Investigating Deceptive Impression Management in Behavioural Description Interviews through a Cognitive Load Perspective

Abstract

Interviewees' use of deceptive impression management (IM) poses problems for organizations, but efforts to penalize deceptive IM have been largely unsuccessful. Drawing upon interdisciplinary research on deception, we investigated deceptive IM in behavioural description interviews using cognitive load theory. Specifically, we tested the effectiveness of cognitive load interventions (i.e., reverse-recall and secondary task) using interview outcomes rated by interviewers or evaluators. In Study 1, undergraduate participants (N = 238) underwent a mock videoconference interview testing two cognitive load interventions (i.e., reverse-recall and secondary task), and participants were also instructed to use deceptive IM or to be honest. In Study 2, participants from an online panel (N = 203) underwent an asynchronous video interview that tested three variants of the reverse-recall cognitive load intervention, and participants could freely use deceptive IM. Overall, deceptive IM was positively associated with perceived cognitive load (with causal evidence in Study 1). However, cognitive load interventions had limited effectiveness in making deceptive IM more visible. Specifically, the reverse-recall intervention influenced CBCA scores when applied to either the first half of the interview or every other interview question in Study 2. Additionally, cognitive load interventions did not decrease deceptive IM use in Study 2. In conclusion, the present evidence suggests that cognitive load interventions show limited promise for addressing deceptive IM in interviews.

Keywords: Deceptive impression management, faking, behavioural description interview, cognitive load theory, cognitive load interventions

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Job interviews are one of the most widely used methods to hire employees in organizations (Kantrowitz et al., 2018; Levashina et al., 2014). In particular, organizations commonly use the behavioural description interview (i.e., interviews where applicants are asked about their behaviours in past situations) as they have higher predictive validity than unstructured interviews (Huffcutt et al., 2004). To attempt to maximize the chances of getting hired in these interviews, interviewees often use deceptive impression management (IM), which refers to behaviours aimed at conveying impressions that are not reflective of their true selves, also known as *interview faking* (Levashina & Campion, 2007; Powell et al., 2021).[1]

Although most interviewees report using deceptive IM to some extent (Melchers et al., 2020), deceptive IM use poses several problems for organizations. Specifically, deceptive IM may increase the chances of unqualified interviewees getting hired (Melchers et al., 2020). This is problematic because unqualified interviewees tend to possess traits that are undesirable for employee behaviour and performance, such as low honesty-humility and low conscientiousness (Roulin & Bourdage, 2017). Deceptive IM also has implications for equity, diversity, and inclusion because male interviewees tend to use more deceptive IM than female interviewees (Levashina & Campion, 2007), which may disadvantage female interviewees and introduce legal problems for organizations (Hogue et al., 2013). Therefore, it is important for interviewers to effectively detect or deter deceptive IM among interviewees, so that it goes unrewarded.

Unfortunately, past efforts to improve the detection accuracy rates of deceptive IM in job

[1] We henceforth use the term *deceptive IM* throughout the manuscript to make a distinction between deceptive IM in job interviews (Bourdage et al., 2018) and applicant faking in pre-employment personality tests (Tett & Simonet, 2011).

interviews have largely been unsuccessful (Melchers et al., 2020; Roulin et al., 2015). For instance, some studies aimed to improve the detection accuracy rates by changing aspects of the interview design (e.g., structured vs. unstructured interviews, in-person vs. videoconference interviews; Ferran & Storck, 1997; Roulin et al., 2015), but these design changes were not effective (Melchers et al., 2020). Other research investigating interviewer or evaluator characteristics indicated that neither interviewing experience (Reinhard et al., 2013; Roulin et al., 2015) nor trait differences (e.g., emotional intelligence; Roulin & Ternes, 2019) predicted detection accuracy rates. Overall, these findings align with those in the broader deception detection research, which generally suggest that interviewers and evaluators have great difficulty detecting deceptive IM (Melchers et al., 2020).

At the same time, cognitive load interventions have been proposed as a way to better detect or deter deception and related behaviours such as applicant faking (Rasheed & Robie, 2024) across multiple contexts. These include pre-employment personality tests (Rasheed & Robie, 2024; Komar et al., 2010), forensic interviews (Vrij et al., 2008, 2012), and the broader cognitive psychology literature (e.g., van't Veer et al., 2014). Given that deception is cognitively demanding (Tett & Simonet, 2011; Walczyk et al., 2013), these interventions aim to limit individuals' working memory, and in turn aim to make the use of deception more difficult and less successful (Vrij et al., 2008, 2017; Komar et al., 2010). While some studies have indicated that cognitive load interventions help better detect deception (e.g., Vrij et al., 2012) and lower its prevalence (e.g., Rasheed & Robie, 2024), other studies including meta-analyses suggest that their effects are small or negligible on average, and vary considerably across contexts (Vrij et al., 2017; Mac Giolla & Luke, 2021; Maricutoiu & Sarbescu, 2019; Röhner & Holden, 2022). Indeed, many researchers have noted that much more research needs to be done before implementing cognitive load interventions into real-world settings (Brennen & Magnussen, 2023; Brimbal et al., 2023), including organizational contexts (Komar et al., 2010).

Even though the efficacy of cognitive load interventions is mixed or modest in other contexts, investigating these interventions in job interviews will provide important insight about their utility. This is because there are substantial challenges generalizing prior research on cognitive load interventions into job interview contexts, as there are conceptual differences between deceptive IM use and deception or faking in other contexts. First, the literature on forensic interviews and cognitive psychology primarily investigate *deception*, which is an isolated act of faking with any purpose (Jehn & Scott, 2008). On the other hand, deceptive IM consists of a series of acts and behaviours with the specific goal of managing self-impressions toward others (Carlson et al., 2011), and the extent of fabrication and distortion can sometimes be more subtle (Roulin et al., 2014). In particular, it is more common for applicants to *exaggerate* their prior accomplishments and skills than to completely fabricate them (Levashina & Campion, 2007; Melchers et al., 2020).

Second, *faking* in pre-employment personality tests is considerably simpler and quicker than deceptive IM in job interviews. While both of these behaviours can be subtle and used to manage self-impressions toward others, faking in pre-employment personality tests is expressed through closed multiple choice responses (Tett & Simonet, 2011). In contrast, applicants in job interviews use deceptive IM through longer open-ended responses using verbal communication and body gestures (Levashina & Campion, 2007; Melchers et al., 2020). In closing, cognitive load interventions may (1) help researchers better understand the cognitive foundations of deceptive IM, and (2) potentially help organizations and interviewers better detect deceptive IM in job interviews.

We conducted two studies with different interview modalities to (1) explore deceptive IM in behavioural description interviews using cognitive load theory and (2) to assess the utility of cognitive load interventions for reducing and better detecting deceptive IM. In Study 1, we tested two commonly used cognitive load interventions (i.e., reverse-recall and secondary task; van't Veer et al., 2014; Vrij et al., 2008) in the context of videoconference interviews. We also manipulated the use of deceptive IM to causally determine if deceptive IM increases perceived cognitive load. In Study 2, we aimed to replicate findings in a more externally valid interview setting by letting interviewees use deceptive IM more naturally in an asynchronous video interview. We also tested multiple variants of the reverse-recall intervention to determine whether cognitive load interventions can be effective when implemented in only certain parts of the interview (vs. throughout the interview in Study 1).

Collectively, these two studies contribute to the interview IM and deception literatures in important ways by consolidating a wide range of interdisciplinary work. Specifically, we explore deceptive IM in job interviews from a cognitive perspective, thereby advancing our understanding of the cognitive theoretical bases of deceptive IM. This is an important contribution because past research in job interviews has primarily focused on dispositional traits and situational antecedents instead (Levashina & Campion, 2006; Melchers et al., 2020). We then introduce cognitive load interventions and how they may help resolve a major practical problem for organizations: detecting and deterring deceptive IM.

A Cognitive Perspective on Deceptive IM using Cognitive Load Theory

The notion that deceptive IM is influenced by interviewee cognition has been implied but rarely investigated or integrated into our theoretical understanding. For instance, Levashina and Campion's (2006) model of deceptive IM proposed that cognitive ability (as an individual difference) may increase interviewees' capacity to use this behaviour. Additionally, prior selection research more generally has proposed that faking should be cognitively demanding (Levashina et al., 2009; Van Iddekinge et al., 2007).

However, the limited empirical evidence to date shows that interviewees lower in cognitive ability use *more* deceptive IM to compensate for their lesser skills and qualifications (Buehl & Melchers, 2017; Moon et al., 2024). Conversely, cognitive ability does not appear to be significantly related to deceptive IM *effectiveness* (Buehl et al., 2019). While informative, these studies did not integrate cognitive theories on deception or empirically test whether deceptive IM is indeed cognitively demanding. This limits our understanding as to whether deceptive IM is influenced by interviewee cognitive processes, and not just individual differences in general cognitive ability (Moon et al., 2024). Below, we incorporate cognitive load theory to address these theoretical and empirical gaps.

Cognitive load theory suggests that individuals have a limited working memory that interacts with an unlimited long-term memory, which has implications for performance across various tasks (Paas et al., 2003). Cognitive load represents the mental load that a task imposes on an individual's working memory (Sweller, 2011). As individuals experience greater cognitive load, their capacity to successfully perform on a task diminishes (Paas et al., 2003). For instance, individuals generally have difficulty holding more than four items simultaneously in their working memory (Cowan, 2010).

