vice president of communication, resigned after Wal-Mart discovered that he never earned the degree he listed on his resume (Abrams, 2014). Likewise, Steve Masiello, Manhattan basketball coach, lost an offer for a head coaching job when it was discovered that he failed to graduate from the University of Kentucky as he reported on his resume (Macur, 2014). Staffing firms have confirmed that 55% of screened resumes contain erroneous information (Anonymous, 2012).

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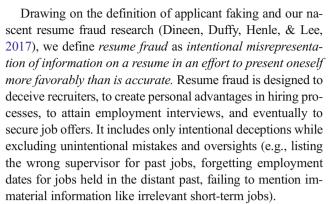
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Resume fraud hurts organizations; it is unfair to qualified applicants who do not pad their resumes; it can tarnish reputations, increase hiring and training costs to replace terminated fraudsters, propagate unethical cultures, cause poor performance when job-related skills are lacking, or risk legal liabilities related to negligent hiring (Bible, 2012; Kim, 2011). Therefore, to counter the pervasiveness and potentially detrimental consequences of resume fraud, researchers must identify its antecedents, intervening variables, and outcomes.

Although resume fraud may be detected objectively via verification services and line-by-line fact checking, objective measures have several drawbacks. First, they may fail to capture all resume misrepresentations depending on which information is selected for verification. For example, if organizations decide to verify only educational degrees, other misrepresentations will go undetected. Second, the nature of the information to be corroborated, such as the level of project involvement, may be hard to confirm. This forces organizations to accept it at face value. Conversely, meta-analytic evidence suggests that self-report measures, compared with other sources, are more likely to reveal deviant behavior because individuals are most aware of their behaviors (Berry, Carpenter, & Barratt, 2012), and they explain unique variance in outcome variables (Carpenter, Berry, & Houston, 2014). Third, objective measures fail to assess the intentionality of the misrepresentations that may occur from honest mistakes, poor advice from placement services, or forgotten information (Wood, Schmidtke, & Decker, 2007). Accordingly, our purpose is to develop and validate a self-report measure of resume misrepresentations that are *purposely designed to mislead recruiters*. Researchers can use this measure to more rigorously explore resume fraud and advise recruiters regarding when they should anticipate resume fraud, whether it will impact subsequent job performance, and what they can do to minimize it. In summary, rather than striving to validate a screening tool, we design a measure of resume fraud and begin to advance research in this important employee selection domain.

Resume Fraud Defined

Applicant faking has long been examined in personality and integrity tests and more recently in selection procedures, such as interviews (Levashina & Campion, 2007) and biodata questionnaires (e.g., Levashina, Morgeson, & Campion, 2012). Faking refers to the "tendency to deliberately present oneself in a more positive manner than is accurate in order to meet the perceived demands of the testing situation" (Fan et al., 2012, p. 867). Faking potentially invalidates selection tests by inflating test scores and profoundly biasing hiring decisions in favor of those who misrepresent themselves (Rosse, Stecher, Miller, & Levin, 1998).

Drawing on the definition of applicant faking and our nascent resume fraud research (Dineen, Duffy, Henle, & Lee, 2017), we define *resume fraud* as *intentional misrepresentation of information on a resume in an effort to present oneself more favorably than is accurate.* Resume fraud is designed to deceive recruiters, to create personal advantages in hiring processes, to attain employment interviews, and eventually to secure job offers. It includes only intentional deceptions while excluding unintentional mistakes and oversights (e.g., listing the wrong supervisor for past jobs, forgetting employment dates for jobs held in the distant past, failing to mention immaterial information like irrelevant short-term jobs).

We first review the extant empirical and practitioner resume fraud literatures to discern the major facets of resume fraud. Based on our research, we identified three dimensions: fabrication, embellishment, and omission (e.g., Bachler, 1995; Bible, 2012; Wood et al., 2007). Following previous labeling (Wood et al., 2007), our first two proposed dimensions include misstated information, representing commissive resume fraud. *Fabrication* refers to intentionally falsifying information on resumes (e.g., listing college degrees or credentials never earned, making up job duties). *Embellishment* refers to intentionally exaggerating otherwise accurate information on resumes (e.g., enhancing the importance of job titles or duties, overstating involvement in important projects). Our third proposed dimension represents omissive resume fraud because it entails nondisclosure (Wood et al., 2007). *Omission* refers to intentionally excluding relevant information from resumes (e.g., failing to mention a job from which one was fired for misconduct, omitting dates of employment so large gaps are unnoticed).

Next, we use Hinkin's (1998) procedure to create a reliable, valid, and parsimonious measure of resume fraud. In study 1, we use deductive and inductive approaches to generate initial items to measure the proposed fabrication, embellishment, and omission dimensions. We use judges to complete a Q-sort and a rating task to determine item content validity. After establishing that the items measure the dimensions as intended, in study 2, we have job seekers complete the resume fraud measure to evaluate its factor structure via exploratory factor analysis. In study 3, we survey additional job seekers and conduct confirmatory factor analysis to verify the factor structure found in study 2. We also provide initial evidence for the measure's construct validity. In study 4, we survey employees who recently conducted a job search to investigate whether certain types of individuals are more likely to engage in resume fraud and whether resume fraud relates to performance and workplace deviance once on the job. Finally, given that corresponding research has begun to examine interview faking behavior (IFB; Levashina & Campion, 2007), we conceptually differentiate resume fraud from IFB and examine whether resume fraud explains variance in workplace behaviors beyond the effects of IFB.

Study 1: Measure Development and Content Validity

Item Generation The first step in creating a sound measure is to generate items that represent the construct (Hinkin, 1998). We began with a deductive approach, drawing from theory and past work, our research backgrounds in employee selection, and our professional experience in designing and implementing hiring systems. First, using the definition of resume fraud and its dimensions as guidelines, we generated succinct and easily understood items that described a single behavior (Hinkin, 1998). Second, we reviewed extant measures that were not designed to assess resume fraud but might have items that fit our definitions (e.g., Levashina & Campion, 2007).

To supplement our deductive approach, we also used an inductive technique to ensure that the list adequately represented the resume fraud domain. We asked a focus group of five MBA students chosen for their knowledge of human resource management practices to list all the ways job seekers might misrepresent themselves on resumes. We added those items to the items generated from the deductive method, reviewed the entire set, and eliminated redundant or confusing items. In the end, we had a final total of 47 resume fraud items (see Appendix) with 35 items generated from the deductive approach and 12 items from the inductive approach.

Content Validity When developing new measures, a prerequisite for establishing construct validity is to demonstrate content validity; that is, to assess how well the items represent the theoretical domain of the construct being evaluated (Anastasi, 1982; Guion, 1997; Nunnally, 1978). Traditionally, researchers have relied on experts' subjective judgments for determining content validity (Nunnally, 1978; Yao, Wu, & Yang, 2008). Aligned with convention, we used a Q-sort technique to assess whether our items represented the underlying dimensions of resume fraud identified in the literature. Four graduate students with human resource management knowledge and experience sorted index cards, each containing one item, into piles of related themes. No limitations were placed on the number of themes used to classify the items. The coders had 100% interrater agreement, as they all sorted the items into three categories consistent with our a priori expectations and identified 17 fabrication, 17 embellishment, and 13 omission items.

The Q-sort method may be limited because it emphasizes experts' opinions, which may fail to correlate with respondents' views of the construct. Thus, respondents' perspectives should be considered in assessing content validity (e.g., Lennon, 1956), and more objective criteria should be used for judging theoretical adequacy. Thus, we also used a quantitative method (Hinkin & Tracey, 1999) to determine whether each item represents its respective resume fraud dimension. We detail this process below.

Method

Following the procedure outlined by Schriesheim, Powers, Scandura, Gardiner, and Lankau (1993), we used a panel of judges to rate every item on a Likert-type scale for each relevant construct dimension separately to determine which it best illustrates. Specifically, participants rated each of the 47 resume fraud items for degree of fit with our definitions of fabrication, embellishment, and omission using a 5-point scale (1 = *none or hardly any* to 5 = *completely or almost completely*). The rating task was performed in three sections on the entire set of randomized items. At the beginning of each section, participants read the focal definition and then rated all items according to fit with the definition. That is, at the beginning of section 1, they read the definition of fabrication and then rated how well the items fit with the definition. Section 2 dealt similarly with embellishment, and section 3 dealt with omission.

Judges were 120 upper-division undergraduate business students who completed the survey for course credit. Surveys were completed online, anonymously, and outside of class. Undergraduates were suitable for this purpose because they have the mental ability to complete the rating task (Schriesheim et al., 1993) and they represented the population of interest (Anderson & Gerbing, 1991)—job seekers—because they had conducted multiple job searches and held an average of 3.69 part-time jobs and 1.57 full-time jobs. The sample was evenly divided by gender; the average age was 21.79, ranging from 18 to 38 years. Most were Caucasian (87%), followed by Hispanic/Latino (5%), other (4%), Asian (3%), and African American (1%). Most were employed (73%) and had average employment tenure of 1.81 years.

