

2021

Liar, Liar, Pants on Fire: How Verbal Deception Cues Signal Deceptive Versus Honest Impression Management and Influence Interview Ratings

Lenke Roth

Work and Organizational Psychology, Justus-Liebig-University Giessen

Ute-Christine Klehe

Work and Organizational Psychology, Justus-Liebig-University Giessen

Gloria Willhardt

Work and Organizational Psychology, Justus-Liebig-University Giessen

Follow this and additional works at: <https://scholarworks.bgsu.edu/pad>



Part of the [Human Resources Management Commons](#), and the [Industrial and Organizational Psychology Commons](#)

Recommended Citation

Roth, Lenke; Klehe, Ute-Christine; and Willhardt, Gloria (2021) "Liar, Liar, Pants on Fire: How Verbal Deception Cues Signal Deceptive Versus Honest Impression Management and Influence Interview Ratings," *Personnel Assessment and Decisions*: Vol. 7 : Iss. 1 , Article 7.

DOI: <https://doi.org/10.25035/pad.2021.01.007>

Available at: <https://scholarworks.bgsu.edu/pad/vol7/iss1/7>

This Main Article is brought to you for free and open access by the Journals at ScholarWorks@BGSU. It has been accepted for inclusion in Personnel Assessment and Decisions by an authorized editor of ScholarWorks@BGSU.

LIAR, LIAR, PANTS ON FIRE: HOW VERBAL DECEPTION CUES SIGNAL DECEPTIVE VERSUS HONEST IMPRESSION MANAGEMENT AND INFLUENCE INTERVIEW RATINGS

Lenke Roth¹, Ute-Christine Klehe¹, and Gloria Willhardt¹

1. Work and Organizational Psychology, Justus-Liebig-University Giessen

ABSTRACT

KEYWORDS

impression management, signaling theory, verbal deception cues, employment interview

Impression management (IM), especially deceptive IM (faking), is a cause for concern in selection interviews. The current study combines findings on lie detection with signaling theory to address how candidates' deceptive versus honest IM shows in verbal deception cues, which then relate to interview ratings of candidates' interview performance. After completing a structured interview rated by two trained interviewers, 182 candidates reported their deceptive and honest IM. Verbal deception cues (plausibility, verbal uncertainty) were coded from video recordings. Results supported the hypotheses: Deceptive IM directly raised interviewer ratings (intended positive signal) but lowered the responses' plausibility and enhanced verbal uncertainties (unintended negative signals). Honest IM raised responses' plausibility. Plausibility related positively to interviewer ratings (receiver reaction), thus accounting for a negative indirect effect of deceptive IM and a positive indirect effect of honest IM on interviewer ratings. This study contributes to theory and practice regarding faking detection in employment interviews.

A longstanding concern in employment interviewing is candidates' impression management (IM). The use of IM can be understood in terms of signaling theory, which argues that a signaler (candidates) may intentionally adjust the signals sent to a receiver (interviewers; Bangerter et al., 2012; Roulin et al., 2016). More specifically, candidates may fake—that is, consciously misrepresent their skills, abilities, and other favorable characteristics (deceptive IM)—and/or they may present themselves honestly (honest IM; Bourdage et al., 2018; Levashina & Campion, 2006; Roulin et al., 2016). If candidates fake successfully, this provides an undue advantage for fakers over honest candidates and threatens the interview's criterion-related validity. In short, interviewers need to differentiate deceptive from honest signals to detect candidates' faking. Consequently, the interview requires interviewers to interpret whatever signal—intended or unintended—they receive (Connelly et al., 2011).

Fortunately, research on lie detection suggests that deceptive IM might show, at least in theory (Vrij et al., 2010, 2019): When people lie, they send unintended negative signals that may give away their untruthfulness. Unfortunately, many such clues have failed to translate into interview

settings (Roulin & Powell, 2018; Schneider et al., 2015). What still appears promising to study are certain verbal cues: a lower plausibility of responses and more verbal uncertainties (DePaulo et al., 2003) that may help to “set liars' pants on fire.” Therefore, we aim to capture differences in verbal deception cues between deceptive and honest IM and study these cues' effects on interviewers' ratings of candidates' responses.

The current study makes the following three contributions. First, we contribute to research on deceptive and honest IM in interviews. Past research on IM's effects on interview performance (Melchers et al., 2020) yielded conflicting results, with studies reporting positive (e.g.,

Corresponding author:

Lenke Roth

Email: lenke.roth@psychol.uni-giessen.de

Correspondence regarding this manuscript should be addressed to Lenke Roth (lenke.roth@psychol.uni-giessen.de). This research was funded by the German Research Foundation (DFG – KL 2366/4-1). We thank Wolfgang Grund for his support in providing the software used during the candidate observation.

Levashina & Campion, 2007), no (e.g., Bourdage et al., 2018), or negative relationships between deceptive IM and interview performance (e.g., Swider et al., 2011). We aim to contribute to this debate by addressing deceptive versus honest IM from a signaling perspective. Candidates use both honest and deceptive IM to signal their suitability. Yet, deceptive IM evokes unintended negative signals that may reduce interview ratings and thus neutralize faking effectiveness. For practice, we aim to show how small verbal cues reveal deceptive IM. Second, the study adds to the literature on signaling theory. Although the theory includes unintended negative signals, empirical research on such signals is still rare (Connelly et al., 2011). The current study offers a well-founded operationalization of such phenomena by borrowing from research on lie detection. Third and final, the study may add to the literature on structured interviews. One of this literature's truisms is the reliance on predetermined scoring guides based on a job analysis (Campion et al., 1997). The current study identifies verbal cues not included in such scoring guides that may yet be informative for good conceptual reasons.

Signaling Theory and Impression Management (IM)

Signaling theory describes how two parties with asymmetric knowledge exchange information (Connelly et al., 2011). The idea is that one party (signaler) is an insider with positive and negative information about something of interest, like a product, a person, or an organization (e.g., Mavlanova et al., 2012). The other party (receiver) is an outsider, who does not have but needs this unbiased information to make a good decision on their own.

The issue is that the signaler may not be neutral and might benefit from the decision leaning one way or another. Consequently, the signaler might not want to convey all information equally. They may only present information positive to their cause (i.e., positive signals) while choosing to omit negative information (i.e., negative signals; Connelly et al., 2011). In other words, the signaler might benefit from a selective presentation of information and possibly even deceit at the receiver's expense (e.g., Bird & Smith, 2005). When successful, the signaler may even direct the receiver toward a decision that the receiver might not have made had they known all the information available (Connelly et al., 2011).