Numerous cognitive theories on deception and related behaviours (e.g., faking), such as the preoccupational model (Lane & Wegner, 1995), interpersonal deception theory (Buller & Burgoon, 1996), activation-decision-construction-action theory (Walczyk et al., 2014), and the multisaturation perspective on faking (Tett & Simonet, 2011) have suggested that deception is a cognitively demanding task because it imposes cognitive load onto individuals' working memory. While these theories differ in explaining why deception is cognitively demanding, they also share many similarities. Notably, individuals using deception engage in multiple deliberate and conscious processes at the same time, such as distorting truthful information in their working memory, ensuring that they present the distorted information in a believable manner, monitoring the responses of the target, and suppressing negative emotions and thoughts associated with using deception. Additionally, they regularly switch their attention between these tasks, which further imposes cognitive load. Empirical studies outside of organizational settings have consistently supported this notion (i.e., deception is cognitively demanding) using various physiological and behavioural outcomes (e.g., Langleben et al., 2002; Suchotzki et al., 2017; Vrij et al., 2008, 2012). Extending these theories to job interviews, deceptive IM will also likely be cognitively demanding because interviewees need to use these same cognitive processes to create and convey distorted information. Therefore, we predict that deceptive IM use will be associated with higher perceived cognitive load than responding honestly.

Hypothesis 1: Interviewees who are instructed to use (Study 1) or use more deceptive IM (Study 2) will experience significantly higher perceived cognitive load, compared to interviewees who are instructed to be honest (Study 1) or use less deceptive IM (Study 2).

Effects of Cognitive Load Interventions on Interview Outcomes

As was discussed above, research in forensic interviews, pre-employment personality tests, and the broader cognitive psychology literature have attempted to make the use of deception more difficult and less successful through cognitive load interventions. Specifically, these literatures proposed that altering contextual characteristics (e.g., features of the interview) can increase interviewees' cognitive load (van't Veer et al., 2014; Vrij et al., 2010, 2012;

Rasheed & Robie, 2024). However, while different types of cognitive load interventions can be effective for increasing deception detection (Vrij et al., 2010, 2017), not all interventions may be practical to implement to make deceptive IM more visible in job interviews.[2]

Accounting for concerns regarding practicality and feasibility, we examine two types of cognitive load interventions in the current study. First, the *reverse recall* intervention asks interviewees to respond to narrative questions in reverse chronological order (Vrij et al., 2008). For instance, a typical past behavioural interview question asks interviewees to present a situation, then discuss the task, action, and lastly the result. The reverse-recall intervention switches the order so that after describing the situation, interviewees are asked to first report the result, followed by the action and then the task. We predict that the reverse-recall intervention will impose cognitive load because individuals are generally unaccustomed to narrating events in reverse chronological order, which may require more deliberate cognitive processing (Kahana, 1996). Experiencing higher cognitive load increases the number of inconsistencies in the responses (Blandòn-Gitlin et al., 2014), and we believe this will particularly be the case for interviewees using deceptive IM.

Additionally, we tested the *secondary task* intervention, where interviewees need to memorize a set of items before the interview question is asked, and they are subsequently asked to recall these items (i.e., hold secondary information). While prior studies asked participants to recall a series of numbers or letters (Rasheed & Robie, 2024; van't Veer et al., 2014), we asked

[2] For instance, interventions that limit response times, such as the Time-Restricted Integrity Confirmation approach for closed-ended yes/no responses (Walczyk et al., 2005, 2009) and the speeding approach in pre-employment personality tests (Komar et al., 2010) may be less suitable in job interviews, where interviewees need to take some time to recall past work experiences when answering primarily open-ended questions. Other interventions such as asking interviewees to grip an object while answering questions (Debey et al., 2012) or forced turn-taking among multiple interviewees (Vernham et al., 2014) are impractical to implement in job interviews, where the use of props or multiple interviewees is rare and against conventional interview norms.

participants to recall a series of job-relevant items, similar to a case where an applicant knew they had to complete a job knowledge test or other assessment post-interview. Overall, the secondary task intervention should impose cognitive load for at least two reasons. First, it will deplete cognitive resources dedicated to generating and holding information in individuals' working memory stores (Maldonado et al., 2018; van't Veer et al., 2014). Second, it will require interviewees to switch their attention more frequently and limit the amount of information they can store in their working memory (van't Veer et al., 2014; Walczyk et al., 2003).

Interview Performance

Exploring the effects of cognitive load interventions on interview performance is vital for determining their utility to penalize interviewees' use of deceptive IM, since performance ratings are instrumental in hiring decisions. Overall, we predict that deceptive IM use will moderate the relationship between cognitive load interventions and interview performance. Among interviewees instructed to use (Study 1) or naturally using more deceptive IM (study 2), cognitive load interventions will penalize (i.e., lower) interview performance. Cognitive load interventions will make it more difficult to successfully use deceptive IM (but not honest behaviours) without getting caught (Jansen et al., 2012). Specifically, conveying deceptive information and regulating one's non-verbal behaviours that may signal the use of deceptive IM (e.g., appearing more nervous; Sporer, 2016) are taxing on the working memory (Walczyk et al., 2014). However, among interviewees instructed to be honest (Study 1) or using less deceptive IM (Study 2), we predict that cognitive load interventions will not affect interview performance. This is because responses from honest interviewees should primarily come from their long-term memory, as they will only need to recall truthful events, which does not use working memory processes related to deceptive IM.

Hypothesis 2: Deceptive IM use will moderate the relationship between cognitive load interventions and interview performance. Among interviewees instructed to use (Study 1) or using more deceptive IM (Study 2), cognitive load interventions will lower interview performance (vs. interviews without interventions). Among interviewees instructed to be honest (Study 1) or using less deceptive IM (Study 2), cognitive load interventions will have no effect on interview performance.

Response Characteristics Associated with Deception

Interviewers vary considerably in the response characteristics they look for when evaluating interviewees' responses (Roulin & Ternes, 2019). They also experience difficulty searching for response characteristics consistently because conducting an interview can be cognitively demanding in itself (e.g., switching between multiple tasks, monitoring several aspects of the interviewee; Roulin, 2016). Therefore, we explore how cognitive load interventions affect specific verbal cues within interviewee responses by coding interview transcripts, to determine if cognitive load interventions make deception-related cues more visible. If so, interviewers could rely on these cues to improve their deceptive IM detection accuracy.

We explore deception-related cues first through criterion-based content-analysis (CBCA). CBCA is a coding scheme rooted in the forensic psychology literature and is built on the principle that statements from actual experienced events differ in their content compared to fictional statements due to cognitive (e.g., more detailed responses are more difficult to fabricate) and motivational factors (e.g., deceptive interviewees are more likely to be concerned about making their responses more polished; Roulin & Powell, 2018; Vrij, 2005). CBCA consists of multiple criteria linked to veracity. For instance, statements are more likely to be truthful if they include more *contextual embedding* and *unusual details* (i.e., two criteria in CBCA; see Supplemental Materials S5 for a full list of criteria). The scores from these criteria are typically combined into an aggregate score (i.e., *CBCA score*), where higher scores are reflective of truthful responses. Overall, CBCA scores are one of the most robust ways to assess deception-related cues in forensic settings, and it helps raters achieve sufficient inter-rater reliability and detect deception above chance levels (Vrij, 2005). It has also been successfully used to help identify deceptive IM in job interviews (Roulin & Powell, 2018).

We predict that cognitive load interventions will moderate the relationship between deceptive IM use and CBCA scores. Among interviewees instructed to use (Study 1) or naturally using more deceptive IM (study 2), cognitive load interventions will lower CBCA scores. This is because cognitive load interventions target cognitive and motivational factors that makes it more difficult for interviewees to incorporate individual CBCA elements into their responses to appear more honest. For instance, it would be more difficult to fabricate specific narrative details (e.g., unusual details, contextual embedding) and integrate them into responses when working memory is depleted (Vrij, 2005; Vrij et al., 2008). In these settings, interviewees instructed to use (Study 1) or naturally using more deceptive IM (Study 2) will also focus on constructing responses that are simpler or more structured, and be less able to incorporate CBCA elements typically present in honest responses (e.g., spontaneous corrections or admitting a lack of memory; Vrij, 2005). However, among interviewees instructed to be honest (Study 1) or using less deceptive IM (Study 2), we predict that cognitive load interventions will not affect CBCA scores. This is because the CBCA elements typical in honest responses should primarily come from their long-term memory, which is thought to be largely unaffected by cognitive load interventions.

Hypothesis 3: Deceptive IM use will moderate the relationship between cognitive load interventions and CBCA scores. Among interviewees instructed to use (Study 1) or using more deceptive IM (Study 2), cognitive load interventions will lower CBCA scores (vs. interviews without interventions). Among interviewees instructed to be honest (Study 1) or using less deceptive IM (Study 2), cognitive load interventions will have no effect on CBCA scores.