Results

We calculated a repeated one-way ANOVA and paired comparison tests for each item to assess whether the mean fit score for an item on its proposed dimension was statistically higher than the mean fit scores for the other dimensions (Hinkin & Tracey, 1999). Table 1 shows mean ratings for each item on the three resume fraud dimensions along with the results of the F tests. Wherever Mauchly's test of sphericity indicated violation of the assumption of sphericity, we used the Huynd-Feldt correction to evaluate the F test (Girden, 1991). Results showed that four items were not categorized as expected based on our definitions of the resume fraud dimensions and the Q-sort results (i.e., "Misrepresented the description of an event," "Distorted your qualifications to match qualifications required for the job," "Included information that is not

Table 1 Study 1 content validity results

Resume fraud items	Mean scores			F
	Fabrication	Embellishment	Omission	
Fabrication				
FAB1	**3.33**	2.63	1.85	$F(1.78, 211.30) = 43.78**$
FAB2	**4.14**	2.53	1.78	$F(2, 238) = 105.72**$
FAB3	**4.02**	2.24	2.14	$F(1.87, 222.89) = 92.31**$
FAB4	**3.93**	2.69	1.78	$F(2, 238) = 92.13**$
FAB5	**3.10**	**3.17**	2.13	$F(2, 238) = 40.62**$
FAB6	**3.96**	2.64	1.66	$F(1.93, 229.87) = 99.47**$
FAB7	**4.02**	2.76	1.65	$F(1.92, 228.96) = 117.04**$
FAB8	**3.68**	3.08	1.68	$F(2, 238) = 96.79**$
FAB9	**3.95**	2.64	1.71	$F(1.93, 229.62) = 110.07**$
FAB10	**4.13**	2.67	1.73	$F(2, 238) = 118.97**$
FAB11	**4.12**	2.53	1.88	$F(2, 238) = 108.50**$
FAB12	**4.21**	2.58	1.78	$F(2, 238) = 116.32**$
FAB13	**3.95**	2.78	1.80	$F(1.86, 220.89) = 93.12**$
FAB14	**3.93**	2.88	1.67	$F(2, 238) = 107.44**$
FAB15	**4.03**	2.92	1.71	$F(2, 238) = 116.49**$
FAB16	**3.89**	2.69	1.80	$F(2, 238) = 90.00**$
FAB17	**4.13**	2.64	1.77	$F(2, 238) = 114.16**$
Embellishment				
EMB1	2.90	**3.68**	1.53	$F(1.88, 223.40) = 118.32**$
EMB2	**3.43**	**3.54**	1.95	$F(1.86, 221.46) = 84.38**$
EMB3	2.99	**3.81**	1.64	$F(1.70, 201.88) = 116.58**$
EMB4	3.06	**3.95**	1.53	$F(1.64, 194.84) = 158.59**$
EMB5	3.28	**3.84**	1.54	$F(1.77, 210.61) = 136.44**$
EMB6	2.76	**3.71**	1.70	$F(1.84, 218.74) = 100.41**$
EMB7	3.11	**4.12**	1.63	$F(1.68, 199.34) = 161.20**$
EMB8	3.00	**3.89**	1.57	$F(1.75, 208.23) = 152.82**$
EMB9	2.93	**3.61**	1.91	$F(1.71, 201.95) = 81.20**$
EMB10	**3.54**	3.21	1.76	$F(2, 238) = 91.18**$
EMB11	3.20	**3.82**	1.83	$F(1.69, 201.31) = 110.43**$
EMB12	3.21	**3.95**	1.52	$F(1.68, 200.04) = 171.29**$
EMB13	3.13	**4.02**	1.53	$F(1.74, 207.01) = 171.61**$
EMB14	2.95	**3.40**	2.21	$F(1.81, 214.89) = 44.37**$
EMB15	2.78	**3.74**	1.88	$F(1.85, 220.49) = 93.68**$
EMB16	3.00	**4.07**	1.53	$F(1.83, 217.41) = 184.00**$
EMB17	3.12	**3.63**	1.79	$F(1.56, 185.34) = 107.26**$
Omission				
OMI1	2.42	1.94	**4.02**	$F(1.90, 226.44) = 102.79**$
OMI2	1.97	1.83	**4.12**	$F(1.70, 202.35) = 173.86**$
OMI3	2.32	1.77	**4.13**	$F(1.80, 213.66) = 153.48**$
OMI4	2.22	1.83	**4.11**	$F(1.73, 205.45) = 161.49**$
OMI5	2.22	1.84	**4.06**	$F(1.68, 200.16) = 155.33**$
OMI6	2.30	1.90	**3.78**	$F(1.54, 183.59) = 110.54**$
OMI7	2.16	1.85	**4.14**	$F(1.46, 173.47) = 163.54**$
OMI8	2.10	1.87	**3.82**	$F(1.49, 177.55) = 107.57**$
OMI9	**2.53**	2.10	**2.83**	$F(1.86, 221.57) = 17.02**$
OMI10	2.48	1.83	**4.18**	$F(1.81, 215.02) = 157.69**$
OMI11	2.42	1.90	**4.18**	$F(1.77, 210.64) = 134.13**$

Table 1 (continued)

Resume fraud items	Mean scores			F
	Fabrication	Embellishment	Omission	
OMI12	2.17	1.93	**3.98**	$F(1.51, 179.28) = 134.72$**
OMI13	2.37	1.98	**3.63**	$F(1.75, 207.95) = 73.34$**

See Appendix for a list of the items. Within a particular item, there was a statistically significant difference between bolded and nonbolded means, but there was no statistically significant difference between bolded means

**$p < .01$

exactly true," "Kept information vague so it could not be easily verified"). We dropped those items from further analyses, but the remaining items were classified appropriately, thus providing evidence of their content validity.

Study 2: Exploratory Factor Analysis

After establishing the content validity of a measure, the next step is to conduct exploratory factor analysis (EFA) to refine the factor structure of the scale (Hinkin, 1998). EFA is used to determine what latent constructs a set of items might represent and to reduce the number of items into more parsimonious scales (Conway & Huffcutt, 2003). We surveyed job seekers regarding their use of resume fraud in their current or most recent job search. We then ran EFA to discover the dimensions represented by our resume fraud items and to determine whether they are consistent with the factors derived from the literature review, focus group, and Q-sort procedure and supported by the content validity analysis.

Method

The 43 items retained from study 1 were administered to 213 upper-division undergraduate business students at two US universities. Missing data eliminated 19 surveys, for a final sample of 194. Respondents indicated how extensively they intentionally used the three types of resume fraud in their current or most recent job search on a 7-point scale (1 = not at all to 7 = completely). Respondents completed the survey anonymously and outside of class to encourage honesty. They received extra or course credit for participating. Most respondents were men (57%); 85% were Caucasian, 7% were Asian, 4% were African American, 2% were Hispanic/Latino, 2% were other, and 1% were Pacific Islander. They averaged about 22 years old, six job searches, 3.75 part-time jobs, and 1.45 full-time jobs in the past, and almost 2 years of tenure with their current employer. Thirty nine percent were currently searching for jobs.

Results

We conducted a factor analysis using maximum likelihood extraction. To determine how many factors to retain, we used multiple methods as EFA experts recommend (e.g., Gorsuch, 1983). First, using Cattell's (1966) scree test, we looked at the plot of descending eigenvalues to see whether a distinct break occurred after which eigenvalues leveled off and the remaining factors accounted for trivial amounts of variance. The scree plot had a steep cliff followed by a clear break after three factors, with subsequent factors flattening out. Second, we conducted a parallel analysis (Horn, 1965), which may be the most reliable method for determining the number of factors to retain (e.g., Velicer, Eaton, & Fava, 2000; Zwick & Velicer, 1986). We calculated eigenvalues across 1000 samples of random data and used the more stringent standard of the 95th percentile of eigenvalues as our comparison. Results supported the scree test findings: only the first three eigenvalues from our data exceeded those from the random data.

We reran the factor analysis with oblique factor rotation (promax) to impose a three-factor solution. We used oblique rather than orthogonal rotation because we expected the factors to be correlated. The three extracted factors were consistent with our a priori expectations and accounted for 56.24% of the variance. The items loading on factor 1 denoted the embellishment dimension (e.g., "Included things that were exaggerated") and explained 40.73% of the variance. Factor 2 represented the omission dimension (e.g., "Suppressed information that may not look favorable") and accounted for 9.70% of the explained variance. Factor 3 accounted for 5.81% of the variance and embodied the fabrication dimension (e.g., "Made claims that were false").