Receivers are not necessarily naïve toward the signaler's interests but must be attentive to both intended and unintended signals that speak for or against the signaler's veracity.

Signaling theory has been influential in domains as diverse as marketing (e.g., Dunham, 2011), strategic entrepreneurship (Connelly et al., 2011), and selection and recruitment (e.g., Wilhelmy et al., 2019). Employment interviews are classic situations of information asymmetry between

candidates and interviewers. Candidates are insiders to their own strengths and weaknesses. Interviewers are outsiders who need unbiased information on candidates to decide whether to hire them or not. This asymmetry both invites candidates to shape the signals they send about how they like to be perceived (Bangerter et al., 2012) and requires interviewers to interpret whatever signals they receive (Connelly et al., 2011). Most candidates intentionally employ IM to signal that they are suitable candidates (Roulin et al., 2016). Yet, depending on whether candidates' IM is deceptive or honest, they may also send unintentional signals (e.g., deception cues versus signals of credibility/veracity/reliability; cf., Connelly et al., 2011; DePaulo et al., 2003).

IM as Intended Positive Signals

Interviews offer external candidates unique opportunities to signal their suitability for the job in question (Bangerter et al., 2012). Interviews thus invite IM, the manipulation of the impression that candidates make on interviewers (Levashina & Campion, 2006). In terms of signaling theory, candidates' IM usually implies sending intentional positive signals about oneself (cf., Roulin et al., 2016). These signals can be deceptive and/or honest IM.

Deceptive IM. Deceptive IM (i.e., faking) is common in interviews (Levashina & Campion, 2007). With deceptive IM, candidates intentionally and deceptively attempt to misrepresent themselves (Levashina & Campion, 2006; Roulin et al., 2016). Tactics include slight and extensive image creation (exaggerating existing experiences and actions, and/or claiming experiences and accomplishments that one does not have), deceptive ingratiation (wrongly claiming to hold the same values or attitudes as the interviewer or organization), and image protection (omitting or concealing undesirable information; Levashina & Campion, 2007).

Honest IM. Honest IM is a form of honest self-presentation by which candidates truthfully describe and express their job-related abilities, accomplishments, experiences, attitudes, or values (Bourdage et al., 2018). Honest IM encompasses honest self-promotion (emphasizing existing skills and experiences; Bourdage et al., 2018), honest ingratiation (voicing appreciation and highlighting their similar values to the organization or interviewer; Kristof-Brown et al., 2002), and honest defensive IM (image protection via sincere apologies, excuses, and justifications; Bolino et al., 2008).

Effects of IM on interview ratings. In terms of signaling theory, both deceptive and honest IM aim to convince the receiver of the sender's suitability (Connelly et al., 2011). They thus likely foster interviewers' ratings of candidates' responses. Empirically, relationships between deceptive IM and interviewers' ratings range from small negative to moderate positive correlations (Melchers et al., 2020). Some of this variance in findings might be methodological though, with not all studies assessing faking directly af-

ter the interview but sometimes days or weeks later (e.g., Bourdage et al., 2018). Studies assessing faking directly after the interview tend to report more positive relationships (cf., Buehl & Melchers, 2017; Ingold et al., 2015). Honest IM shows an overall positive relationship to interview ratings and hiring recommendations (e.g., Bourdage et al., 2018; Kleinmann & Klehe, 2010; Roulin et al., 2014), even though these benefits seem to flatten out with excessive IM (Robie et al., 2020). We thus assume that:

Hypothesis 1: Candidates' (a) deceptive IM and (b) honest IM show direct positive relationships with interviewers' ratings of candidates' interview performance.

Deception Cues as Unintended Negative Signals

Nobody wants to fall prey to a liar. In the language of signaling theory, the receiver depends on the signaler providing unbiased information for making a good decision but may also know that the signaler has a vested interest in that decision. In short, the receiver may attend not only to the intended signals that the signaler provides but also to unintended ones about the signaler's credibility.

Unintentional deception cues may emerge in verbal or nonverbal behavior (DePaulo et al., 2003) or in the content of what people say (e.g., criteria-based content analysis, CBCA; Amado et al., 2016). Translating this to the selection context, Culbertson et al. (2016) explicitly asked participants to lie or tell the truth in a mock employment interview. Under the lying condition, interviewers indeed spotted participants who showed various deception cues. However, explicitly asking participants to lie may overestimate faking results (cf., Birkeland et al., 2006). Studies observing the more nuanced and subtle deceptive IM happening during regular selection interviews (Roulin & Powell, 2018; Schneider et al., 2015) yielded less consistent results for behavioral cues or CBCA. Behavioral cues may simply not work as well during selection as anticipated, or the issue was methodological, with raters rating behavioral cues only after the complete interview (Schneider et al., 2015). CBCA, in turn, requires cumbersome interview transcriptions. Again, results were questionable with the overall analysis but none of the single criteria correlating with deceptive IM (Roulin & Powell, 2018, Study 2).

Still unaddressed in regular interviews are verbal deception cues, most prominently plausibility and verbal uncertainty (DePaulo et al., 2003). DePaulo et al. (2003) define a response as "plausible" if the rater considers the message plausible, likely, or believable. The underlying idea is that the rater mentally imagines the scenario that the interviewee describes in an interview response and assesses whether this scenario is coherent with the rater's own prior knowledge or experience (Connell & Keane, 2006). Apparently, different raters agree on what responses they consider plausible or not (Vrij et al., *in press*). Studies that randomly

asked participants to lie or tell the truth suggest plausibility to help identify lies (e.g., Culbertson et al., 2016; Vrij et al., 2020). However, we still need further proof of the relationship between plausibility ratings and deceptive IM in regular interviews (cf., Culbertson et al., 2016).

Verbal uncertainties are defined as the interviewee appearing uncertain, insecure, not very assertive, and having difficulty responding to the question (DePaulo et al., 2003). Uncertainty reveals itself in the interviewee repeating phrases, breaking phrases apart, or including half phrases in their responses (Kraut, 1978). Vrij and Heaven (1999) experimentally showed that lying alters participants' speech patterns. Participants had more difficulties expressing themselves, for example, repeating themselves, forgetting words, or whole phrases, when lying. These speech errors are distinct from slips of the tongue, as participants did not stutter more often or use more filler words when lying than when telling the truth.

If the validity of verbal deception cues generalizes across contexts (Vrij et al., 2019), these cues can help identify deceptive IM in employment interviews. They may thus present unintended, yet externally observable, signals of candidates' lacking credibility.