Deceptive IM Detection

Cognitive load interventions may also increase interviewers and evaluators' abilities to detect deceptive IM, which can help organizations penalize deceptive interviewees and increase interview fairness. Unfortunately, interviewers and other evaluators have difficulty detecting deceptive IM above chance levels, regardless of their interviewing experience or other individual differences (Melchers et al., 2020; Roulin et al., 2015). These findings align with general deception detection research (Bond & DePaulo, 2006) and reflects a *truth bias* (i.e., where individuals tend to believe that others are honest; Vrij et al., 2008). We thus explore interviewers' accuracy at detecting deceptive IM in Study 1.

Hypothesis 4: Cognitive load interventions will increase deceptive IM detection accuracy.

Study 1

Study 1 tested Hypotheses 1-4 using an experimental design that manipulated interviewees' use of deceptive IM (i.e., using honest responses vs. using deceptive IM) and cognitive load interventions (i.e., no intervention, reverse-recall intervention, and secondary task intervention) across all interview questions. By experimentally manipulating deceptive IM, Study 1 also aimed to explore whether using deceptive IM *increases* cognitive load (i.e., a causal relation), thereby investigating whether cognitive theories of deception generalize to deceptive

IM.

Method

Participants

The final sample consisted of 238 undergraduate students from an initial N = 290, who were required to have participated in at least one job interview and had full-time or part-time work experience during the last two years. Participants in the final sample reported "*4* – Agree" or "*5* – Strongly Agree" on items asking whether they took the interview seriously (M = 4.73, SD = 0.44), had a score of 3 or higher (out of 5) on Arvey et al.'s (1990) 10-item motivation to perform scale (*1* – Strongly Disagree, *5* – Strongly agree; M = 3.99, SD = 0.57), and correctly responded to at least three out of five careless response items embedded in the measures (e.g., *"Please indicate strongly disagree for this question").* Participants had an average age of 20.33 years (SD = 4.26), and 84.9% were female. The majority of participants had either 1-2 (30.3%) or 3-4 (30.3%) years of total work experience and were currently employed part-time (59.7%).[3]

We hired six undergraduate research assistants who served as interviewers. All were female, with an average age of 22 years (SD = 1.79) and 5.67 years (SD = 2.73) of total work experience. Three of the interviewers had prior interviewing experience at an actual organization, with an average experience of 1.08 years (SD = 0.88). The six interviewers participated in a three-hour training session explaining the study procedures.

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[3] While researchers have raised concerns about the use of student participants for research in job interview contexts, most rationales for the study hypotheses mainly pertain to interviewee cognition and mental capacity. Thus, prior concerns about student interviewees, such as the generalizability of work and interview experience, are unlikely to substantially influence findings. Furthermore, interviewers' individual differences and interviewing experience are less likely to affect judgements of interviewee behaviours and responses (Melchers et al., 2020; Roulin et al., 2015), and the relationships between IM tactics and interview ratings are similar in experimental (e.g., mock interviews, manipulating impression management, undergraduate interviewers) and field (i.e., real job interview) settings (Barrick et al., 2009).

Procedure & Design

Participants underwent a mock job interview through Zoom for the position of a retail sales associate in a clothing store. Participants were randomly assigned to one of six interview conditions using a 2 (IM: instructions to use deceptive IM vs. be honest) x 3 (cognitive load intervention: no intervention vs. reverse-recall vs. secondary task) between-subjects design[4]. Before the interview, participants read a job description for a retail sales associate position – a position deemed to be appropriate for the age of the interviewees. They were then instructed to either be honest or use deceptive IM during the entire interview, consistent with Roulin (2016). Additionally, participants were told not to directly inform the interviewer of their behavioural strategy. The mock interview, which was conducted by one of the six interviewers, consisted of six past behavioural questions. In the no-intervention condition, participants answered the questions as they typically would in a job interview. Those in the reverse-recall conditions were asked to respond to each question in reverse chronological order (i.e., beginning with the outcomes and working backwards). Those in the secondary task condition were first asked to memorize a series of five items pertaining to a clothing store (i.e., relevant to the job description). They were asked the interview questions the same way as the no intervention condition. After responding to each question, they were asked to verbally recall the items they memorized (see Table 1). Immediately after the interview, interviewers rated overall performance and determined whether they believed the participant was using deceptive IM. Participants then completed all self-report measures, and demographic and work information.

[4] According to our manipulation checks, participants instructed to use deceptive IM used significantly more deceptive IM than those who were instructed to be honest (d = 1.89, p < .001). To test this manipulation check, we used Bourdage et al.'s (2018) short deceptive IM scale (α = .98; *1* – To no extent, *5* – To a very great extent). In addition, participants in the reverse-recall intervention (d = 1.17, p < .001) and the secondary task intervention (d = 0.85, p < .001) experienced significantly higher perceived cognitive load compared to the no intervention condition.

Participants took approximately an hour to complete the study, and participants received course credit for their participation. The interview instructions and questions for Study 1 are provided in Supplemental Materials S1 and S2, and the dataset containing the study variables of interest are available through the Open Science Framework (https://osf.io/5z946/?view_only=d4016904381a4ff7b60a3bbe9bc659c7).

Self-reported Measures

***Perceived Cognitive Load* (*N* = 238).** We used a modified version of the intrinsic and extrinsic cognitive load subscales from Klepsch et al.'s (2017) cognitive load scale (α = .84) where the items were modified to specifically refer to the interview (e.g., "*For the interview, many things needed to be kept in mind simultaneously*"; see Appendix A for the full list of items). The measure consisted of five items total (*1* = Strongly Disagree, *7* = Strongly Agree). The study excluded the germane load subscale because it demonstrated low reliability in the original sample used to develop the scale (Klepsch et al., 2017), and the existence of germane load has been debated by other researchers (Leppink et al., 2013).

Measures – Rated by Interviewers

The following measures were completed by the interviewer who conducted the specific interview for that interviewee.

Interview Performance (*N* = 238). We used the five-item likert scale measuring overall interview evaluation (α = .94) from Roulin et al. (2015), using a five-point scale (1 = Strongly Disagree, 5 = Strongly Agree; e.g., *"I would give a good evaluation to this applicant"*).

Deceptive IM Detection Accuracy (*N* = 238). Detection accuracy was measured using a modified approach from Roulin (2016) and Roulin and Ternes (2019). Specifically, interviewers were provided with a definition of deceptive IM immediately after the mock interview, and judged whether the participant primarily used deceptive IM (yes) or responded honestly (no) during the entire interview. Subsequently, for each participant, we coded detection accuracy as Accurate (1) when the interviewer judgements and the deceptive IM condition (i.e., instructed to use deceptive IM or respond honestly) aligned, and Inaccurate (0) when they misaligned. Accuracy rates for each condition was computed by dividing the proportion of correct responses (i.e., one per participant) by a total number of responses (with chance level being 50%).

Measures – Rated by Third-Party Evaluators

CBCA Scores (N = 157).[5] Three undergraduate research assistants coded for a set of 14 CBCA score indicators from Roulin and Powell (2018; e.g., logical structure, contextual embedding), where each indicator was represented by an item with a definition and an example (see Supplemental Materials S5 for a summary of individual CBCA score criteria). Based on the procedures of Roulin and Powell (2018), the evaluators underwent a training session (approximately two hours) that provided an overview of the theoretical foundations of the constructs and the study procedures. They subsequently coded transcripts together and addressed discrepancies under the guidance of the first two authors. They then independently rated a common set of ten transcripts ($ICC_{(2,k)} = .82$). The evaluators then underwent a follow-up training session, and then were assigned another set of nine common transcripts to code independently ($ICC_{(2,k)} = .79$). After calculating the rater agreement for this set of transcripts, evaluators were assigned the remaining transcripts in pairs of two. An overall CBCA score was

[5] In both Studies 1 and 2, only a subset of participants provided consent to use their video recordings for ratings and analyses by third-party evaluators. For both studies, we ran a series of t-tests to investigate differences in continuous survey variables (including manipulation checks, demographic items and other variables appearing in the supplemental materials), and logistic regressions to investigate differences in the binary or ordinal survey variables. In Study 1, there were no significant differences ($p > .05$) with one exception. Specifically, participants who provided consent ($M = 4.57$) reported experiencing significantly less cognitive load than participants who did not provide consent ($M = 5.05$), $t(161.77) = -2.68$, $p = .008$, $d = -0.37$. Nevertheless, the difference was small in magnitude. In Study 2, there were no significant differences at all ($p > .05$).

calculated by averaging the ratings for each indicator. All items were rated on a 0 to 2 scale (*0* = absent from the response, *1* = some indication of presence in the response, *2* = clear/strong indicator of presence in the response). These raters were blind to the cognitive load conditions.[6]

Analysis

All analyses were done on *R* (v.4.3.1) and *RStudio* (v.2023.06.2+561; R Core Team, 2023). To test Hypotheses 1-3, we ran ANCOVAs using the *stats* package (R Core Team, 2023), using the interviewers and (for Hypothesis 3) third-party raters as covariates. To test Hypothesis 4, we ran binary logistic regressions with cluster-robust standard errors (accounting for interviewers) using the *miceadds* package (Robitzsch & Grund, 2024), because deceptive IM detection accuracy was a binary outcome variable (*0* – inaccurate, *1* – accurate). Additionally, for all continuous variables, we report the marginal means and corresponding standardized mean differences (i.e., Cohen's *d*) using the *emmeans* package (Lenth, 2024).