To develop highly reliable and parsimonious scales, we applied stringent criteria for item retention identified in the literature and eliminated items with communalities below .60 (MacCallum, Widaman, Zhang, & Hong, 1999) or relevant factor loadings less than .80 (Velicer & Fava, 1998). Those standards allowed us to retain three fabrication, three embellishment, and five omission items (see Table 2). The coefficient alphas for fabrication, embellishment, and omission were .83, .88, and .94, respectively, which demonstrates high

Table 2 Study 2 exploratory factor analysis results

Resume fraud items	M	SD	Factor			h^2
			1	2	3	
Fabrication						
FAB1	1.53	.96	.12	.07	.48	.38
FAB2	1.25	.71	.12	− .04	.71	.60
FAB3	1.46	1.08	− .18	.17	.59	.33
FAB4	1.35	.84	.07	− .12	.77	.60
FAB5	Deleted as a result of study 1					
FAB6	1.42	.86	.08	− .00	.69	.55
FAB7	1.40	.87	.44	− .17	.44	.51
FAB8	1.62	1.00	.46	− .13	.47	.60
FAB9	1.37	.83	.37	.14	.26	.45
FAB10	1.29	.83	.00	− .11	**.81**	**.60**
FAB11	1.34	.86	− .14	− .01	**.89**	**.64**
FAB12	1.10	.56	− .32	.06	**.92**	**.62**
FAB13	1.48	.83	.07	− .01	.63	.45
FAB14	1.61	.94	.57	.11	.08	.48
FAB15	1.30	.75	.18	.34	.22	.40
FAB16	1.34	.90	.02	.00	.69	.51
FAB17	1.34	.71	− .01	.01	.77	.59
Embellishment						
EMB1	1.95	1.25	.79	− .06	− .02	.55
EMB2	Deleted as a result of study 1					
EMB3	1.80	1.17	.61	.14	.09	.60
EMB4	1.87	1.20	.54	.08	.12	.47
EMB5	1.43	.91	.34	.31	.09	.42
EMB6	1.68	1.07	.77	− .02	.00	.58
EMB7	1.78	1.15	.75	.01	.01	.70
EMB8	2.01	1.13	**.92**	.04	− .19	**.69**
EMB9	1.78	1.03	.72	.04	− .02	.54
EMB10	Deleted as a result of study 1					
EMB11	1.69	.98	.60	.21	.02	.58
EMB12	2.05	1.22	.70	.04	.05	.58
EMB13	1.92	1.09	**.80**	− .02	.01	**.63**
EMB14	1.82	1.22	.53	.09	.15	.50
EMB15	2.14	1.25	.79	− .04	.03	.63
EMB16	2.04	1.07	**1.03**[a]	− .13	− .27	**.67**
EMB17	1.51	.99	.13	.23	.43	.46
Omission						
OMI1	1.59	1.10	.04	.68	.02	.53
OMI2	1.60	1.15	− .00	.55	.17	.41
OMI3	1.89	1.44	.07	**.84**	− .04	**.76**
OMI4	1.54	1.06	.16	.67	.04	.65
OMI5	2.07	1.56	.01	**.93**	− .15	**.78**
OMI6	2.02	1.49	− .17	**.99**	− .05	**.78**
OMI7	1.71	1.16	.01	.68	.04	.51
OMI8	2.11	1.55	− .06	**.84**	− .05	**.62**
OMI9	Deleted as a result of study 1					
OMI10	1.48	.93	− .03	.66	.14	.51

Table 2 (continued)

Resume fraud items	M	SD	Factor			h^2
			1	2	3	
OMI11	1.41	.99	.00	.45	.25	.36
OMI12	2.12	1.64	.06	**.92**	− .18	**.78**
OMI13	1.70	1.26	.02	.68	.02	.50

See Appendix for a list of the items. Bolded items met the retention criteria

[a] In oblique rotation, factors are correlated and factor loadings represent regression coefficients; thus, they can exceed 1 (Jöreskog, 1999)

reliability (Nunnally, 1978). In addition, fabrication correlated .32 ($p < .01$) with embellishment and .22 ($p < .01$) with omission, while embellishment correlated with omission at .43 ($p < .01$). Furthermore, we found that 27% of participants engaged in fabrication to at least some extent, whereas 73 and 63% committed embellishment and omission to some extent, respectively.[1]

Study 3: Confirmatory Factor Analysis and Construct Validity

To verify the three-factor structure derived in study 2, we conducted a confirmatory factor analysis (CFA) using another job seeker sample. We compared our hypothesized model to alternative models to see which fit the data best. Model 1 comprised fabrication, embellishment, and omission as three separate factors. Model 2 tested whether fabrication and embellishment could be combined into commissive fraud, while omission would stand as omissive fraud (Wood et al., 2007). Model 3 treated fabrication as entailing egregious outright lies, while embellishment and omission were combined to represent slight alterations of truth (Babcock, 2003). Model 4 tested the fit of a single underlying factor. As recommended by Campbell and Fiske (1959), we established the construct validity of our measure by investigating whether it relates to a measure of applicant faking during interviews and variables to which it should be theoretically and empirically related (convergent validity). We also examined discriminant validity by looking at variables expected to be unrelated to resume fraud.

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[1] Although recommended by factor analysis experts (e.g., MacCallum et al., 1999; Velicer & Fava, 1998), we note that our strict item inclusion criteria might have led to some construct deficiency in exchange for desired internal consistency and parsimony. As a result, we reexamined the items from study 2 using less stringent standards (.50 for communalities and .70 for factor loadings) and found that the revised standards added 9 items (3 fabrication and 6 embellishment) to our original 11 (see Appendix for the additional items). Thus, we retained the full set of study 2 items in study 3 to test both models.

Hypotheses We found no other measure that assesses resume fraud, so we used one that assesses a different type of deception during the hiring process to determine convergent validity. IFB involves "the conscious distortions of answers to the interview questions in order to obtain a better score on the interview and/or otherwise create favorable impressions" (Levashina & Campion, 2007, p. 1639). Although resume fraud and IFB occur at different stages in the hiring process and involve different selection methods, they both strive to establish an inaccurate positive image to obtain employment. Furthermore, they should positively relate because applicants who commit resume fraud may continue the deception throughout the interview process to avoid contradicting the positive image they created with their resumes (Bishop, 2006). In particular, we expect the IFB dimensions of inventing (creating better answers), embellishing (overstating answers beyond a plausible semblance of the truth), and omitting (failing to mention facts to enhance answers) will be positively related to the resume fraud dimensions. We also predict that each resume fraud dimension will have a stronger relationship with its corresponding IFB dimension than it has with the other IFB dimensions.

Although resume fraud and IFB are similar, we believe they are unique constructs with key differentiating elements. They occur at different points in the selection process. Resume fraud is written, one-way, privately committed deception; IFB is verbal, two-way, interpersonal deception in a public forum. Resume fraud is more likely to occur because no one observes a perpetrator carefully crafting a positive self-presentation (Alge, Anthony, Rees, & Kannan, 2010). The perpetrator feels physically disconnected from the act and immune to the nonverbal cues often used to identify lying in face-to-face contexts (Guillory & Hancock, 2012). Although job applicants undertake both resume fraud and IFB with the ultimate goal of securing employment, resume fraud has an intermediary goal of attaining an interview. At the resume screening stage, applicants may perceive that they are competing with a larger applicant pool and should misrepresent their resume to increase their likelihood of gaining an interview. At the interview stage, interviewees may perceive the likelihood of receiving a job offer as higher because the pool has significantly decreased, and thus refrain from IFB, or they may feel compelled to continue their deception through IFB. Accordingly, although the two types of deception have a few similarities, they are conceptually different.

> *Hypothesis 1*: The resume fraud dimensions will be positively related to but distinct from the IFB dimensions.
> *Hypothesis 2*: Fabrication will be more strongly related to the IFB inventing dimension than to the IFB embellishing and omitting dimensions.

> *Hypothesis 3*: Embellishment will be more strongly related to the IFB embellishing dimension than to the IFB inventing and omitting dimensions.
> *Hypothesis 4*: Omission will be more strongly related to the IFB omitting dimension than to the IFB inventing and embellishing dimensions.

Next, we propose that resume fraud should be related to the impression management dimension of socially desirable responding (SDR), which involves deliberately presenting deceptive information to create a positive impression (Paulhus, 1984). Past studies have demonstrated a positive relationship between SDR and applicant faking on personality tests (e.g., O'Connell, Kung, & Tristan, 2011). Furthermore, individuals engaging in SDR distort their responses on self-report measures to appear as if they perform desirable behaviors and eschew undesirable acts (Zerbe & Paulhus, 1987). For example, SDR and self-reports of counterproductive work behaviors have been shown to have a negative relationship (e.g., Peterson, Griffith, Isaacson, O'Connell, & Mangos, 2011). Thus, job applicants scoring higher on SDR may be less likely to report resume fraud and undermine the favorable image they seek.