Hypothesis 2: The more candidates employ deceptive IM, (a) the less plausible their responses will be and (b) the more verbal uncertainties they will show.

Regarding honest IM, we assume opposite effects. Although honest and deceptive IM correlate positively (Bourdage et al., 2018), honest IM implies that candidates draw from actual attitudes, experiences, and accomplishments. With no need to hastily construct a story, candidates' speech likely is more fluent. They may offer up details and information that allow a more complete and thus plausible picture of their responses than if they had remained silent, thus (unintentionally) signaling credibility and poise (cf., Durcikova & Gray, 2009). Therefore, we assume:

Hypothesis 3: The more candidates employ honest IM, (a) the more plausible their responses will be and (b) the less verbal uncertainties they will show.

Impact of Unintended Signals on Interview Ratings

Low plausibility and high verbal uncertainties may not only be unintended but may also function as negative signals to interviewers regarding candidates' credibility and thus suitability (cf., Connelly et al., 2011). Classic scoring recommendations instruct interviewers to focus solely on the content-related fit of candidates' responses to a standardized job-related scoring guide (e.g., Latham et al., 1980). Nevertheless, we assume interviewers will react negatively to either deception cue. If a candidate's response lacks plausibility or if the candidate appears to have diffi-

culties expressing what they want to convey, interviewers might be more skeptical about the response and rate it lower. Although not addressed in previous research, such an assumption fits practical recommendations. These advise candidates to ensure a (verbal and vocal) self-assured appearance and their statements' plausibility to improve the interviewers' impression (cf., Dondolo & Chinyamurindi, 2018; Hebbani & Frey, 2007).

Hypothesis 4: (a) The plausibility of candidates' responses will be positively related to, and (b) verbal uncertainties in candidates' responses will be negatively related to, interviewers' ratings of candidates' interview performance.

In summary, we suggest a model with direct and, in part, opposing indirect effects. Both deceptive and honest IM may serve as direct positive signals advertising the candidates' suitability (Hypothesis 1). However, deceptive (versus honest) IM may cause subtle verbal deception cues, unintended negative signals of lacking credibility, which may impair interviewers' impressions of candidates' suitability (Hypotheses 2 to 4). Taken together, Hypotheses 2 to 4 thus suggest a negative indirect effect from deceptive IM on interview rating and a positive indirect effect from honest IM on interview performance via the verbal deception cues plausibility and verbal uncertainties.

METHOD

Setting and Design

We conducted the study as a simulated selection procedure, serving as a training program for prospective university graduates. This well-established research paradigm in personnel selection facilitates the honest assessment of candidates' cognitions and actions (Kleinmann et al., 2011), including faking (e.g., Dürr & Klehe, 2018), in a realistic context. Prior research has shown that participants experience these simulations as realistic, behave like they would during actual personnel selection (Kleinmann & Ingold, 2019), and that findings from simulations replicate to actual field settings (e.g., Ingold et al., 2016; Roulin & Powell, 2018). Candidates underwent a classic structured panel interview with two interviewers. Although there was no job at stake, all interviews were recorded on video, and the top 10% well-performing candidates received €25 each to increase candidates' level of motivation. After the interview, candidates learned that the ensuing survey only served research purposes. They then reported their level of deceptive and honest IM during the interview. Plausibility and verbal uncertainty were coded from video recordings of the interviews. All parties involved, that is, candidates, interviewers, and the video rater, were blind to the study's purpose and to the content and level of ratings provided by

any of the other parties involved.

Sample/Candidates

Candidates ($N = 182$; 101 women, 78 men, three diverse; average age = 23.13 years) were recruited via the university's *Career Centre*. Most studied business ($n = 101$), followed by psychology ($n = 24$) and modern languages and cultures ($n = 14$). About two-thirds were completing their bachelor's degree ($n = 134$), the others their master's ($n = 48$). Only a few candidates reported prior experiences with structured selection interviews containing behavioral and/or situational questions ($n = 15$).

Interviewers

Interviewers ($N = 21$; 16 women, 5 men) were graduate students specializing in work and organizational psychology. Through random selection, two interviewers per interview rated each candidates' responses. They were extensively trained in the theory and practice of structured interviewing, particularly that of the current study.

Rater of Deception Cues

An independent graduate student in work and organizational psychology was trained to code for plausibility and verbal uncertainty from the interviews' video recordings. For comparison purposes, this rater also coded similar cues that do not signal deception (slips of the tongue; Vrij & Heaven, 1999) as well as nonverbal deception cues and content analysis criteria.

Measures

Deceptive IM. Candidates responded to Dürr and Klehe's (2018) 17-item short version of Levashina and Campion's (2007) Interview Faking Scale (e.g., "I claimed that I have skills that I do not have") on a 5-point Likert scale from *strongly disagree* to *strongly agree* ($\alpha = .91$).

Honest IM. Candidates responded to 10 items from Bourdage et al.'s (2018) honest IM section of the Short IM Scale (e.g., "I brought up my past work experience to make the interviewer aware of my competence") on a 5-point Likert scale from *strongly disagree* to *strongly agree* ($\alpha = .79$).

Deception cues. The video rater coded the plausibility and verbal uncertainty in real time. For every interview question, the rater recorded on a tablet whenever the respective cue was present, that is, whenever candidates provided a plausible response or showed difficulties in expressing themselves. Following DePaulo et al. (2003), a response was "plausible" if the rater considered the message plausible, likely, or believable, that is, if they could mentally imagine the scenario that a candidate described, and assessed this scenario as coherent with their prior knowledge or experience ($\alpha = .89$). Verbal uncertainties were defined as candidates appearing uncertain, insecure, or not very

assertive, and seeming to have difficulty responding to the question, for example, repeating their phrases, breaking phrases apart, or forgetting words ($\alpha = .74$).¹ This coding procedure served to gain more objective information about the cues than a general rating at the end of the interview. Videos were played at normal speed without the possibility of pausing to maintain comparability with the actual interview.

A comparison with 30 interview codings by another independent rater suggested a perfect agreement on a question level of 59.16% for plausibility and 69.17% for verbal uncertainty and moderate interrater reliabilities for both plausibility (ICC = .51) and verbal uncertainty (ICC = .68; Koo & Li, 2016).