Results

Table 2 contains the means, standard deviations, and intercorrelations between outcomes of interest in Study 1. Additionally, Table 3 contains marginal means and standardized mean differences (i.e., Cohen's *d*) for continuous variables, as well as percentages for deceptive IM detection accuracy per condition. Table 4 contains the results of the ANCOVA tests (Hypotheses 1-3), and Table 5 contains the results of the binary logistic regression tests (Hypothesis 4). See Table 9 for a summary of the hypothesis tests.

Perceived Cognitive Load

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[6] In Studies 1 and 2, trained evaluators also rated plausibility (i.e., the extent to which a response is viewed as believable; DePaulo et al., 2003) and storytelling characteristics (i.e., the extent to which the interview responses contain a set of past events involving time and action; Bangerter et al., 2014), which we report in Supplemental Materials S7. Overall, cognitive load interventions were minimally or not at all effective for making deceptive IM more visible through plausibility or storytelling characteristics.

Interviewees instructed to use deceptive IM (*M* = 5.01, *SE* = 0.11) perceived significantly higher cognitive load than those instructed to be honest (*M* = 4.46, *SE* = 0.11), $F(1, 227) = 14.46$, $p < .001$, $d = 0.47$, supporting Hypothesis 1.

Interview Performance

Deceptive IM use did not interact with cognitive load interventions to predict interview performance, $F(2, 227) = 0.02$, $p = .981$, $\omega_p^2 = .00$. Therefore, Hypothesis 2 was not supported.

CBCA Scores

Deceptive IM use did not interact with cognitive load interventions to predict CBCA scores, $F(2, 143) = 0.17$, $p = .846$, $\omega_p^2 = .00$. Therefore, Hypothesis 3 was not supported. However, there was a significant main effect of cognitive load interventions on CBCA scores, $F(2, 143) = 3.47$, $p = .034$, $\omega_p^2 = .03$. Follow-up tests indicated that the Reverse-Recall intervention (*M* = 0.63, *SE* = 0.02; $t = 2.54$, $p = .012$, $d = 0.51$), but not the Secondary Task intervention (*M* = 0.58, *SE* = 0.02; $t = 0.55$, $p = .585$, $d = 0.11$), significantly increased CBCA scores compared to receiving no intervention (*M* = 0.57, *SE* = 0.02).

Deceptive IM Detection Accuracy

In terms of overall detection accuracy (i.e., the percentage of participants in each condition that were correctly versus incorrectly classified by interviewers), neither the reverse-recall (56.6%; $B = 0.11$, $p = .805$) nor the secondary task interventions (64.6%; $B = 0.44$, $p = .149$) significantly affected detection accuracy rates compared to receiving no intervention (53.9%). Therefore, Hypothesis 4 was not supported.

To follow up on these analyses with a more nuanced examination, we conducted additional analyses consistent with the detection literature. First, we investigated the proportion of true positives (i.e., participants using deceptive IM who were correctly evaluated as using deceptive IM), true negatives (i.e., honest participants who were correctly evaluated as being honest), false positives (i.e., honest participants who were incorrectly evaluated as using deceptive IM), and false negatives (i.e., participants using deceptive IM who were incorrectly evaluated as being honest), in each cognitive load intervention condition. Using the frequencies in Supplemental Materials S6 (Table S6.1), a series of chi-square goodness of fit tests indicated that the distribution of true positives, true negatives, false positives, and false negatives is significantly different from what would be expected by chance for the No Intervention ($\chi^2[3] = 14.10$, $p = .002$), Reverse-Recall ($\chi^2[3] = 32.35$, $p < .001$), and Secondary Task interventions ($\chi^2[3] = 10.88$, $p = .012$). Specifically, when attempting to detect participants instructed to use deceptive IM, the proportion of true positives (i.e., correct deceptive IM classifications) was substantially higher in the Secondary Task intervention (52.6%) than the Reverse-Recall intervention (25.0%) or receiving No Intervention (33.3%), although it was still close to chance level (i.e., 50%). In contrast, when participants were instructed to be honest, the proportion of true negatives (i.e., correct honest classifications) was high across all cognitive load conditions: Secondary Task (75.6%), Reverse-Recall (86.0%), and No Intervention (75.7%). In other words, interviewers tended to correctly evaluate participants instructed to be honest as being honest. However, interviewers often incorrectly evaluated participants instructed to use deceptive IM as being honest (i.e., truth bias), especially when receiving no intervention or the reverse-recall intervention, whereas this was close to chance levels in the secondary task intervention.[7]

[7] To supplement these, consistent with signal detection theory (Stanislaw & Todorov, 1999) we examined the sensitivity and bias indices for each cognitive load condition. The purpose of these analyses was to investigate whether interviewer judgements of deceptive IM were effective for discriminating honest interviewees from those using deceptive IM across the cognitive load conditions. These results indicated that the Secondary Task intervention was considerably more sensitive for detecting deceptive IM (*d’* = 0.74) than receiving no intervention (*d’* = 0.26) or the Reverse-Recall intervention (*d’* = 0.39). However, the values of the a’, b”d, and β bias indices were very similar across the cognitive load conditions, and the c bias index was the lowest for the secondary task

Discussion

Study 1 was the first attempt to test whether interviewees' use of deceptive IM significantly increased their perceived cognitive load in job interviews. Overall, instructions to use deceptive IM increased cognitive load compared to responding honestly. By establishing a causal relationship between deceptive IM use and cognitive load, we demonstrated that a critical element in numerous cognitive theories (i.e., deception is cognitively demanding) also generalizes to deceptive IM in the job interview setting (Vrij et al., 2008; Walczyk et al., 2013). However, the cognitive load interventions were only minimally effective for making deceptive IM more visible. Specifically, the cognitive load interventions did not significantly increase interviewers' deception IM detection accuracy. Nevertheless, the proportion of correct judgements in the secondary task intervention (64.6%) was more than 10% higher than receiving no intervention (53.9%). Furthermore, the secondary task intervention reduced interviewers' truth bias (i.e., tendency to believe that respondents are telling the truth; Masip et al., 2009) when evaluating participants instructed to use deceptive IM, although their accuracy only improved to roughly chance levels (52.6% of true positives). Additionally, the cognitive load interventions did not make cues associated with deception more visible via either CBCA scores or interview performance.

While representing a rigorously controlled experiment, Study 1 has limitations that impact its external validity and generalizability of findings. First, manipulating interviewees' use of deceptive IM was crucial to establish causal relations between deceptive IM and perceived

condition. Overall, these findings suggest that the secondary task intervention may somewhat improve detection accuracy, but interviewers still have considerable difficulty correctly detecting deceptive IM even with cognitive load interventions. For a full reporting of these results, see Supplementary Materials S9.

cognitive load. However, interviewees tend to use deceptive IM at their own volition, with some being more comfortable doing so than others (Bourdage et al., 2018). Interviewees also vary in the extent to which they distort their responses when using deceptive IM, ranging from slight exaggerations to complete fabrications (Levashina & Campion, 2007). Second, we imposed cognitive load interventions throughout the interview (i.e., all interview questions), which may not always be feasible. Third, interviewers rated interviewee performance based on the overall interview and their live interaction. This may have imposed excessive cognitive load onto interviewers by having them administer the cognitive load intervention on top of typical interviewer tasks (e.g., conducting the interview), and thereby made their ratings prone to bias (Nordstrom et al., 1996; Prickett et al., 2000). Thus, in Study 2, we aimed to replicate Study 1 findings while addressing these limitations.

Study 2

In Study 2, we used an asynchronous video interview (AVI) setting, where interviewees record their responses online without the presence of a live interviewer (Lukacik et al., 2022) to test Hypotheses 1-3. The absence of a live interviewer helps better standardize the delivery of the cognitive load interventions. Importantly, we used a more structured approach to rate interview performance by using question-specific behaviourally anchored rating scales (BARS) which were rated by third-party evaluators, rather than Likert scales used in Study 1. Because these evaluators' sole purpose was to rate interview performance (and not facilitate the interview), these ratings are likely less prone to bias from high *interviewer* cognitive load, allowing them to fully focus on evaluating the responses. Lastly, to assess the impact of cognitive load in this study, we chose to test three variants of the reverse-recall intervention that imposed the intervention at different points during the interview. The first variant imposed the intervention during the last half of the interview (termed RR-later). Having interviewees receive the intervention later in the interview may help alleviate negative reactions, by helping them ease into the interview more gradually before receiving cognitive load interventions. The second variant imposed the intervention during the first half of the interview (termed RR-earlier). Imposing the intervention earlier in the interview may set the tone of discouraging deceptive IM but later leave a more positive impression on interviewees by letting them finish the interview normally. Lastly, the third variant alternated between interview questions containing the reverse-recall intervention, and those that do not (termed RR-alternate). Alternating between these questions may prevent interviewees from getting too comfortable with, and adapting their responses and behaviours to interview formats that impose cognitive load interventions (and thereby ensure that the interventions stay effective throughout the interview).