> *Hypothesis 5*: Socially desirable responding will be negatively related to each resume fraud dimension.

We propose that certain individuals may be more likely than others to engage in resume fraud. Elkman (2009) defined lying as deliberately misleading a target without giving the target prior notice of the intent to lie and without an explicit target request to be misled. He identified that lying can be through falsification, which would include fabrication and embellishment, or concealment, which would include omission. Given that resume fraud can be considered a form of lying, we propose that it is linked to integrity. Hiring professionals tend to agree that organizations should not hire applicants caught intentionally lying on their resumes and should terminate such employees because of their questionable moral character (Amare & Manning, 2009; Bachler, 1995). That is, resume fraud indicates a lack of integrity and it will more likely occur when applicants possess a deceitful personality (Lewicki, 1983). Accordingly, we propose that two integrity-related traits, Machiavellianism and moral identity, are related to resume fraud.

Machiavellianism refers to a predisposition to attain self-oriented goals by manipulating others and using power amorally (Christie & Geis, 1970). Machiavellian individuals seek personal gain by being cunning, unscrupulous, opportunistic, and deceptive. Recent meta-analyses found that Machiavellianism is positively related to unethical intentions and deviant behavior in the workplace (Kish-Gephart, Harrison, & Treviño, 2010; O'Boyle, Forsyth, Banks, &

McDaniel, 2012). More directly related to applicant faking, Machiavellian job seekers are more likely to be deceptive during employment interviews (Levashina & Campion, 2007).

> *Hypothesis 6*: Machiavellianism will be positively related to each resume fraud dimension.

Another trait that should relate to resume fraud is moral identity, a type of social identity individuals use to define themselves (Aquino & Reed, 2002). Individuals who have a strong moral identity will structure their self-concept around moral characteristics, such as compassion, fairness, helpfulness, and honesty. Perceiving those qualities as central to their identity and relatively stable over time, they act in accordance with their values. Moral identity is positively related to prosocial behaviors, such as volunteering and donating to food banks (Aquino & Reed, 2002), and negatively related to antisocial behaviors, such as cheating, lying, and stealing (Moore, Detert, Treviño, Baker, & Mayer, 2012). Finally, in research examining relationships between job search envy and normative and deviant job search behaviors (Dineen et al., 2017), we included moral identity as a control variable and found that it was negatively correlated with a combined measure of our fabrication and embellishment items[2] from an earlier version of the current paper (Henle, Dineen, & Duffy, 2014). Therefore, we propose that job seekers who have a stronger moral identity will refrain from resume fraud.

> *Hypothesis 7*: Moral identity will be negatively related to each resume fraud dimension.

As a form of discriminant validity, we propose that gender and grade point average (GPA) should be unrelated to resume fraud. A meta-analysis found small gender differences in SDR (Ones & Viswesvaran, 1998), and studies have found that men and women lie at similar rates (e.g., DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). Furthermore, gender has not been correlated with faking during job interviews (Levashina & Campion, 2007). Likewise, studies exploring GPA and deceptive behaviors have failed to find a relationship between GPA and academic dishonesty (e.g., Brown & McInerney, 2008) or interview faking behavior (Levashina & Campion, 2007).

> *Hypothesis 8*: Gender will be unrelated to the resume fraud dimensions.
> *Hypothesis 9*: GPA will be unrelated to the resume fraud dimensions.

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[2] We combined the fabrication and embellishment items into a general measure of resume fraud in this study because our model did not predict any differential effects across these two dimensions.

Method

Procedure and Sample

We surveyed 196 undergraduate business students at multiple US universities. We eliminated three surveys because of missing data and 17 because respondents indicated having no prior employment interviews. Respondents were guaranteed anonymity, given course or extra credit for participation, and completed the survey outside of class. Most participants were men (55%), averaged 23.02 years old (from 19 to 46), 2.96 years of full-time work experience, 4.23 years of part-time job experience, 2.11 years tenure with their current employer, and 8.92 job searches; 49% were currently looking for jobs and had been searching for about 3 months.

Measures

Interview Faking Behavior We assessed how extensively participants engaged in faking during their last employment interviews using items from the IFB scale (Levashina & Campion, 2007): four items from the inventing scale (e.g., "I claimed work experiences that I do not actually have"), three from the embellishing scale (e.g., "I exaggerated my responsibilities on my previous jobs"), and three from the omitting scale (e.g., "I tried to avoid discussion of job tasks that I may not be able to do"). Participants responded using a 7-point scale (1 = *not at all* to 7 = *completely*). Table 3 shows coefficient alphas for all study measures.

Socially Desirable Responding The short form of the Marlowe-Crowne social desirability scale (Reynolds, 1982) was used to measure tendencies toward SDR. Respondents selected *true* or *false* for each of the 13 items (e.g., "I sometimes feel resentful when I don't get my way"). Items were keyed to reflect higher levels of SDR (i.e., eight were keyed false; five were keyed true).

Machiavellianism To assess Machiavellianism, we used five items from the MACH IV scale (Christie & Geis, 1970) selected by Valentine and Fleischman (2003) based on the results of multiple exploratory factor analyses (e.g., "Never tell anyone the real reason you did something unless it is useful to do so"). Participants completed the measure using a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*).

Moral Identity Aquino and Reed's (2002) moral identity measure was used to evaluate how extensively participants' self-concept revolves around these moral traits: caring, compassion, fairness, friendliness, generosity, helpfulness, hardworking, honesty, and kindness. Respondents were asked to visualize someone who embodies those characteristics and imagine how the person would think, feel, and act. Keeping their

Table 3 Means, standard deviations, scale reliabilities, and correlations among the study 3 variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. IFB inventing	1.82	.91	(.83)										
2. IFB embellishing	2.18	1.04	.70**	(.84)									
3. IFB omitting	1.91	.99	.64**	.58**	(.68)								
4. SDR	3.44	.21	− .26**	− .29**	− .23**	(.62)							
5. Machiavellianism	3.54	1.05	.29**	.27**	.18*	− .06	(.73)						
6. Moral identity	5.89	1.00	− .14	− .14	− .10	.14	− .12	(.80)					
7. Gender[a]	1.55	.50	− .05	− .09	− .04	.06	− .06	.00	–				
8. GPA	3.35	.38	− .04	− .11	− .14	− .08	− .08	.18*	.01	–			
9. Fabrication	1.22	.47	.64**	.48**	.46**	− .15*	.16*	− .21**	− .01	− .11	(.77)		
10. Embellishment	2.00	.99	.59**	.61**	.41**	− .25**	.24**	− .20**	− .05	.02	.49**	(.88)	
11. Omission	2.09	1.48	.38**	.43**	.54**	− .07	.23**	− .21**	− 14	− .06	.28**	.44**	(.96)

$N = 176$

*$p < .05$; **$p < .01$

[a] 1 = man; 2 = woman

visualization in mind, they responded to five items (e.g., "It would make me feel good to be a person who has these characteristics") using a 7-point response scale from 1 = *strongly disagree* to 7 = *strongly agree*.

Gender and GPA Participants self-reported their gender and GPA.

Resume Fraud The 11 items retained from study 2 were used to measure fabrication (three items), embellishment (three items), and omission (five items).[3] Participants indicated whether they intentionally engaged in resume fraud in their current or most recent job search using a 7-point scale from 1 = *not at all* to 7 = *completely*.

Results

We conducted CFAs with maximum likelihood estimation using AMOS 20 to cross-validate the three-factor model found in study 2. Model 1, our hypothesized three-factor model, outperformed the other models tested as indicated by the chi-square difference tests and fit indices ($\chi^2 = 79.18$ (41), $\chi^2/df = 1.93$, CFI = .98, TLI = .97, RMSEA = .07).[4] In model 2,

we looked at two factors: commissive resume fraud (fabrication and embellishment) and omissive resume fraud (omission). Although this model approached acceptable fit ($\chi^2 = 172.83$ (43), $\chi^2/df = 4.02$, CFI = .92, TLI = .90, RMSEA = .13), it was inferior to model 1 ($\chi^2_{\text{diff}} = 93.65$ (2), $p < .001$). Model 3 examined serious resume fraud (fabrication) versus minor resume fraud (embellishment and omission), but it had unacceptable fit ($\chi^2 = 351.26$ (43), $\chi^2/df = 8.17$, CFI = .81, TLI = .75, RMSEA = .20) and was inferior to model 1 ($\chi^2_{\text{diff}} = 272.08$ (2), $p < .001$). Model 4 loaded all the items on a general factor (resume fraud); however, it also had unacceptable fit ($\chi^2 = 486.85$ (44), $\chi^2/df = 11.07$, CFI = .72, TLI = .65, RMSEA = .24), especially in comparison with model 1 ($\chi^2_{\text{diff}} = 407.67$ (3), $p < .001$). Thus, the three-factor structure was confirmed. In addition, our results show that 31% of the participants fabricated their resumes, 76% embellished, and 59% omitted information to at least some extent.