Interview ratings. The interview was fully standardized, nontransparent, and consisted of six behavioral (Janz, 1982) and six situational questions (Latham et al., 1980). Mirroring Kolk et al.'s (2004) feeling–thinking–power taxonomy, each interview question targeted one of the dimensions of cooperation, planning, and leadership, three of the five most frequent dimensions in structured interviews (Huffcutt et al., 2001). Because the simulated selection procedure was for university graduates, the behavioral questions addressed situations in a university context. The situational questions addressed problems encountered by an organizational management trainee. Interviewers took extensive notes and rated each response on a classic behavior rating scale with examples for poor (*rating of 1*), average (*rating of 3*), and outstanding (*rating of 5*) responses ($\alpha = .79$). The interviewers' interrater reliability was excellent (ICC = .94).

RESULTS

Preliminary Analyses

A confirmatory factor analysis in Mplus 8.2 (Muthén & Muthén, 1998–2018) based on parcels (item-to-construct relations method; Little et al., 2002) supported the proposed measurement model with three latent factors (deceptive IM, honest IM, interview ratings) and two single-item indicators (plausibility, verbal uncertainty). With average factor loadings ranging from .70 (interview ratings) to .92 (deceptive IM), the model showed an excellent fit ($\chi^2_{(36)} = 34.68$, $p = .531$, CFI = 1.00, RMSEA = .00, SRMR = .04).

Table 1 presents the descriptive statistics and bivariate correlations between study variables. Both IM forms tended to relate positively to interview ratings, even though this relationship was only statistically significant for deceptive IM. Women and older candidates tended to score better than men and younger candidates.²

Hypothesis Testing

We tested hypotheses via structural equation modeling with Mplus 8.2 using maximum likelihood estimation and bootstrapping (10,000 draws). The proposed model showed an excellent fit ($\chi^2_{(37)} = 36.85$, $p = .476$, CFI = 1.00, RM-

SEA = .00, SRMR = .04) and did not differ from the measurement model ($\Delta\chi^2_{(1)} = 2.17$, $p = .141$). Figure 1 shows standardized model coefficients and Table 2 direct, indirect, and total effects of deceptive and honest IM on interview ratings.

Supporting Hypothesis 1a, deceptive IM showed a direct positive relationship with interview ratings. Rejecting Hypothesis 1b, no such relationship emerged for honest IM.

Supporting Hypothesis 2, deceptive IM showed a negative relationship with plausibility and a positive relationship with verbal uncertainty.

Supporting Hypothesis 3a, honest IM showed a positive relationship with plausibility. Rejecting Hypothesis 3b, no such relationship emerged for verbal uncertainty.

Supporting Hypothesis 4a, plausibility showed a positive relationship with interview ratings. Rejecting Hypothesis 4b, no such relationship emerged for verbal uncertainty.

Taken together, the indirect effects from IM on interview ratings via verbal deception cues revealed that deceptive IM had a significant negative and honest IM a significant positive indirect effect on interview ratings via plausibility. The indirect effects via verbal uncertainty were not significant (Table 2).

Additional Analyses

To ensure that effects are not due to a single subfacet of deceptive or honest IM, we reran analyses with each IM subfacet separately instead of the overall value. Most results also generalized across subfacets (Table 3). Different deceptive IM facets related negatively to plausibility (effect sizes ranging from $-.16$ for slight image creation to $-.25$ for extensive image creation). Plausibility, in turn, accounted for a significant negative indirect relationship between all deceptive IM facets and interviewer ratings. Different deceptive IM facets related positively to verbal uncertainty (effect sizes ranging from $-.20$ for deceptive ingratiation to $-.36$ for image protection). The positive direct effect of deceptive IM on interview ratings only held for deceptive ingratiation and image protection. For slight and extensive image creation, this effect pointed in the proposed direction but was not significant. The results for honest IM's subfacets were also similar to those reported in the overall analyses. Honest IM related positively to plausibility (effect sizes

1 To ensure that, compared to earlier research, possible findings are truly related to the type of deception cue studied and not to our measurement approach, the rater also coded nonverbal (eye contact, smiling, nodding, head movement, hand gesture; cf., Schneider et al., 2015) and CBCA cues (logical structure, descriptions of interactions, unstructured production, spontaneous corrections; cf., Roulin et al., 2018) with the same real-time coding. Like Schneider et al. (2015) and Roulin et al. (2018), we found no relationships between deceptive IM and these cues (Table S1 in the Supplementary Materials).

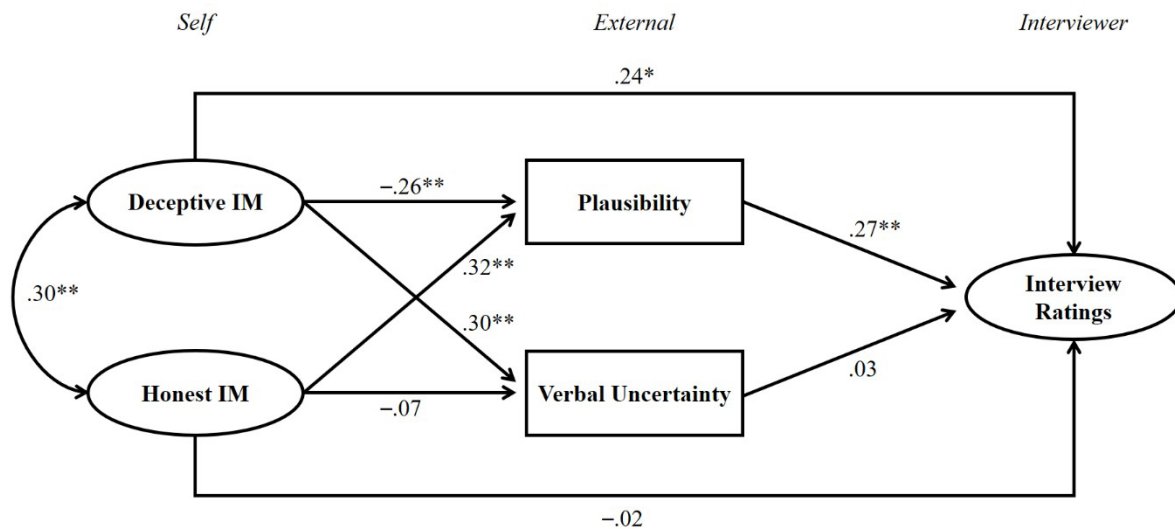
2 Rerunning analyses with gender and age as control variables yielded stable results regarding our hypotheses with neither gender ($\gamma = -.11$, $p = .223$, 95% CI $[-.26, .04]$) nor age ($\gamma = .16$, $p = .131$, 95% CI $[-.01, .34]$) maintaining their influence on interview ratings.