We made these methodological decisions for Study 2 for the following reasons. First, the reverse-recall intervention is more practical to implement in job interviews than the secondary task intervention because organizations can simply change the order of interview questions, instead of having to implement and standardize an additional task. The reverse-recall intervention may be *particularly* practical within AVIs, because administering and evaluating an additional task (i.e., the secondary task intervention) virtually may increase the chances of experiencing technical issues from the applicant's perspective. Second, interviewees may also be more receptive to the reverse-recall intervention in AVIs than in-person interviews. By providing the questions through text, the reverse-recall intervention will not disrupt the conversational nature of interviews often seen in traditional job interviews (Huffcutt et al., 2013). Interviewees may also perceive a greater opportunity to respond well because the interview questions will be visible in front of them, instead of having to memorize these questions. Finally, and as noted earlier, organizations may not be able to implement the reverse-recall intervention for all interview questions, particularly for those that contain non-narrative questions (e.g., situational or knowledge-based questions; Chauhan, 2022; Levashina et al., 2014).

Effects of Cognitive Load Interventions on Deceptive IM Use

Unlike Study 1 which instructed participants to either use deceptive IM or be honest in their responses, we allowed participants to freely use deceptive IM in Study 2. While the former is useful for allowing causality and ensuring a higher base rate of deceptive IM use, the latter approach allows us to understand if cognitive load interventions may help reduce the prevalence of its use (Bill & Melchers, 2023). Even if interventions help better identify deception cues and detect interviewees using deceptive IM, some interviewees will inevitably still use IM successfully and remain undetected by human evaluators, who are prone to the truth bias (Masip et al., 2009; Roulin & Powell, 2018). Thus, preventing the use of deceptive IM helps maintain interview fairness from the beginning of the interview, rather than at the evaluation phase. Unfortunately, research has so far not found consistently effective ways to reduce deceptive IM in job interviews (Melchers et al., 2020).

Overall, we predict that cognitive load interventions will reduce the prevalence of deceptive IM use. Prior cognitive theories of deception suggest that individuals resort to more automatic cognitive processes and judgements under higher cognitive load, because deception is more deliberate and conscious than truth-telling (van't Veer et al., 2014; Walczyk et al., 2013). In line with these theories, numerous studies in pre-employment personality tests (e.g., Rasheed & Robie, 2024) and the broader cognitive psychology literature (e.g., Reis et al., 2023; van't Veer et al., 2014) found that cognitive load interventions reduce the prevalence of deception or faking. Nevertheless, these effects were small or only observed for a subset of applicants (e.g., Komar et al., 2010).

Hypothesis 5: Cognitive load interventions will reduce deceptive IM use.

Method

Participants and Procedure

The final sample consisted of 203 participants (from an initial *N* = 255) from Prolific who had participated in at least one job interview and had full-time or part-time work experience during the last two years. Participants in the final sample met the following quality criteria: answered 3 out of 5 or higher on the seriousness check item (i.e., "I took the survey seriously"; *M* = 4.69, *SD* = 0.50), correctly responded to four out of five careless response items (*M* = 4.94, *SD* = 0.25), indicated that their webcam and microphones were turned on while answering interview questions, and indicated that they did not encounter any serious technical issues that limited their ability to complete the interview. Participants (64.0% female) had an average age of 29.78 years (*SD* = 10.19), an average of 10.12 years of work experience (*SD* = 9.39), and approximately half of participants (48.77%) were currently employed full-time. Participants also had an average of 3.35 years (*SD* = 4.66) years of retail work experience, and 25.6% of participants currently held a managerial position. The most common industries participants indicated were other (16.7%), health care and social assistance (14.3%), educational services (14.3%), and retail trade (8.9%). More than half of participants indicated that they had never encountered an AVI as a real job applicant (55.7%).

As in Study 1, participants underwent a mock interview for the position of a retail sales associate (with the same job description and the same behavioural description interview questions). However, the interview took place on an AVI platform, where participants read the interview questions and the cognitive load interventions, and subsequently responded to the interview questions by recording their responses. Furthermore, the ways the interview questions were presented varied depending on the conditions. In the no intervention condition, we presented the interview questions in regular order (see Table 1). Additionally, there were three variants of the reverse-recall intervention (i.e., RR-later, RR-earlier, and RR-alternate). Specifically, the reverse-recall intervention was imposed for questions 4 to 6 (i.e., last half of the interview) for RR-later, questions 1 to 3 (i.e., first half of the interview) for RR-earlier, and questions 1, 3 and 5 (i.e., alternating) for RR-alternate.[8]

After completing the interview, participants completed all measures. The study took approximately 45 minutes to complete, and participants were compensated 5 GBP. The top five participants who performed the best in the interview for each study condition were provided an additional bonus of 10 GBP to incentivize participant performance, and participants were notified of the incentive prior to completing the interview. The interview instructions and questions for Study 2 are provided in Supplemental Materials S3 and S4, and the dataset containing the study variables of interest are available through the Open Science Framework (https://osf.io/5z946/?view_only=d4016904381a4ff7b60a3bbe9bc659c7).

Measures – Rated by Participants

We used the same measures as in Study 1 to assess perceived cognitive load ($\alpha = .71$; $N = 201$).

Deceptive IM ($N = 203$). Deceptive IM ($\alpha = .92$) was measured using the 16-item short deceptive IM scale (Bourdage et al., 2018) with items altered to better reflect AVI settings (e.g., *"During the interview, I distorted my answers to emphasize what the organization was looking*

[8] Compared to the no intervention condition, RR-later ($d = 0.56$, $p = .006$) and RR-earlier ($d = 0.42$, $p = .036$), but not RR-alternate ($d = 0.33$, $p = .108$) significantly increased perceptions of cognitive load among interviewees.

for"). Response options ranged from *1* – To no extent to *5* – To a great extent.

Measures – Rated by Third-Party Evaluators

Two separate groups of undergraduate research assistants served as evaluators to rate CBCA (three evaluators; N = 148) and interview performance (two evaluators) separately. The groups of evaluators underwent similar training sessions as in Study 1 and were assigned a common set of transcripts to rate independently. The coders underwent a follow-up training session and were assigned the remaining transcripts separately in pairs of two (CBCA) or individually (interview performance). The measure used to assess CBCA was identical to Study 1. The CBCA coders ($ICC_{2,k}$ = .83) achieved sufficient interrater reliability based on the common set of transcripts. As in Study 1, these raters were blind to the cognitive load conditions.

Interview Performance (*N* = 149). The evaluators rated interview performance (α = .75) based on original behaviourally anchored rating scales (BARS) ranging from one (indicating a description of poor responses) to five (indicating a description of excellent responses). The anchors were developed based on the O*NET knowledge, skills and abilities that the questions evaluated. Ratings were averaged across the six interview questions. The evaluators achieved sufficient interrater reliability based on nine common transcripts ($ICC_{2,k}$ = .93).

Analysis

As in Study 1, we used ANCOVAs to test the study hypotheses. Furthermore, we used Johnson-Neyman intervals to run follow-up tests to significant interaction effects using the *interactions* package in R (Long, 2024).

Results

Table 6 contains the means, standard deviations, and correlations between outcomes of interest in Study 2. Additionally, Table 7 contains marginal means and standardized mean differences (i.e., Cohen's *d*), and Table 8 contains the results of the ANCOVAs. See Table 9 for a summary of the hypothesis tests.

Hypothesis Testing

Perceived Cognitive Load. Deceptive IM use was positively associated with perceived cognitive load, $F(1, 193) = 6.72$, $p = .010$, $\omega_p^2 = .03$, $r = .17$), supporting Hypothesis 1.

Interview Performance. Deceptive IM use did not significantly interact with cognitive load conditions to predict interview performance, $F(3, 139) = 1.35$, $p = .262$, $\omega_p^2 = .01$. Therefore, Hypothesis 2 was not supported. Furthermore, there was no significant main effect of either cognitive load interventions ($F[3, 139] = 2.31$, $p = .079$, $\omega_p^2 = .03$) or deceptive IM ($F[1, 139] = 0.10$, $p = .749$, $\omega_p^2 = .00$) on interview performance.

on interview performance.

CBCA Scores. There was a significant interaction effect between deceptive IM use and cognitive load conditions on CBCA scores, $F(3, 137) = 3.08$, $p = .030$, $\omega_p^2 = .04$. See Figure 1 for the Johnson-Neyman interaction plots investigating the effects of a) RR-later (vs. no intervention), b) RR-earlier (vs. no intervention), and c) RR-alternate (vs. no intervention) across levels of deceptive IM use. According to the plots, the RR-Earlier intervention significantly decreased CBCA scores (vs. no intervention) only among interviewees with *z* scores on deceptive IM use of 0.24 or greater (i.e., exceeding the mean use of deceptive IM in the sample), $p < .05$. Similarly, the RR-Alternate intervention significantly decreased CBCA scores only among interviewees with *z* scores on deceptive IM use of 0.62 or greater, $p < .05$. However, the RR-Later intervention did not significantly affect CBCA scores regardless of participants' *z* scores on deceptive IM use, $p > .05$. Therefore, Hypothesis 3 was partially supported.

Deceptive IM Use. There was no significant main effect of cognitive load conditions on deceptive IM use, $F(3, 199) = 0.63$, $p = .594$, $\omega_p^2 = .00$. Therefore, Hypothesis 5 was not supported.