Next, we tested our hypotheses to establish convergent and discriminant validity (see Table 3). Support was found for Hypothesis 1. First, the resume fraud dimensions were positively related to the IFB dimensions. Thus, job seekers who commit resume fraud are also likely to be deceptive in selection interviews. Second, we ran CFAs to confirm that the resume fraud and IFB dimensions, although related, are distinct and do not load on a single, underlying factor. We tested five models ranging from a six-factor model with the three resume fraud and three IFB dimensions all cast separately, to a one-factor model with all the resume fraud and IFB items collapsed into a single factor (see Table 4). The chi-square difference tests and fit indices revealed that the six-factor model ($\chi^2 = 357.64$ (174), $\chi^2/df = 2.06$, CFI = .93, TLI = .92, RMSEA = .08) fit the data significantly better than the alternative models. Thus, although resume fraud and IFB are

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[3] As indicated in footnote 1, we also included the nine items retained when using less stringent item inclusion criteria for comparison purposes to the original version.

[4] The fit indices for the longer version from study 2 approached acceptable levels ($\chi^2 = 360.02$ (167), $\chi^2/df = 2.16$, CFI = .94, TLI = .92, RMSEA = .08) but were inferior to indices for the original version ($\chi^2 = 79.18$ (41), $\chi^2/df = 1.93$, CFI = .98, TLI = .97, RMSEA = .07). Given these results, we believe the original version is superior, but recognize the longer version may still be a viable option. We retested our hypotheses and all the conclusions remained the same using the longer version. We continue with the original version because of its superior fit to the data, but in the Appendix, we italicize the additional items so that researchers can use whichever version best suits their needs.

Table 4 CFA results for resume fraud and IFB measures: studies 3 and 4

	χ^2	df	χ^2/df	CFI	TLI	RMSEA (90% CI)	χ^2 difference	df difference
Study 3								
Model 1	357.64	174	2.06	.93	.92	.08 (.07, .09)		
Model 2	659.18	186	3.54	.83	.81	.12 (.11, .13)	301.54**	12
Model 3	748.80	188	3.98	.80	.78	.13 (.12, .14)	391.16**	14
Model 4	1115.07	188	5.93	.67	.63	.17 (.16, .18)	757.43**	14
Model 5	1478.52	189	7.82	.54	.49	.20 (.19, .21)	1120.88**	15
Study 4								
Model 1	1237.55	419	2.95	.90	.89	.09 (.08, .09)		
Model 2	1911.46	431	4.44	.82	.81	.12 (.11, .12)	673.91**	12
Model 3	2048.32	433	4.73	.81	.79	.12 (.11, .13)	810.77**	14
Model 4	2271.84	433	5.25	.78	.76	.13 (.12, .13)	1034.29**	14
Model 5	2400.77	434	5.53	.76	.75	.13 (.13, .14)	1163.22**	15

Model 1: six-factor model (fabrication, embellishment, omission, IFB inventing, IFB embellishing, IFB omitting). Model 2: three-factor model (fabrication and IFB inventing; embellishment and IFB embellishing; omission and IFB omitting). Model 3: two-factor model (fabrication, embellishment, IFB inventing, and IFB embellishing; omission and IFB omitting). Model 4: two-factor model (fabrication and IFB inventing; embellishment, omission, IFB embellishing, IFB omitting). Model 5: one-factor model

related, they appear to be conceptually and statistically distinct constructs.

We used Steiger's (1980) z-test for dependent correlations (see also, Meng, Rosenthal, & Rubin, 1992) and found that Hypothesis 2 was supported: fabrication had a stronger correlation with IFB inventing than it did with IFB embellishing ($z = 3.45$, $p < .001$) or IFB omitting ($z = 3.54$, $p < .001$). However, Hypothesis 3 was only partially supported: the correlation between embellishment and IFB embellishing was significantly different from the correlation between embellishment and IFB omitting ($z = 3.53$, $p < .001$) but was not greater than the correlation between embellishment and IFB inventing ($z = .44$, $p = .657$). Likewise, Hypothesis 4 had only partial support. Omission and IFB omitting had a greater correlation than omission and IFB inventing ($z = 2.89$, $p < .01$) but only marginally greater than the correlation between omission and IFB embellishing ($z = 1.88$, $p = .061$). Hypothesis 5 stated that SDR would be negatively related to resume fraud. We found that SDR was negatively correlated with fabrication and embellishment but was not significantly correlated with omission. Thus, job seekers higher in SDR are less likely to self-report fabrication and embellishment. Hypothesis 6 proposed a positive relationship between Machiavellianism and the resume fraud dimensions, and Hypothesis 7 proposed a negative relationship between moral identity and the resume fraud dimensions. We found that these traits significantly correlated with each resume fraud dimension in the expected direction. This suggests that Machiavellian job applicants are more likely to fabricate, embellish, or omit information on their resumes whereas job seekers who identify themselves as moral will refrain from resume deception. Hypotheses 8 and 9 predicted that gender and GPA would be unrelated with resume fraud,

respectively. Results support these hypotheses: both were uncorrelated with the resume fraud dimensions.

Study 4: Replication and Extension

Study 4 had four main purposes. First was to replicate the findings of study 3 using a nonstudent sample to determine the generalizability of our findings to an older, more experienced and diverse sample. We surveyed working adults who had completed a search for their current job within the past 6 months, a timeframe chosen to ensure accurate recall of job search details. Second, we extended the study 3 findings and expanded the nomological network of resume fraud by examining whether additional integrity-related personality traits (conscientiousness, emotional stability, and agreeableness) relate to resume fraud. Third, to demonstrate the practical need to understand resume fraud, we examined its criterion validity. Specifically, we requested information about work behaviors after employment to determine whether resume fraud relates to lower job performance and greater workplace deviance. Finally, we explored whether resume fraud explains variance in work behaviors beyond IFB even though IFB occurs later in a job search and is thus more proximal than resume fraud to work behaviors.

Hypotheses To extend the study 3 findings, we included additional integrity-related personality traits to explore their relationship with resume fraud. Personality-based integrity tests primarily capture conscientiousness, emotional stability, and agreeableness (Berry, Sackett, & Wiemann, 2007; Sackett &

Wanek, 1996), which in turn indicate integrity and predict ethical behavior. In addition, a lack of these traits may be the best predictors of workplace deviance (Henle & Gross, 2013). Taken together, job applicants lower in these traits should be less likely to act with integrity and thus be more willing to commit resume fraud.

> *Hypothesis 10*: Conscientiousness, emotional stability, and agreeableness will be negatively related to each resume fraud dimension.

Next, we aimed to identify whether resume fraud affects critical workplace outcomes. That is, do applicants who misrepresent their qualifications on their resumes behave differently once they are on the job? Specifically, we propose that resume fraud relates to lower job performance and greater workplace deviance. First, reduced performance is probable because applicants were hired for a job based on fabricated or exaggerated knowledge, skills, and accomplishments or based on excluded negative job-related information (Kim, 2011). Given that applicants were hired under false pretenses, they are unlikely to be a good fit and will lack the qualifications needed to perform competently.

> *Hypothesis 11*: The resume fraud dimensions will be negatively related to job performance.

Second, once hired, individuals who misrepresent themselves on their resumes may continue to behave deceptively through deviant work behaviors targeting the organization (e.g., theft, sabotage, lateness, lackadaisical performance) or organizational members (e.g., making fun of others, playing mean pranks, acting rudely). Deviant behavior in one context is likely to spill over to another (Callahan, 2004). For example, college students who cheat on their academic work are also more likely to participate in various deviant workplace behaviors, such as theft, unreliability, illegal drug use, and workers' compensation fraud (Hilbert, 1985; Lucas & Friedrich, 2005). More relevant to our study, a survey of HR administrators found that about half believed that job applicants who lie on their resumes are more likely to steal and commit other dishonest behaviors (Broussard & Brannen, 1986). Furthermore, job applicants who faked more extensively on a personality test were found to engage in more counterproductive work behaviors (Peterson et al., 2011). Finally, Dineen et al. (2017) found that commissive resume fraud (combination of fabrication and embellishment) was positively related to incivility. Those studies suggest cross-situational consistency; individuals who are deviant in one context are likely to continue the pattern in other settings. Thus, we argue that job seekers who commit resume fraud will continue to perform deviant acts once they are hired.