TABLE 1.
Descriptive Statistics and Correlations for Study Variables

Variable	<i>M (SD)</i>	1	2	3	4	5	6
1. Gender ^a	.44 (.50)	--					
2. Age	23.13 (3.15)	.03	--				
3. Deceptive IM	1.93 (.59)	-.04	-.18*	--			
4. Honest IM	2.71 (.61)	.00	.05	.25**	--		
5. Plausibility	5.65 (3.95)	-.02	.12	-.15*	.23**	--	
6. Verbal uncertainty	2.55 (2.52)	-.09	-.02	.25**	-.02	-.16*	--
7. Interview ratings	2.69 (.50)	-.15*	.16*	.17*	.15	.20**	.08

Note. $N = 182$ except for gender and age ($N = 179$). ^a0 = female and 1 = male. IM = impression management. The candidates rated their deceptive and honest IM. A rater coded plausibility and verbal uncertainty via video recordings of the interviews. The interviewers rated candidates' responses during the interview. * $p < .05$. ** $p < .01$.

FIGURE 1.
Conceptual Model of How Organizational Culture Affects Faking in Job Interviews



Note. $N = 182$. IM = impression management. Model fit indices: $\chi^2_{(37)} = 36.85$, $p = .476$, CFI = 1.00, RMSEA = .00, SRMR = .04. * $p < .05$. ** $p < .01$. The candidates rated their deceptive and honest IM. A rater coded plausibility and verbal uncertainty via video recordings of the interviews. The interviewers rated candidates' responses during the interview.

ranging from .18 for honest self-promotion to .29 for honest defensive IM). Plausibility, in turn, accounted for a significant positive indirect effect between all honest IM facets and interviewer ratings. Similar to honest IM overall, none of the subfacets were directly related to interview ratings.

DISCUSSION

Building on signaling theory, this study aimed to capture differences in deception cues between deceptive and honest IM in a structured interview and to study the effect of these cues on how interviewers rate candidates' responses.

As expected, deceptive IM showed in less plausible responses and more verbal uncertainties, whereas honest IM was related to more plausibility. Plausibility of responses further related positively to interviewers' ratings, resulting in a negative indirect effect of deceptive IM versus a positive indirect effect of honest IM on performance ratings. Thus, plausibility counteracted the direct positive effect of deceptive IM, although it could not negate this direct effect. Plausibility also enhanced the direct positive effect of honest IM on interview ratings. However, in contrast to deceptive IM, honest IM's total effect on interview ratings was not significant.

TABLE 2.

Direct, Indirect and Total Effects of Impression Management on Rated Interview Ratings

	Deceptive IM on interview ratings			Honest IM on interview ratings		
	<i>Estimate</i>	<i>SE</i>	95% CI	<i>Estimate</i>	<i>SE</i>	95% CI
Total effect	.18	.09	[.02, .31]	.06	.10	[-.11, .23]
Direct effect	.24	.10	[.07, .38]	-.02	.10	[-.19, .15]
	Indirect effects of deceptive IM on interview ratings			Indirect effects of honest IM on interview ratings		
	<i>Estimate</i>	<i>SE</i>	95% CI	<i>Estimate</i>	<i>SE</i>	95% CI
Via plausibility	-.07	.03	[-.13, -.02]	.09	.04	[.03, .15]
Via verbal uncertainty	.01	.02	[-.03, .05]	.00	.01	[-.02, .01]

Note. $N = 182$. IM = impression management. Estimate is standardized coefficient. SE = standard error. CI = confidence interval.

In the words of signaling theory, both deceptive and honest IM implied that candidates intentionally sent positive signals to interviewers about their suitability, even though only deceptive and not honest IM seems to have directly influenced interviewers. Yet, with deceptive IM, unintended signals indirectly counteract some of the desired effect. Unlike honest IM, deceptive IM decreased the plausibility of responses, a hard-to-fake signal of candidates' credibility. Crafting a coherent, plausible story directly while talking is challenging if the story is untrue (cf., Bangerter et al., 2012; Cronk, 2005). Although not necessarily consciously, interviewers may interpret low plausibility as a negative signal and reduce their interview ratings.

Verbal uncertainties, in contrast, did not exert such signaling effects. Interviewers either did not notice such uncertainties or chose not to take them into account, possibly attributing them to candidates' nervousness or anxiety (Campion & Campion, 1987; cf., Vrij et al., 2010) or finding no way to integrate them into a standardized scoring guide. Therefore, the indirect path via verbal uncertainties did not counteract the direct positive effect of deceptive IM.

With these findings, the study contributes to explaining the mixed effects of deceptive IM. First, by applying signaling theory, we showed how faking serves to send the positively intended signal of candidates' suitability but may come at the cost of unintended negative signals in the form of deception cues. Most importantly, deceptive IM (and its subfacets) triggered certain verbal deception cues—lower plausibility and more verbal uncertainty—similar to the speech pattern found in lies (DePaulo et al., 2003). In comparison, honest IM (and its subfacets) enhanced plausibility. With this, deception cues reflected the responses' honesty, not the use of IM behavior per se. By showing how verbal cues from lie detection generalize to IM in employment interviews, we make lies in personnel selection more quantifiable and demonstrate how verbal cues can help distinguish deceptive from honest IM. Furthermore, results showed how unintended negative signals counteracted the positive direct effect of deceptive IM on performance, ensuring that

deceptive IM forfeits some of its effectiveness due to the indirect path via plausibility.

Second, this study adds to the literature on signaling theory by including both sides of the signaling timeline (cf., Connelly et al., 2011): senders (candidates) and receivers (interviewers). Most prior research has only addressed either one or the other perspective. Conceptually, we further studied a model combining both the intentional positive signal that signalers want to send and the cause, shape, and consequences of unintentional negative signals that may accompany them—a conceptualized but underresearched topic in signaling theory (Connelly et al., 2011).

Finally, this study complements the literature on structured interviews. We showed that interviewers took plausibility into account but neglected verbal uncertainties. Despite interview standardization, plausibility influenced interviewers' ratings of candidates' responses beyond the official interview-scoring guide.

In practice, prospective candidates need to know that faking shows in small verbal cues, visible in altered speech patterns (e.g., lowered plausibility), on which interviewers pick up. Therefore, in preparation for job interviews, candidates are better off by truthfully assessing their strengths and presenting them in the job interview, using honest IM.