Discussion

In Study 2, we aimed to replicate findings from Study 1 using variants of the reverse-recall intervention (i.e. RR-later, RR-earlier, and RR-alternate) in an AVI setting. Additionally, participants were allowed to use deceptive IM freely. This increased the external validity of the interview setting and enabled us to test whether cognitive load interventions reduce deceptive IM use. In line with Study 1, deceptive IM use was positively associated with perceptions of cognitive load even when interviewees freely used these tactics. This further supports the generalizability of cognitive theories of broader deception as applied to deceptive IM in job interviews (Vrij et al., 2008; Walczyk et al., 2013). In terms of penalizing and better detecting deceptive IM use, the findings of Study 2 slightly differed from those of Study 1, but the overall takeaway was similar. Specifically, cognitive load interventions were minimally effective. In line with our predictions, the RR-earlier and RR-alternate interventions (compared to receiving no interventions) reduced CBCA scores *only* among interviewees using relatively more deceptive IM, and these interventions had no effects among interviewees using relatively less deceptive IM. While in line with our predictions, the overall effects were small ($\omega_p^2 = .04$). Furthermore, as in Study 1, cognitive load interventions did not make deceptive IM more likely to lead to poorer interview performance ratings. Lastly, and novel to Study 2, cognitive load interventions did not reduce deceptive IM use, suggesting that these interventions are ineffective for preventing its use.

General Discussion

Many interviewees use deceptive IM in job interviews to attempt to maximize their chances of receiving favourable evaluations (Levashina & Campion, 2007; Weiss & Feldman, 2006). However, deceptive IM use is problematic because it may increase the likelihood of unqualified interviewees getting hired (Levashina & Campion, 2007). Unfortunately, organizations have difficulty detecting and/or preventing deceptive IM, even though it is critical to ensure that it goes unrewarded (Melchers et al., 2020; Roulin et al., 2015). We built on interdisciplinary cognitive theories of deception and faking to introduce cognitive load interventions to derive hypotheses around how to make deceptive IM more visible and reduce its use in behavioural description interviews. Specifically, we tested the utility of reverse-recall intervention and the secondary task intervention in live videoconference interviews (Study 1), and variants of the reverse-recall intervention (i.e., RR-later, RR-earlier and RR-alternate) in AVIs (Study 2).

Our findings provide important insight into determinants of interviewee cognitive load and deceptive IM in job interviews. Notably, deceptive IM use was positively associated with perceived cognitive load, regardless of the interview format and whether participants were instructed to use deceptive IM (Study 1) or chose to willingly use the behaviour (Study 2). We also established a causal relationship between deceptive IM use and perceived cognitive load in Study 1 by experimentally manipulating deceptive IM use. This is an important theoretical contribution because our findings show that a critical proposition in many theories of deception and faking (i.e., deception is cognitively demanding) in forensic interviews (e.g., Vrij et al., 2008), pre-employment personality tests (e.g., Tett & Simonet, 2011), and the broader cognitive psychology literature (e.g., Walczyk et al., 2013) also generalize to deceptive IM in job interviews, thereby integrating these diverse sets of research. Taken together, deceptive IM is a function of higher perceived cognitive load.

However, we caution that participants responding honestly in Study 1 still experienced moderate amounts of cognitive load (M = 4.46), and the correlation between deceptive IM use and cognitive load in Study 2 was significant but modest (r = .17). Therefore, the notion that deception is substantially more cognitively demanding may somewhat be an oversimplification (Speer et al., 2022). For instance, certain cognitive processes associated with honest responding (e.g., retrieving thematically-organized autobiographical information) may also deplete the working memory to some extent. Nevertheless, through these findings, we introduced a new theoretical perspective to exploring deceptive IM use (i.e., interviewee cognition), going beyond the previous focus on individual differences and situational factors (Bill et al., 2020).

Our findings also suggest that the utility of cognitive load interventions for addressing deceptive IM use in job interviews is quite limited for the following reasons. First, none of the cognitive load interventions reduced deceptive IM use in Study 2. These findings are contrary to studies in pre-employment personality tests and the broader cognitive psychology literature, where cognitive load interventions reduced the use of deception, albeit with small effects (Rasheed & Robie, 2024; Reis et al., 2023; van't Veer et al., 2014). It is plausible that cognitive load interventions did not deter participants from using deceptive IM in Study 2 because the format of the job interview already induces a reasonably high base level of cognitive load (Van Iddekinge et al., 2005). In summary, cognitive load interventions are unlikely to be effective for preventing the use of deceptive IM in job interviews.

Similarly, we found that cognitive load interventions were largely ineffective for making deceptive IM more visible, with the exception of certain findings that were a) small in magnitude, and b) were limited to specific cognitive load intervention types and outcomes. In terms of interview performance, none of the cognitive load interventions across Studies 1 (i.e., Likert-type ratings from interviewers) and 2 (i.e., BARS ratings from third-party evaluators) made deceptive IM more visible through interview performance ratings. These findings conflict with prior research in pre-employment personality tests showing that cognitive load interventions can limit the negative impact of faking on criterion-related validity (Rasheed & Robie, 2024). Instead, these findings suggest that interviewees using deceptive IM still have sufficient opportunities to perform well in job interviews with cognitive load interventions.

Furthermore, in Study 1, cognitive load interventions did not significantly increase interviewers' deceptive IM detection accuracy. However, the proportion of correct judgements was more than 10% higher when receiving the secondary task intervention (64.6%) compared to receiving no intervention (53.9%). Among participants instructed to use deceptive IM, the secondary task intervention also lowered interviewers' tendency to use the truth bias (Masip et al., 2009), but their detection accuracy only improved to chance levels (True Positives = 52.6%). While these findings suggest that the secondary task intervention may slightly improve detection accuracy, they still indicate that interviewers have considerable difficulty correctly detecting deceptive IM even with cognitive load interventions. Taken together, the truth bias is highly prevalent among interviewers conducting interviews using cognitive load interventions, with many engaging in deceptive IM being able to do so undetected.

Lastly, in terms of CBCA scores, none of the cognitive load interventions in Study 1 helped make deceptive IM more visible and distinguishable, but the RR-earlier and RR-alternate interventions (compared to no intervention) significantly reduced CBCA scores only for interviewees using more deceptive IM. Using cognitive load interventions in AVIs may be more effective for making deceptive IM more visible because AVIs are more standardized, as the interviews are administered identically to each interviewee without live interviewers (Brenner et al., 2016). Nevertheless, we caution that the practical magnitude of these findings is likely limited according to ROC analyses (see Supplemental Materials S9). In conclusion, while we had hypothesized that cognitive load interventions may be a route towards making deceptive IM more visible and detectable, the evidence of this utility is limited.

Practical Implications

The issue of applicants' use of deceptive IM is a highly important one in job interviews, and prior interventions and strategies have been ineffective (Melchers et al., 2020; Roulin et al., 2015). Therefore, we believe it was important to test the potential of cognitive load interventions in job interviews, given how widely prevalent they are across several distinct areas of research. Unfortunately, our conclusions echoed those by researchers in pre-employment personality testing (e.g., Komar et al., 2010), forensic interviews (e.g., Vrij et al., 2017; Vrij & Leal, 2023; Walczyk et al., 2018) and the broader cognitive psychology literature (e.g., Neequaye, 2023): Cognitive load interventions are likely not practical to implement into real job interviews in their current state. This is because the utility of cognitive load interventions for addressing deceptive IM is limited at best, and there may also be unintended drawbacks of implementing these interventions due to the reasons below.

First, given that cognitive load interventions only made deceptive IM minimally more visible, it is plausible that these interventions may introduce systematic error or noise into job interviews. As an example, having interviewers administer cognitive load interventions on top of conducting a job interview may be overly taxing on their cognition, which may limit their ability to make valid evaluations of applicants (Greene et al., 2008; Tinghög et al., 2016). Second, unlike other settings, job interviews also serve other functions beyond interviews or evaluations. For example, organizations commonly use job interviews to promote a favourable impression of themselves to potential and current applicants (Wilhelmy et al., 2016). Implementing cognitive load interventions may harm these functions associated with job interviews because applicants may feel interrogated[9] and thereby distract them from recalling high-quality past experiences, especially when job interviews are already highly cognitively demanding (Van Iddekinge et al., 2005). The increased cognitive load from these interventions may also add considerable distress to interviewees, which could impair their interview performance given that it is negatively associated with interview anxiety (Ho et al., 2021). This could also potentially cause adverse impact for certain groups of applicants, such as individuals with ADHD, who tend to have working memory deficits compared to the general population (Alderson et al., 2013). For these reasons, organizations may be hesitant to implement cognitive load interventions into real job interviews. In conclusion, much more research is needed before recommending cognitive load interventions to organizations for their job interviews.

Limitations and Future Directions

There are some methodological characteristics that may limit the generalizability of findings. First, both Studies 1 and 2 used mock interviews where participants were told to imagine they were applying for a specific occupation. We opted to use mock interviews because most of our hypotheses used rationales from cognitive theories of deception (e.g., Walczyk et al., 2013) that primarily explained changes in mental capacity. Furthermore, we did not want to implement previously untested interventions into real job interviews in case there would be unintended negative implications for the organization or applicants. However, interviewees in

[9] In both Studies 1 and 2, we investigated the effects of cognitive load on interviewee reactions (i.e., procedural justice and interview anxiety), which we report in Supplemental Materials S8. None of the cognitive load interventions reduced procedural justice or interview anxiety compared to not receiving an intervention in both studies. However, these findings should be interpreted with caution because both studies took place in simulated job interviews.

real job interviews could react more negatively to cognitive load interventions because the stakes are considerably higher (e.g., obtaining an actual job; Bourdage et al., 2020), which may subsequently affect their interview responses.