> *Hypothesis 12*: The resume fraud dimensions will be positively related to organizational deviance and interpersonal deviance.

Finally, resume fraud and IFB should be related because the perpetrator must continue resume misrepresentations in the interview to portray a consistent image (Bishop, 2006). However, building on our earlier arguments, employers are challenged by the important differences between resume fraud and IFB. First, resume fraud is a premeditated, calculated, conscious choice to deceive through misrepresentation. Second, employers can more easily detect, confirm, and respond to the undeniable documentation associated with resume fraud. Applicants who are willing to take such a personal risk are more likely to be workplace liabilities. On the other hand, IFB can occur spontaneously, without forethought, in reaction to interviewer prompting, applicant nervousness, or leading questions. Interviewers often rely on memory or rapidly taken sporadic notes, so IFB could be passed off as a memory failure or misunderstanding. Thus, resume fraud carries with it a greater intention to deceive than IFB, which should make it more problematic for employers. As a result, we propose that resume fraud will explain additional variance in job performance and workplace deviance over and above IFB.

> *Hypothesis 13*: The resume fraud dimensions will explain incremental variance in job performance, organizational deviance, and interpersonal deviance, beyond the IFB dimensions.

Method

Procedure and Sample

We recruited 300 working adults through Amazon Mechanical Turk (MTurk). A screening survey was made available to participants residing in the USA who had a HIT approval rating of 95% or higher. To be eligible for the full survey, participants had to be employed outside of MTurk, be at least 18 years old, work an average of at least 20 h per week, and have completed a search for their current job within the last 6 months. This last requirement was used to ensure that participants accurately recalled their job search details. We used three attention check items to determine the thoroughness of participant responses (e.g., "Select *always* for this response") and eliminated 38 participants who improperly completed one or more of the checks. Our final sample size was 262, and participants were paid $2.

The sample included slightly more men (56%). Participants were 19 to 83 years old, with an average age of 32.26. Seventy

eight percent were Caucasian, 8% were African American; 7% were Hispanic/Latino; 7% were Asian. They worked 21 to 62 h per week, for an average of 38.78 h, and averaged 3.80 months of tenure at their new job. They held a variety of jobs: 17% were supervisors, 10% were in sales, 8% were in IT, 7% were in education, 6% were in production/labor, 5% were clerical, and 4% were in customer service. Participants averaged 5.15 years of part-time work experience and 10.77 years of full-time experience. They had conducted an average of 5.77 job searches.

Measures

The measures and response scales from study 3 were used for SDR, Machiavellianism, moral identity, fabrication, embellishment, and omission. The IFB dimensions were measured using the scales from study 3, but we used the full versions. Table 5 shows coefficient alphas.

Personality Traits Conscientiousness, emotional stability, and agreeableness were measured using the mini-IPIP scales developed and validated by Donnellan, Oswald, Baird, and Lucas (2006). Each scale contained four items. Respective sample items include "I get chores done right away," "I am relaxed most of the time," and "I sympathize with others' feelings." Participants responded using a 7-point scale (1 = strongly disagree to 7 = strongly agree).

Job Performance We used four items from Williams and Anderson's (1991) in-role behavior scale, with responses on a 7-point scale from never to always. A sample item is "I adequately complete assigned duties."

Workplace Deviance We used eight items from Bennett and Robinson (2000) to assess organizational deviance (e.g., "Taken property from work without permission") and five items to measure interpersonal deviance (e.g., "Acted rudely toward or argued with someone at work"), with responses on a 7-point scale (1 = never to 7 = always).

Results

To cross-validate the three-factor resume fraud model found in studies 2 and 3, we conducted CFAs with maximum likelihood estimation using AMOS 20. The hypothesized three-factor model approached acceptable fit ($\chi^2 = 176.63$ (41), $\chi^2/df = 4.31$, CFI = .95, TLI = .93, RMSEA = .11) and was superior to model 2 ($\chi^2 = 269.69$ (43), $\chi^2/df = 6.27$, CFI = .91, TLI = .89, RMSEA = .14; $\chi^2_{diff} = 93.06$ (2), $p < .001$). Models 3 and 4 had poor fit on their own ($\chi^2 = 577.25$ (43), $\chi^2/df = 13.42$, CFI = .79, TLI = .74, RMSEA = .22; $\chi^2 = 797.54$ (44), $\chi^2/df = 18.13$, CFI = .71, TLI = .64, RMSEA = .26, respectively) and in comparison

with model 1 ($\chi^2_{diff} = 400.62$ (2), $p < .001$; $\chi^2_{diff} = 620.91$ (3), $p < .001$, respectively). Thus, the three-factor structure found in the previous student samples exhibited continued superiority in the working adult sample. In addition, we found that 34% of participants fabricated their resumes, 66% embellished, and 62% omitted information to at least some extent.

We then retested the hypotheses from study 3 except for Hypothesis 9 regarding GPA (see Table 5). All resume fraud dimensions had positive and significant correlations with the IFB dimensions. Furthermore, we reran the CFAs with the resume fraud and IFB dimensions to verify that they are separate constructs. As in study 3, we found that the six-factor model fit the data best ($\chi^2 = 1237.55$ (419), $\chi^2/df = 2.95$, CFI = .90, TLI = .89, RMSEA = .09) in comparison with the other models (see Table 4). Thus, Hypothesis 1 was supported. In support of Hypothesis 2, fabrication had a stronger relationship with IFB inventing than it did with IFB embellishing ($z = 5.86$, $p < .001$) or IFB omitting ($z = 4.88$, $p < .001$) according to Steiger's (1980) z-test for dependent correlations. In contrast to study 3, Hypotheses 3 and 4 were fully supported. The correlation between embellishment and IFB embellishing was significantly greater than the correlations between embellishment and IFB inventing ($z = 2.01$, $p < .05$) and embellishment and IFB omitting ($z = 5.10$, $p < .001$). Finally, the correlation between omission and IFB omitting was greater than the correlations between omission and IFB inventing ($z = 2.82$, $p < .01$) and omission and IFB embellishing ($z = 3.41$, $p < .001$).

We also found support for Hypotheses 5, 6, and 7: Table 5 indicates that the resume fraud dimensions were significantly related to SDR, Machiavellianism, and moral identity in the expected directions. Hypothesis 8 was partially supported: gender was not significantly correlated with embellishment or omission but was related to fabrication (men were more likely to fabricate). These findings deviate somewhat from our study 3 findings, in which SDR was not related to omission, and gender did not correlate with any resume fraud dimension. However, we were able to replicate most of the study 3 findings using a nonstudent sample.

Next, we tested the additional proposed hypotheses. Hypothesis 10 was supported: conscientiousness, emotional stability, and agreeableness were negatively correlated with each resume fraud dimension. Similarly, Hypotheses 11 and 12 were supported. The resume fraud dimensions were negatively correlated with job performance and positively correlated with organizational and interpersonal deviance. To test Hypothesis 13, we used hierarchical regression and entered the IFB variables in step 1 followed by the resume fraud variables in step 2 to determine whether resume fraud adds incremental variance explained beyond IFB. Results (see Table 6) indicate that resume fraud contributed significant incremental variance beyond IFB in job performance ($\Delta R^2 = .08$),

Table 5 Means, standard deviations, scale reliabilities, and correlations among the study 4 variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. IFB inventing	1.97	1.22	(.94)															
2. IFB embellishing	2.24	1.31	.89**	(.90)														
3. IFB omitting	2.19	1.31	.84**	.86**	(.90)													
4. SDR	1.50	.26	−.24**	−.26**	−.32**	(.82)												
5. Machiavellianism	3.55	1.11	.25**	.27**	.30**	−.33**	(.71)											
6. Moral identity	6.23	.82	−.25**	−.18**	−.24**	.12	−.25**	(.79)										
7. Gender[a]	1.45	.53	−.13*	−.06	−.07	.03	−.13*	.13*	—									
8. Conscientiousness	5.38	1.16	−.28**	−.26**	−.29**	.31**	−.24**	.33**	.03	(.76)								
9. Emotional stability	5.02	1.32	−.25**	−.21**	−.26**	.36**	−.30**	.23**	−.04	.47**	(.80)							
10. Agreeableness	5.40	1.13	−.13*	−.13*	−.17**	.16*	−.36**	.43**	.25**	.29**	.18**	(.83)						
11. Fabrication	1.57	1.10	.78**	.67**	.67**	−.16**	.20**	−.33**	−.12*	−.32**	−.23**	−.19**	(.84)					
12. Embellishment	2.17	1.35	.82**	.85**	.76**	−.21**	.21**	−.21**	−.08	−.31**	−.28**	−.13*	.75**	(.90)				
13. Omission	2.20	1.46	.64**	.63**	.71**	−.27**	.23**	−.17**	−.08	−.30**	−.24**	−.17**	.58**	.63**	(.94)			
14. Job performance	6.24	.86	−.28**	−.21**	−.28**	.08	−.10	.47**	.14*	.31**	.20**	.26**	−.40**	−.28**	−.21**	(.79)		
15. Organizational deviance	1.57	.79	.50**	.44**	.49**	−.13	.26**	−.50**	−.18**	−.42**	−.25**	−.31**	.55**	.46**	.40**	−.40**	(.84)	
16. Interpersonal deviance	1.38	.83	.52**	.43**	.46**	−.09	.24**	−.46**	−.17**	−.35**	−.22**	−.32**	.63**	.46**	.37**	−.34**	.80**	(.86)