Limitations and Directions for Future Research

Data came from a selection simulation. Though a simulation, such context reflects a well-established paradigm in personnel selection research, with findings usually generalizable to actual selection situations (Kleinmann et al., 2011). This context also allows reliable reports of sensitive data like candidates' deceptive and honest IM, which might not be directly measurable in field research.

Further, we used a fully structured interview combining behavioral and situational questions. Although likely informative for structured interviews overall, we cannot tell how the process may differ between behavioral and situational questions, nor can we judge our findings' generalizability to less structured interviews. A comparison across

TABLE 3. Structural Equation Modeling Results, Overall and Split by Deceptive Versus Honest IM's Subfacets

Deceptive IM																							
Fit		Pathweights						Direct and Indirect Effects															
		Variable → Verbal deception cues		Verbal deception cues → Interv. ratings		Variable → Interv. ratings		Via plausibility		Via verbal uncertainty		Indirect effects											
Variable	df	χ ²	CFI	RMSEA	SRMR	Honest IM	Plausibility	Verbal uncertainty	β	p _β	γ	p _γ	Est.	SE	95% CI								
Slight image creation	47	54.15	.99	.03	.05	.20	.044	-.16	.034	.25	.001	.24	.007	.06	.480	.14	.162	-.04	.02	[-.08, -.01]	.01	.02	[-.02, .05]
Extensive image creation	58	85.46	.97	.05	.04	.10	.280	-.25	<.001	.22	.004	.25	.005	.06	.432	.14	.159	-.06	.03	[-.12, -.02]	.01	.02	[-.02, .04]
Deceptive ingratiation	47	52.69	.99	.03	.04	.27	.006	-.23	.008	.20	.016	.27	.003	.05	.487	.22	.022	-.06	.03	[-.12, -.02]	.01	.02	[-.02, .04]
Image protection	47	53.39	.99	.03	.04	.46	<.001	-.18	.070	.36	<.001	.25	.004	.01	.935	.30	.005	-.05	.03	[-.10, -.00]	.00	.03	[-.05, .05]
Deceptive IM (overall)	37	36.85	1.00	.00	.04	.30	<.001	-.26	.001	.30	<.001	.27	.002	.03	.691	.24	.013	-.07	.03	[-.13, -.02]	.01	.02	[-.03, .05]

Honest IM																							
Fit		Pathweights						Direct and Indirect Effects															
		Variable → Verbal deception cues		Verbal deception cues → Interv. ratings		Variable → Interv. ratings		Via plausibility		Via verbal uncertainty		Indirect effects											
Variable	df	χ ²	CFI	RMSEA	SRMR	Honest IM	Plausibility	Verbal uncertainty	β	p _β	γ	p _γ	Est.	SE	95% CI								
Honest self-promotion	47	83.48	.96	.07	.06	.13	.087	.18	.033	.00	.962	.25	.003	.03	.694	.06	.564	.05	.03	[.01, .09]	.00	.01	[-.01, .01]
Honest ingratiation	37	32.45	1.00	.00	.04	.45	<.001	.19	.056	-.06	.469	.29	.001	.03	.724	-.15	.177	.06	.04	[.01, .12]	.00	.01	[-.02, .01]
Honest defensive IM	37	42.64	.99	.03	.04	.10	.323	.29	.005	-.10	.290	.22	.015	.04	.605	.14	.249	.07	.04	[.01, .13]	.00	.01	[-.03, .01]
Honest IM (overall)	37	36.85	1.00	.00	.04	.30	<.001	-.07	.345	.27	.002	.03	.002	.03	.691	-.02	.829	.09	.04	[.03, .15]	.00	.01	[-.02, .01]

Note. All estimates are standardized coefficients. IM = impression management. Interv. = interview. Est. = estimate. SE = standard error. CI = confidence interval.

interview formats may test our findings' generalizability. Previous research suggests structured question formats elicit differences in IM (e.g., Peeters & Lievens, 2006) but none in verbal deception cues (cf., Culbertson et al., 2016). A comparison may also address why interviewers were responsive to the signal "plausibility" but not to "verbal uncertainties." If the latter is due to the structured interviews' purely task-focused scoring guide, that implies one possible downside to this structured approach. Alternatively, if it is due to interviewers interpreting verbal uncertainties as a sign of nervousness or anxiety (McCarthy & Goffin, 2004), this finding should also extend to less structured interviews. That said, interview anxiety actually predicts deceptive IM (Powell et al., 2020). Future research may try to differentiate how much verbal uncertainty in regular interviews reflect interview anxiety versus deception and how far leniency toward verbal uncertainties may thus be justified or misplaced.

It might also be interesting to see how consciously interviewers react to such unintended negative signals. Also, one might study how extending official scoring guides and/or training interviewers to read lower plausibility and higher verbal uncertainties as signs of faking impact their ability to catch fakers and predict candidates' later job performance. Alternatively, such steps may also incur other biases to the interview (e.g., by discriminating against certain societal groups).

With our study design, we cannot conclude as to where in the process verbal uncertainties work or do not as an unintended signal because we coded verbal deception cues and interview ratings independently from each other. This prevents common method bias but does not allow us to draw direct conclusions of how aware interviewers were of candidates' verbal uncertainties.

In the end, we also do not know why honest IM showed no direct positive effect on interview ratings. Besides error, it may be that among our sample of undergraduate and master's level students, the achievements and experiences available to participants to self-promote were simply not impressive enough to move interviewers toward higher ratings. If so, then the effects of honest IM may actually grow more powerful among more experienced candidates than would be suggested by the current results.

Future research might also study whether deception cues show specific temporal patterns across a single response or across the interview overall. Lying may come increasingly fatiguing as the interview continues, possibly strengthening the relationships between IM and deception cues.

Finally, future research may address moderators that enhance or mitigate deceptive IM's effects on deception cues. Traits like psychopathy are strongly related to deceptive IM (Roulin & Bourdage, 2017). Also, psychopaths are masters at manipulating others (e.g., Smith & Lilienfeld,

2013), which may be reflected in the assumption that they do not show the typical cues that liars show.

Conclusion

This study asked the question of how interviewers could "set liars' pants on fire." Verbal deception cues of plausibility and verbal uncertainties subtly differed between deceptive and honest IM. Particularly, plausibility signaled to interviewers whether candidates seemed credible. In sum, by paying attention to verbal deception cues, interviewers may reward candidates' honest self-presentation and protect themselves from falling prey to candidates' lies.