Furthermore, the generalizability of the findings in Studies 1 and 2 may be limited for interviews that use other types of interview structures and question types. Studies 1 and 2 used highly structured behavioural description interviews, without probing or alternative question types, in order to standardize the administration of the cognitive load interventions. However, less structured interviews and/or other types of questions are commonplace (Chauhan, 2022), which may affect the effectiveness of cognitive load interventions, (e.g., making responses less verifiable). As such, while this investigation shows limited evidence for cognitive load interventions, perhaps future research could investigate cognitive load interventions using other types of interview questions and formats to better assess the generalizability of our findings.

Conclusion

Using the lens of cognitive theory (Paas et al., 2003), we tested the effectiveness of cognitive load interventions for penalizing applicants' deceptive IM in job interviews (and specifically, the behavioural description interview). Across Studies 1 and 2, we found that deceptive IM was positively associated with perceived cognitive load (with causal evidence in Study 1), which suggests that a critical proposition in many theories of deception and faking (i.e., deception is cognitively demanding) also generalizes to deceptive IM in job interviews. However, only certain cognitive load interventions were somewhat effective for making deceptive IM more visible. Furthermore, cognitive load interventions did not decrease deceptive IM use in Study 2. Therefore, cognitive load interventions show limited promise for detecting or preventing deceptive IM in job interviews. Organizations should be aware that cognitive load interventions are likely not practical to implement into real job interviews in their current state.

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Table 1

Examples of Interview Questions Under the Control and Cognitive Load Intervention Conditions

No Intervention	Reverse-Recall	Secondary Task
Can you tell me about a time when you tried to reduce stress for a co-worker? a) How did you first notice the co-worker's stress? b) What steps did you take to deal with the co-worker? c) Did your actions help in the end? *Participant will then respond to the interview question.*	Can you tell me about a time when you tried to reduce stress for a co-worker? a) Did your actions help in the end? b) What steps did you take to deal with the co-worker? c) How did you first notice the co-worker's stress? *Participant will then respond to the interview question.*	Please memorize the following information: T-shirt, customer service, inventory, sweater, and franchise. Can you tell me about a time when you tried to reduce stress for a co-worker? a) How did you first notice the co-worker's stress? b) What steps did you take to deal with the co-worker? c) Did your actions help in the end? *Participant will then respond to the interview question.* Please state the items I mentioned immediately prior to the question. *Participant will then recall the list of items given before the interview question.*
Tell me about a time when you had to perform multiple tasks at the same time. a) What were the tasks? b) How did you decide which ones to do first? c) What was the final outcome?	Tell me about a time when you had to perform multiple tasks at the same time. a) What was the final outcome? b) How did you decide which ones to do first? c) What were the tasks?	Please memorize the following information. *Manager, Blouse, Size Large, Associate, Sweatshirt* Tell me about a time when you had to perform multiple tasks at the same time. a) What were the tasks?

Participant will then respond to the interview question.	*Participant will then respond to the interview question.*	b) How did you decide which ones to do first? c) What was the final outcome? *Participant will then respond to the interview question.* Please state the items I mentioned immediately prior to the question. *Participant will then recall the list of items given before the interview question.*

Table 2

Means, Standard Deviations and Intercorrelations of Study Outcomes (Study 1)

	Variables	***M***	***SD***	**1**	**2**	**3**	**4**
1.	Perceived Cognitive Load	4.73	1.33	–			
2.	Interview Performance	3.34	0.93	-.27**	–		
3.	CBCA	0.59	0.13	-.09	.35**	–	
4.	Deceptive IM Detection Accuracy	0.58	0.49	-.03	.02	.06	–

Note. CBCA = Criterion-Based Content Analysis; IM = Impression Management.
*$p < .05$, **$p < .01$.

Table 3

Marginal Means, Percentages, and Cohen's d Effect Sizes for Study Outcomes in Each Condition (Study 1)

Conditions	*M (SE)*			
	Perceived CL	**Interview Performance**	**CBCA**	**Deceptive IM Detection Accuracy (%)**
Deceptive IM Use				
Deceptive IM (i.e., Yes)	5.01 (0.11)	3.38 (0.08)	0.59 (0.02)	36.8%
Honest (i.e., No)	4.46 (0.11)	3.39 (0.09)	0.60 (0.01)	79.3%
Cognitive Load Condition				
No Intervention	3.95 (0.14)	3.50 (0.11)	0.57 (0.02)	53.9%
Reverse-Recall	5.32 (0.13)	3.31 (0.10)	0.63 (0.02)	56.6%
Secondary Task	4.94 (0.13)	3.33 (0.10)	0.58 (0.02)	64.6%
Cognitive Load Condition x Deceptive IM Use				
No Intervention x Deceptive IM	4.26 (0.19)	3.50 (0.15)	0.56 (0.03)	33.3%
Reverse-Recall x Deceptive IM	5.51 (0.19)	3.29 (0.15)	0.61 (0.02)	25.0%
Secondary Task x Deceptive IM	5.27 (0.19)	3.34 (0.15)	0.58 (0.03)	52.6%
No Intervention x Honest	3.65 (0.20)	3.51 (0.15)	0.58 (0.02)	75.7%
Reverse-Recall x Honest	5.12 (0.18)	3.34 (0.14)	0.65 (0.02)	86.0%
Secondary Task x Honest	4.62 (0.18)	3.33 (0.14)	0.58 (0.02)	75.6%
	Cohen's *d*			
Deceptive IM vs. Honest	0.47	-0.02	-0.14	
Reverse Recall vs. No Intervention	1.17	-0.21	0.51	
Deceptive IM Only	1.07	-0.23	0.43	
Honest Only	1.27	-0.19	0.57	
Secondary Task vs. No Intervention	0.85	-0.19	0.11	
Deceptive IM Only	0.86	-0.18	0.16	
Honest Only	0.84	-0.19	0.07	

Note. x indicates interaction effects between two predictors. CL = Cognitive Load; CBCA = CBCA = Criterion-Based Content Analysis; IM = Impression Management.

Table 4

Results of ANCOVAs (Hypotheses 1-3, Study 1)

	Outcomes											
	Perceived CL				Interview Performance				CBCA			
	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
Predictors	***(df_{num}) F***	**ω_p^2**	***(df_{num}) F***	**ω_p^2**	***(df_{num}) F***	**ω_p^2**	***(df_{num}) F***	**ω_p^2**	***(df_{num}) F***	**ω_p^2**	***(df_{num}) F***	**ω_p^2**
Cognitive Load Condition	(2) 27.96**	.18	(2) 27.78**	.18	(2) 1.72	.01	(2) 1.71	.01	(2) 3.51*	.03	(2) 3.47*	.03
Deceptive IM Use	(1) 14.55**	.05	(1) 14.46**	.05	(1) 0.11	.00	(1) 0.11	.00	(1) 0.77	.00	(1) 0.76	.00
Cognitive Load Condition x Deceptive IM Use			(2) 0.30	.00			(2) 0.02	.00			(2) 0.17	.00
Interviewers	(5) 2.34*	.03	(5) 2.33*	.03	(5) 3.11**	.04	(5) 3.08	.04	(5) 0.78	.00	(5) 0.77	.00
Third-Party Raters									(3) 1.65	.01	(3) 1.63	.01
$df_{residual}$	(229)		(227)		(229)		(227)		(145)		(143)	
R^2	.26		.27		.08		.08		.10		.11	
Model Comparison	$F(2) = 0.29$, $\Delta R^2 < .01$				$F(2) = 0.02$, $\Delta R^2 < .01$				$F(2) = 0.17$, $\Delta R^2 < .01$			

Note. CL = Cognitive Load; CBCA = Criterion-Based Content Analysis; IM = Impression Management. Df_{num} = Numerator degrees of freedom; $df_{residual}$ = Residual (i.e., denominator) degrees of freedom; ω_p^2 = Partial omega squared effect sizes.
*$p < .05$, **$p < .01$.

Table 5

Results of Binomial Logistic Regressions (Hypothesis 4, Study 1)

Predictors	**Deceptive IM Detection Accuracy (*B*)**
Intercept	0.16
Cognitive Load Condition	
Reverse-Recall (1) vs. No Intervention (0)	0.11
Secondary Task (1) vs. No Intervention (0)	0.44

Note. Inferential tests for *B* coefficients were based on cluster-robust standard errors. The cognitive load conditions were dummy-coded using the no intervention condition as the referent.
*$p < .05$, **$p < .01$.

Table 6

Means, Standard Deviations and Intercorrelations of Study Outcomes (Study 2)

Variables	*M*	*SD*	1	2	3	4
1. Deceptive IM	1.93	0.83	–			
2. Perceived Cognitive Load	4.20	1.06	.17*	–		
3. Interview Performance	3.67	0.59	.02	.10	–	
4. CBCA	0.42	0.08	.08	.02	.45**	–

Note. CBCA = Criterion-Based Content Analysis; IM = Impression Management.
*$p < .05$, **$p < .01$.