$N = 262$

$*p < .05$; $**p < .01$

[a] 1 = man; 2 = woman

Table 6 Study 4 regression results showing incremental variance explained by resume fraud over IFB for work behaviors

Variable	Job performance			Organizational deviance			Interpersonal deviance		
	B	SE B	β	B	SE B	β	B	SE B	β
Step 1									
IFB inventing	−.24	.10	−.35*	.28	.08	.43**	.41	.08	.60**
IFB embellishing	.22	.10	.33*	−.12	.08	−.20	−.16	.08	−.25
IFB omitting	−.18	.08	−.28*	.18	.07	.30**	.11	.07	.17
ΔR^2		.10**			.27**			.28**	
Step 2									
IFB inventing	.02	.11	.03	.06	.09	.09	.08	.09	.12
IFB embellishing	.19	.11	.29	−.07	.09	−.12	−.08	.09	−.12
IFB omitting	−.17	.08	−.26*	.14	.07	.24*	.08	.07	.13
Fabrication	−.35	.08	−.44**	.29	.07	.40**	.45	.06	.60**
Embellishment	−.03	.08	−.05	−.01	.07	−.02	−.04	.06	−.06
Omission	.04	.05	.06	.02	.04	.03	−.02	.04	−.04
ΔR^2		.08**			.06**			.13**	

$N = 262$

*$p < .05$; **$p < .01$

organizational deviance ($\Delta R^2 = .06$), and interpersonal deviance ($\Delta R^2 = .13$). Both fabrication and IFB omitting related to job performance and organizational deviance suggesting that those who lie on resumes or omit job-relevant information during interviews have poorer job performance and greater organizational deviance. Fabrication was the only significant predictor of interpersonal deviance. In summary, resume fraud explained incremental variance in job performance and workplace deviance beyond the effects of IFB.[5]

Discussion

Resume fraud is unfortunately pervasive among job seekers and is predicted to increase even more (Todd, 2012). However, the lack of a valid measure has caused limited empirical research into resume fraud. Our study addresses this shortcoming by developing a self-report measure of intentional resume deception. However, we move beyond validating a new measure by also investigating critical antecedents and outcomes of resume fraud, conceptually and empirically distinguishing resume fraud from IFB, and demonstrating that resume fraud explains incremental variance in key workplace outcome variables beyond IFB.

In study 1, we demonstrate the content validity of potential resume fraud items generated inductively and deductively. In

study 2, we conduct an EFA indicating that three factors best represent our items (fabrication, embellishment, and omission), and reduce the number of items to form parsimonious scales. In study 3, we confirm the three-factor structure and offer preliminary evidence as to the construct validity of the measure. In particular, we find resume fraud and IFB to be related, but conceptually and empirically distinct. Also, individuals with SDR predispositions were less likely to report fabrication and embellishment. Machiavellian job applicants were more likely to commit all types of resume fraud, whereas those with stronger moral identities were less likely to commit fraud. Finally, to show discriminant validity, we find that gender and GPA were not related to resume fraud. These findings are a preliminary step to identifying the types of applicants likely to submit fraudulent resumes.

To replicate the study 3 results, study 4 uses an older and more experienced sample of working adults. Although most of the study 3 findings are replicated, some subtle differences occurred. First, SDR was related to all resume fraud types, whereas in study 3, it was related only to fabrication and embellishment. Second, gender was not related to any resume fraud dimension in study 3, but in Study 4, it was related to fabrication. In summary, while slight differences occurred, the overall pattern of findings is highly consistent across the diverse samples.

In study 4, we also expand the nomological network of resume fraud by exploring other personality traits that might associate with it and demonstrate that it relates to critical workplace behaviors. First, we find that conscientiousness, emotional stability, and agreeableness correlate with the resume fraud dimensions. Second, resume fraud is related to job performance and workplace deviance and explains

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[5] Although not shown in Table 6, further analyses indicated that IFB did not explain significant incremental variance in any work behavior beyond resume fraud. Furthermore, all resume fraud dimensions that were significant remained significant when controlling for individual differences including SDR, Machiavellianism, moral identity, conscientiousness, emotional stability, and agreeableness. These results are available from the first author on request.

incremental variance in these outcomes beyond IFB. Resume fraud explained such sizable amounts of unique variance in performance, organizational deviance, and interpersonal deviance that recruiters could achieve substantial workplace differences by screening these applicants out. Conversely, IFB failed to explain significant variance in these outcomes beyond resume fraud, even though IFB occurs more proximally and could be expected to relate more strongly to job behaviors. This finding highlights the criticality of considering resume fraud and IFB as separate aspects of job seeker behavior, even though both pertain to distortions during the selection process. Finally, our regression analyses indicate that fabrication and IFB omitting were the only variables significantly related to job performance and organizational deviance, and only fabrication was related to interpersonal deviance.

Study Implications

Our studies make several contributions to the literature. First, our self-report resume fraud measure addresses deficiencies associated with objective measures by capturing fraudulent activities that may go undetected during resume verification processes. Second, our measure focuses on intentional versus unintentional misrepresentation. Organizations know that poor hiring decisions can lead to costly poor performance, increased training needs, accidents, and negligent hiring claims (e.g., Babcock, 2003). Thus, they seek to avoid applicants who consciously over-idealize their candidacy. Future research may use our measure to identify the motives behind volitional resume fraud and the associated outcomes to devise ways to avoid it.

Third, we identify three resume fraud dimensions and find they have different base rates. Averaging across studies 2, 3, and 4 indicates that 72% embellished, 61% omitted, and 31% fabricated information, at least to some extent. These numbers suggest that resume fraud may be more common than previously thought as many job applicants willingly reported engaging in some type of resume fraud to some degree. This also implies that researchers should investigate all resume fraud types, and recruiters should know that applicants are more prone to exaggerate or eliminate information rather than to outright lie. However, regarding posthire behavior, managers must be most vigilant about detecting resume fabrications, as our regression results suggest that fabrication, but not embellishment or omission, relate to job performance and workplace deviance. Nevertheless, embellishment and omission may be related to other respective outcomes, such as interpersonal mistrust and poor job fit.

Fourth, we find that personality matters; individuals lower in integrity-related personality traits (i.e., Machiavellianism, moral identity, conscientiousness, emotional stability, and agreeableness) are more likely to engage in resume fraud. These findings suggest the added importance of personality

testing in selection processes to potentially screen out fraudsters. In addition, future research should explore other individual difference variables possibly related to resume fraud (e.g., performance orientation, need for approval, narcissism, self-esteem) and possible interactive effects. For example, employees who are low in conscientiousness and are opportunistic and dishonest (i.e., high self-monitors) tend to engage in more deviance directed at organizations (Oh, Charlier, Mount, & Berry, 2014). Thus, job applicants who lack conscientiousness and are high self-monitors may be more likely to commit resume fraud.

Fifth, we demonstrate that resume fraud strongly indicates reduced performance and greater deviance on the job. Consequently, the millions of dollars spent on resume verification services is money well spent. Although resume verification costs are a one-time expense per employee, the costs associated with lower productivity and higher counterproductivity can proliferate continuously. Sixth, we find resume fraud is conceptually and empirically different from IFB. Resume fraud and IFB substantively differ because they occur at different points and venues in the selection process, involve unique forms of communication, and entail varying levels of premeditation and accountability. Thus, researchers and recruiters should not assume that resume fraud and IFB are similar or co-occurring. Rather, each construct should be investigated to identify their unique antecedents and outcomes because they have "conceptually meaningful and operationally verifiable distinctions" (Tepper & Henle, 2011, p. 488).

Our measure is not intended to be a selection test. Instead, researchers can use it to identify the boundary conditions of resume fraud and show its most problematic contexts. For example, we recently combined our fabrication and embellishment items and found that job seekers are more prone to submit fraudulent resumes in response to job search envy under increased time pressure or criticality of a job search event, especially in favorable job markets (Dineen et al., 2017). Likewise, the current study shows that fabrication is the greatest threat because it had the most impact on job performance and workplace deviance, a caution especially important to companies recruiting for positions with critical performance demands.