REFERENCES

- Amado, B. G., Arce, R., Farina, F., & Vilarino, M. (2016). Criteria-based content analysis (CBCA) reality criteria in adults: A meta-analytic review. *International Journal of Clinical and Health Psychology, 16*, 201-210. <https://dx.doi.org/10.1016/j.ijchp.2016.01.002>
- Bangerter, A., Roulin, N., & König, C. J. (2012). Personnel selection as a signaling game. *Journal of Applied Psychology, 97*, 719-738. <https://dx.doi.org/10.1037/a0026078>
- Bird, R. B., & Smith, E. A. (2005). Signaling theory, strategic interaction, and symbolic capital. *Current anthropology, 46*(2), 221-248.
- Birkeland, S. A., Manson, T. M., Kisamore, J. L., Brannick, M. T., & Smith, M. A. (2006). A meta-analytic investigation of job applicant faking on personality measures. *International Journal of Selection and Assessment, 14*, 317-335. <http://dx.doi.org/10.1111/j.1468-2389.2006.00354.x>
- Bolino, M. C., Kacmar, K. M., Turnley, W. H., & Gilstrap, J. B. (2008). A multi-level review of impression management motives and behaviors. *Journal of Management, 34*, 1080-1109. <https://dx.doi.org/10.1177/0149206308324325>
- Bourdage, J. S., Roulin, N., & Tarraf, R. (2018). "I (might be) just that good": Honest and deceptive impression management in employment interviews. *Personnel Psychology, 71*, 597-632. <https://dx.doi.org/10.1111/peps.12285>
- Buehl, A. K., & Melchers, K. G. (2017). Individual difference variables and the occurrence and effectiveness of faking behavior in interviews. *Frontiers in Psychology, 8*, 686. <https://dx.doi.org/10.3389/fpsyg.2017.00686>
- Campion, M. A., & Campion, J. E. (1987). Evaluation of an interviewee skills training program in a natural field experiment. *Personnel Psychology, 40*, 675-691. <https://dx.doi.org/10.1111/j.1744-6570.1987.tb00619.x>
- Campion, M. A., Palmer, D. K., & Campion, J. E. (1997). A review of structure in the employment interview. *Personnel Psychology, 50*, 655-702. <https://dx.doi.org/10.1111/j.1744-6570.1997.tb00709.x>
- Connell, L., & Keane, M. T. (2006). A model of plausibility. *Cognitive Science, 30*, 95-120. http://dx.doi.org/10.1207/s15516709cog0000_53
- Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management, 37*, 39-67 <https://dx.doi.org/10.1177/0149206310383243>

- org/10.1177/0149206310388419
- Cronk, L. (2005). The application of animal signaling theory to human phenomena: Some thoughts and clarifications. *Social Science Information*, 44, 603-620. <https://dx.doi.org/10.1177/0539018405058203>
- Culbertson, S. S., Weyhrauch, W. S., & Waples, C. J. (2016). Behavioral cues as indicators of deception in structured employment interviews. *International Journal of Selection and Assessment*, 24, 119-131. <https://doi.org/10.1111/ijsa.12135>
- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, 129, 74-118. <https://dx.doi.org/10.1037/0033-2909.129.1.74>
- Dondolo, V., & Chinyamurindi, W. T. (2018). Impression management within the recruitment interview: Narratives of employees at a South African higher education institution. *SA Journal of Industrial Psychology*, 44, 1-7. <https://dx.doi.org/10.1080/15228932.2012.629592>
- Dunham, B. (2011). The role for signaling theory and receiver psychology in marketing. In G. Saad (Ed.), *Evolutionary psychology in the business sciences* (pp. 225-256). Springer Verlag. http://dx.doi.org/10.1007/978-3-540-92784-6_9
- Durcikova, A., & Gray, P. (2009). How knowledge validation processes affect knowledge contribution. *Journal of Management Information Systems*, 25, 81-107. <https://dx.doi.org/10.2753/MIS0742-1222250403>
- Dürr, D., & Klehe, U.-C. (2018). Using the theory of planned behavior to predict faking in selection exercises varying in fidelity. *Journal of Personnel Psychology*, 17, 155-160. <https://doi.org/10.1027/1866-5888/a000211>
- Hebbani, A., & Frey, L. R. (2007). The intercultural hiring interview: Applying uncertainty reduction theory to the study of nonverbal behavior between US interviewers and Indian applicants. *Intercultural Communication Studies*, 16, 36-52.
- Huffcutt, A. I., Conway, J. M., Roth, P. L., & Stone, N. J. (2001). Identification and meta-analytic assessment of psychological constructs measured in employment interviews. *Journal of Applied Psychology*, 86, 897-913. <https://dx.doi.org/10.1037/0021-9010.86.5.897>
- Ingold, P. V., Kleinmann, M., König, C. J., & Melchers, K. G. (2015). Shall we continue or stop disapproving of self-presentation? Evidence on impression management and faking in a selection context and their relation to job performance. *European Journal of Work and Organizational Psychology*, 24, 420-432. <https://doi.org/10.1080/1359432X.2014.915215>
- Ingold, P. V., Kleinmann, M., König, C. J., & Melchers, K. G. (2016). Transparency of assessment centers: Lower criterion-related validity but greater opportunity to perform? *Personnel Psychology*, 69, 467-497. <https://doi.org/10.1111/peps.12105>
- Janz, T. (1982). Initial comparisons of patterned behavior description interviews versus unstructured interviews. *Journal of Applied Psychology*, 67, 577-582. <https://dx.doi.org/10.1037/0021-9010.67.5.577>
- Kleinmann, M., & Ingold, P. V. (2019). Toward a better understanding of assessment centers: A conceptual review. *Annual Review of Organizational Psychology and Organizational Behavior*, 6, 349-372. <https://doi.org/10.1146/annurev-orgpsych-012218-014955>
- Kleinmann, M., Ingold, P. V., Lievens, F., Jansen, A., Melchers, K. G., & König, C. J. (2011). A different look at why selection procedures work: The role of candidates' ability to identify criteria. *Organizational Psychology Review*, 1, 128-146. <https://dx.doi.org/10.1177/2041386610387000>
- Kleinmann, M., & Klehe, U. C. (2010). Selling oneself: Construct and criterion-related validity of impression management in structured interviews. *Human Performance*, 24, 29-46. <https://dx.doi.org/10.1080/08959285.2010.530634>
- Kolk, N. J., Born, M. P., & van der Flier, H. (2004). A triadic approach to the construct validity of the assessment center. *European Journal of Psychological Assessment*, 20, 149-156. <https://doi.org/10.1027/1015-5759.20.3.149>
- Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine*, 15, 155-163. <https://dx.doi.org/10.1016/j.jcm.2016.02.012>
- Kraut, R. E. (1978). Verbal and nonverbal cues in the perception of lying. *Journal of Personality and Social Psychology*, 36, 380. <https://doi.org/10.1037/0022-3514.36.4.380>
- Kristof-Brown, A., Barrick, M. R., & Franke, M. (2002). Applicant impression management: Dispositional influences and consequences for recruiter perceptions of fit and similarity. *Journal of Management*, 28, 27-46. <https://dx.doi.org/10.1177/014920630202800103>
- Latham, G. P., Saari, L. M., Pursell, E. D., & Campion, M. A. (1980). The situational interview. *Journal of Applied Psychology*, 65, 422-427. <https://dx.doi.org/10.1037/0021-9010.65.4.422>
- Levashina, J., & Campion, M. A. (2006). A model of faking likelihood in the employment interview. *International Journal of Selection and Assessment*, 14, 299-316. <https://dx.doi.org/10.1111/j.1468-2389.2006.00353.x>
- Levashina, J., & Campion, M. A. (2007). Measuring faking in the employment interview: development and validation of an interview faking behavior scale. *Journal of Applied Psychology*, 92, 1638-1656. <https://dx.doi.org/10.1037/0021-9010.92.6.1638>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9, 151-173. https://doi.org/10.1207/S15328007SEM0902_1
- Mavlanova, T., Benbunan-Fich, R., & Koufaris, M. (2012). Signaling theory and information asymmetry in online commerce. *Information & Management*, 49, 240-247. <https://dx.doi.org/10.1016/j.im.2012.05.004>
- McCarthy, J., & Goffin, R. (2004). Measuring job interview anxiety: Beyond weak knees and sweaty palms. *Personnel Psychology*, 57, 607-637. <http://dx.doi.org/10.1111/j.1744-6570.2004.00002.x>
- Melchers, K. G., Roulin, N., & Buehl, A. K. (2020). A review of applicant faking in employment interviews. *International Journal of Selection and Assessment*, 28, 123-142. <https://dx.doi.org/10.1111/ijsa.12280>
- Muthén, L. K., & Muthén, B. O. (1998-2018). Mplus [Computer Software]. Los Angeles, CA: Muthén & Muthén.
- Peeters, H., & Lievens, F. (2006). Verbal and nonverbal impression management tactics in behavior description and situational interviews. *International Journal of Selection and Assessment*, 14, 206-222. <https://dx.doi.org/10.1111/j.1468-2389.2006.00348.x>