Table 7

Marginal Means and Cohen's d Effect Sizes for Study Outcomes in Each Condition (Study 2)

	Marginal Means - *M (SE)*			
Conditions	**Perceived CL**	**Interview Performance**	**CBCA**	**Deceptive IM**
Cognitive Load Condition				
No Intervention	3.85 (0.15)	3.65 (0.11)	0.44 (0.02)	1.98 (0.12)
RR-Later	4.43 (0.15)	3.47 (0.10)	0.40 (0.02)	1.86 (0.12)
RR-Earlier	4.29 (0.14)	3.47 (0.10)	0.41 (0.02)	2.04 (0.11)
RR-Alternate	4.19 (0.15)	3.74 (0.11)	0.43 (0.02)	1.85 (0.12)
	Cohen's *d*			
RR-Later vs. No Intervention	0.56	-0.32	-0.41	-0.14
RR-Earlier vs. No Intervention	0.42	-0.32	-0.37	0.07
RR-Alternate vs. No Intervention	0.33	0.16	-0.12	-0.15

Note. RR = Reverse-Recall; IM = Impression Management.

Table 8

Results of ANCOVAs (Hypotheses 1-3, 5, Study 2)

	Outcomes																	
	Perceived CL				**Interview Performance**				**CBCA**				**Deceptive IM Use**	
	Step 1		**Step 2**		**Step 1**		**Step 2**		**Step 1**		**Step 2**			
Predictors	***(df_{num}) F***	ω_p^2	***(df_{num}) F***	ω_p^2	***(df_{num}) F***	ω_p^2	***(df_{num}) F***	ω_p^2	***(df_{num}) F***	ω_p^2	***(df_{num}) F***	ω_p^2	***(df_{num}) F***	ω_p^2
Cognitive Load Condition	(3) 2.36	.02	(3) 2.38	.02	(3) 2.29	.03	(3) 2.31	.03	(3) 1.31	.01	(3) 1.37	.01	(3) 0.63	.00
Deceptive IM Use	(1) 6.65*	.03	(1) 6.72*	.03	(1) 0.10	.00	(1) 0.10	.00	(1) 1.13	.00	(1) 1.18	.00		
Cognitive Load Condition x Deceptive IM Use			(3) 1.67	.01			(3) 1.35	.01			(3) 3.08*	.04		
Third-Party Raters					(2) 4.10*	.04	(2) 4.13*	.04	(3) 1.25	.01	(3) 1.31	.01		
$df_{residual}$	(196)		(193)		(142)		(139)		(140)		(137)		(199)	
R^2	.07		.09		.10		.12		.06		.12		.01	
Model Comparison	$F(3) = 1.67$, $\Delta R^2 = .02$				$F(3) = 1.35$, $\Delta R^2 = .02$				$F(3) = 3.08$*, $\Delta R^2 = .06$					

Note. CL = Cognitive Load; CBCA = Criterion-Based Content Analysis; IM = Impression Management. Df_{num} = Numerator degrees of freedom; $df_{residual}$ = Residual (i.e., denominator) degrees of freedom; ω_p^2 = Partial omega squared effect sizes.

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

Table 9

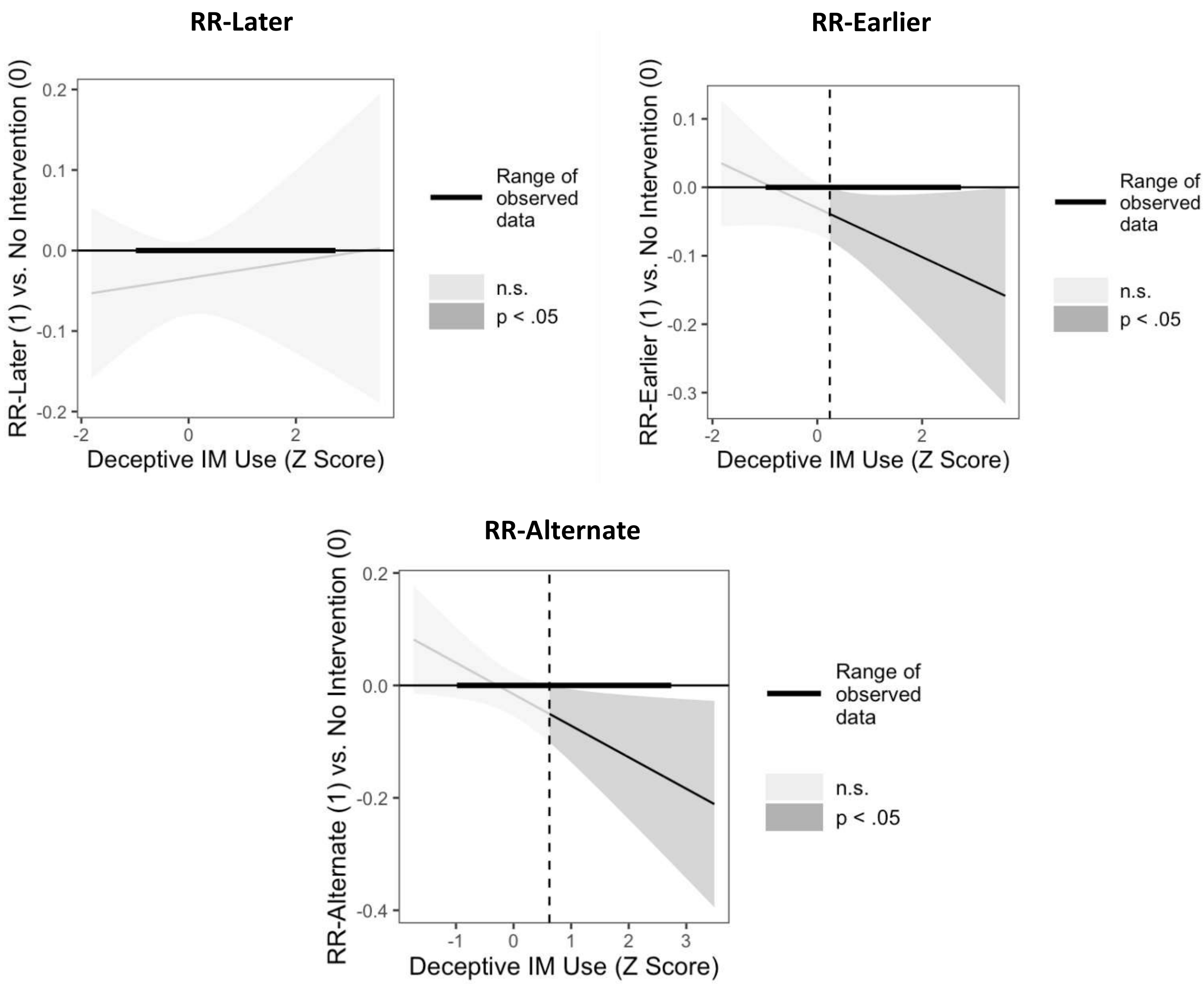
Summary of Hypothesis Tests

	Hypothesis	Study 1	Study 2
H1	Interviewees who are instructed to use (Study 1) or use more **deceptive IM** (Study 2) will experience significantly higher perceived **cognitive load**, compared to interviewees who are instructed to be honest (Study 1) or use less deceptive IM (Study 2).	Supported	Supported
H2	**Deceptive IM** use will moderate the relationship **between cognitive load interventions** and **interview performance**. Among interviewees instructed to use (Study 1) or using more deceptive IM (Study 2), cognitive load interventions will lower interview performance (vs. interviews without interventions). Among interviewees instructed to be honest (Study 1) or using less deceptive IM (Study 2), cognitive load interventions will have no effect on interview performance.	Not Supported	Not Supported
H3	**Deceptive IM** use will moderate the relationship between **cognitive load interventions** and **CBCA scores**. Among interviewees instructed to use (Study 1) or using more deceptive IM (Study 2), cognitive load interventions will lower CBCA scores (vs. interviews without interventions). Among interviewees instructed to be honest (Study 1) or using less deceptive IM (Study 2), cognitive load interventions will have no effect on CBCA scores.	Not Supported	Partially Supported (RR-Earlier, RR-Alternate)
H4	**Cognitive load interventions** will increase **deceptive IM detection**	Not Supported	

	accuracy.	
H5	**Cognitive load interventions** will reduce **deceptive IM** use.	Not Supported

Figure 1

Johnson-Neyman Interaction Plots Depicting the Effects of Cognitive Load Interventions on CBCA Scores Across Levels of Deceptive IM Use (Study 2)



Note. n.s. = Not significant, *p* > .05. *RR* = Reverse-Recall. Shaded areas around the line indicate 95% confidence intervals around the slope.

Appendix A

Modified Cognitive Load Measure (derived from Klepsch et al., 2017)

Intrinsic Cognitive Load

- For the interview, many things needed to be kept in mind simultaneously.
- The interview was very complex.

Extrinsic Cognitive Load

- During the interview, it was exhausting to generate responses to the questions.
- The design of the interview was very inconvenient for responding to the questions.
- During the interview, it was difficult to recognize and retrieve answers to the questions.