Future research should continue the evolving conversation regarding the circumstances under which resume fraud is most prevalent and deleterious. Job seekers may be more likely to submit fraudulent resumes when friends and family pressure them to find employment or when they are exposed to others who have committed resume fraud successfully. Conversely, they may avoid misrepresentation when they have acquaintances at the company they are applying to. Furthermore, resume misrepresentations may have unequal repercussions. For example, resume fraud may cause the greatest damage when qualifications are highly relevant to the job (Wood et al., 2007). In contrast, resume fraud, especially embellishment, may be more tolerated and even result in enhanced
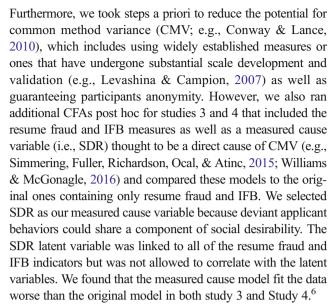
performance for jobs with impression management as an essential job requirement (e.g., sales, marketing). Examining potential boundary conditions will further our understanding of resume fraud and its antecedents and outcomes and shed light on whether it has positive outcomes in addition to the negative ones we traditionally recognize.

Limitations

As with any study, we must acknowledge some limitations. First, our cross-sectional designs capture the study variables at only one time point, which prevents causality inferences. However, empirical research on resume fraud is so sparse that our design is a needed overture for describing it and investigating its related variables. Now that we have preliminary evidence of antecedents and outcomes, future research should use more stringent research designs. For example, job seekers could be tracked over time by measuring individual differences before the job search, resume fraud during the search, and work outcomes after employment. In addition, future research should use larger sample sizes, as our power may have been insufficient to test our gender and GPA null hypotheses. Future work should also investigate other variables that may help establish discriminant validity.

Second, participants may have responded dishonestly to our resume fraud measure. Recent meta-analyses demonstrate that self-reports versus other reports are more likely to reveal deviant behavior (Berry et al., 2012), are more accurate because individuals have the greatest insight into their behaviors, and explain incremental variance in outcomes (Carpenter et al., 2014). Consequently, we assert that self-reports are valid because job searchers usually commit resume fraud privately, and objective measures include intentional and unintentional misrepresentations. However, participants should be guaranteed anonymity to encourage truthful responses (see Berry et al., 2012), and researchers should control for SDR given that we found participants with a tendency toward SDR are less likely to report resume fraud. These precautions are especially important because our resume fraud measures, especially fabrication, were positively skewed. Thus, future research should incorporate methods to encourage honest reporting of this potentially low base rate phenomenon. Researchers may also need to adjust data analysis methods to compensate for skewness. However, we performed a natural log transformation on the resume fraud variables, reran the regression analyses, and found substantially similar results.

Relatedly, all our measures are self-reported. However, our use of self-reports is appropriate given the private nature and difficulty in ascertaining the intentionality of our variables (e.g., resume fraud, workplace deviance, IFB). That is, only the individuals committing these deviant behaviors are likely to know about their occurrence (e.g., Berry et al., 2012) and whether they were intended to deceive or harm others.

Furthermore, we took steps a priori to reduce the potential for common method variance (CMV; e.g., Conway & Lance, 2010), which includes using widely established measures or ones that have undergone substantial scale development and validation (e.g., Levashina & Campion, 2007) as well as guaranteeing participants anonymity. However, we also ran additional CFAs post hoc for studies 3 and 4 that included the resume fraud and IFB measures as well as a measured cause variable (i.e., SDR) thought to be a direct cause of CMV (e.g., Simmering, Fuller, Richardson, Ocal, & Atinc, 2015; Williams & McGonagle, 2016) and compared these models to the original ones containing only resume fraud and IFB. We selected SDR as our measured cause variable because deviant applicant behaviors could share a component of social desirability. The SDR latent variable was linked to all of the resume fraud and IFB indicators but was not allowed to correlate with the latent variables. We found that the measured cause model fit the data worse than the original model in both study 3 and Study 4.[6]

Nevertheless, having another party evaluate participants' personality traits or job performance might provide some benefit. For example, the relationship between acquaintance reports of personality and workplace deviance are similar in magnitude to the relationship between self-reports of personality and deviance, but acquaintance reports explain incremental variance in workplace deviance (Kluemper, McLarty, & Bing, 2015). Future research should consider using acquaintance reports of personality and supervisor reports of job performance.

Conclusion

Resume fraud, common among job seekers, can cost organizations their reputations, damage their performance, deteriorate their ethical cultures, and subject them to legal liabilities. To minimize resume fraud impacts on selection processes and on subsequent job performance, managers must be able to identify which job seekers are more likely to intentionally distort their resumes and when they are likely to do so. We hope that our resume fraud measure will encourage continued research into this critical issue.

[6] Study 3: measured cause model: $\chi^2 = 757.33$ (491), $\chi^2/df = 1.54$, CFI = .91, TLI = .89, RMSEA = .06 and original model: $\chi^2 = 357.64$ (174), $\chi^2/df = 2.06$, CFI = .93, TLI = .92, RMSEA = .08; $\chi^2_{difference} = 919.84$, $df_{difference} = 437$, $p < .001$. Study 4: measured cause model: $\chi^2 = 2157.39$ (856), $\chi^2/df = 2.52$, CFI = .86, TLI = .84, RMSEA = .08 and original model: $\chi^2 = 1237.55$ (419), $\chi^2/df = 2.95$, CFI = .90, TLI = .89, RMSEA = .09; $\chi^2_{difference} = 399.69$, $df_{difference} = 317$, $p < .01$.

Appendix

Resume Fraud Items

Recent reports have documented the prevalence of inaccurate information on resumes. For example, job seekers might list a college degree they never earned, leave off a job from which they were fired, exaggerate the importance of their job duties, or make up dates of employment to hide gaps. Keeping in mind that all of your responses are anonymous, in your most recent or current job search, to what degree did you *intentionally* do the following to increase your chances of receiving an interview? Please respond using the below response scale. Although some questions may seem repetitive, please answer as best as you can.

1	2	3	4	5	6	7
Not at all	To hardly any extent	To a little extent	To a moderate extent	To a considerable extent	To a very great extent	Completely

Regarding your resume, during your current or most recent job search, rate the extent to which you have intentionally:

Fabrication

FAB1: Included information that is no longer true

FAB2: Invented accomplishments that did not really occur

FAB3: Provided incorrect information

FAB4: Claimed to have skills that you do not have

FAB5: Misrepresented the description of an event

FAB6: Listed knowledge or skills you do not possess

FAB7: Invented some work situations or accomplishments that did not really occur

FAB8: Made up information regarding the quality or quantity of your performance

FAB9: Made up information related to your past or current employment

FAB10: Claimed work experience that you do not actually have

FAB11: Made claims that were false

FAB12: Invented degrees you do not have

FAB13: Included information that is fabricated

FAB14: Made up information regarding your involvement in job-related or extracurricular activities

FAB15: Made up information related to your academic record

FAB16: Provided information about references that is not true

FAB17: Made up information on your resume

Embellishment

EMB1: Inflated the importance of activities or awards

EMB2: Distorted your qualifications to match qualifications required for the job

EMB3: Overstated your involvement in activities

EMB4: Exaggerated the impact of your performance in your past jobs or your current one

EMB5: Overstated information related to your academic record

EMB6: Provided an enhanced picture of your past or current record

EMB7: Made exaggerated claims

EMB8: Overstated information

EMB9: "Padded" your resume

EMB10: Included information that is not exactly true

EMB11: Stretched the truth regarding information on your resume

EMB12: Exaggerated your responsibilities on previous jobs or your current one

EMB13: Embellished information

EMB14: Tried to make yourself appear as an ideal candidate when you were not

EMB15: Made the information on your resume sound better than it really is

EMB16: Included things that were exaggerated

EMB17: Described team accomplishments as primarily your own

Omission

OMI1: Failed to mention relevant things from your past or current record

OMI2: Omitted information about your involvement in certain job-related or extracurricular activities

OMI3: Deleted information in order to help your chances of getting an interview

OMI4: Omitted important information about past or current job responsibilities

OMI5: Omitted information that doesn't portray you in a favorable manner

OMI6: Suppressed information that may not look favorable

OMI7: Left relevant information off

OMI8: Failed to include information that is less than positive

OMI9: Kept information vague so it could not be easily verified

OMI10: Omitted pertinent details about your past or current record

OMI11: Omitted relevant information related to your academic record

OMI12: Left information off that might hurt your chances of getting a job

OMI13: Tried to suppress your connection to negative events in your work history

Note. Items in bold are those included in the final versions of the scales. Items in italics could be added in longer versions of the scales.

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