- Powell, D. M., Bourdage, J. S., & Bonaccio, S. (2020). Shake and fake: The role of interview anxiety in deceptive impression management. *Journal of Business and Psychology*, 1-12. <http://dx.doi.org/10.1007/s10869-020-09708-1>
- Robie, C., Christiansen, N. D., Bourdage, J. S., Powell, D. M., & Roulin, N. (2020). Nonlinearity in the relationship between impression management tactics and interview performance. *International Journal of Selection and Assessment*, 28, 522-530. <https://doi.org/10.1111/ijsa.12307>
- Roulin, N., Bangerter, A., & Levashina, J. (2014). Interviewers' perceptions of impression management in employment interviews. *Journal of Managerial Psychology*, 29, 141-163. <https://dx.doi.org/10.1108/JMP-10-2012-0295>
- Roulin, N., & Bourdage, J. S. (2017). Once an impression manager, always an impression manager? Antecedents of honest and deceptive impression management use and variability across multiple job interviews. *Frontiers in Psychology*, 8, 29. <https://dx.doi.org/10.3389/fpsyg.2017.00029>
- Roulin, N., Krings, F., & Binggeli, S. (2016). A dynamic model of applicant faking. *Organizational Psychology Review*, 6, 145-170. <https://dx.doi.org/10.1177/2041386615580875>
- Roulin, N., & Powell, D. M. (2018). Identifying applicant faking in job interviews. *Journal of Personnel Psychology*, 17, 143-154. <https://dx.doi.org/10.1027/1866-5888/a000207>
- Schneider, L., Powell, D. M., & Roulin, N. (2015). Cues to deception in the employment interview. *International Journal of Selection and Assessment*, 23, 182-190. <https://dx.doi.org/10.1111/ijsa.12106>
- Smith, S. F., & Lilienfeld, S. O. (2013). Psychopathy in the workplace: The knowns and unknowns. *Aggression and Violent Behavior*, 18, 204-218. <https://dx.doi.org/10.1016/j.avb.2012.11.007>
- Swider, B. W., Barrick, M. R., Harris, T. B., & Stoverink, A. C. (2011). Managing and creating an image in the interview: The role of interviewee initial impressions. *Journal of Applied Psychology*, 96, 1275-1288. <https://doi.org/10.1037/a0024005>
- Vrij, A., Deeb, H., Leal, S., Granhag, P. A., & Fisher, R. P. (in press). Plausibility: A verbal cue to veracity worth examining? *European Journal of Psychology Applied to Legal Context*. <https://doi.org/10.5093/ejpalc2021a4>
- Vrij, A., Hartwig, M., & Granhag, P. A. (2019). Reading lies: Non-verbal communication and deception. *Annual Review of Psychology*, 70, 295-317. <https://dx.doi.org/10.1146/annurev-psych-010418-103135>
- Vrij, A., & Heaven, S. (1999). Vocal and verbal indicators of deception as a function of lie complexity. *Psychology, Crime and Law*, 5, 203-215. <https://dx.doi.org/10.1080/10683169908401767>
- Vrij, A., Leal, S., Deeb, H., Chan, S., Khader, M., Chai, W., & Chin, J. (2020). Lying about flying: The efficacy of the information protocol and model statement for detecting deceit. *Applied Cognitive Psychology*, 34, 241-255. <https://dx.doi.org/10.1002/acp.3614>
- Vrij, A., Mann, S., Leal, S., & Granhag, P. A. (2010). Getting into the minds of pairs of liars and truth tellers: An examination of their strategies. *Open Criminology Journal*, 3, 317-22. <https://dx.doi.org/10.2174/18749178010030200017>
- Wilhelmy, A., Kleinmann, M., Melchers, K. G., & Lievens, F. (2019). What do consistency and personableness in the interview signal to applicants? Investigating indirect effects on organizational attractiveness through symbolic organizational attributes. *Journal of Business and Psychology*, 34, 671-684. <https://doi.org/10.1007/s10869-018-9600-7>

RECEIVED 02/09/21 ACCEPTED 03/24/21