Interviewers' Responsiveness to Communication Errors within Organizational Suspect Interviews: The Impact of Error Orientation and Suspect Motives on Stress, Distraction, and Behaviour

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Abstract

Research on communication errors within suspect interviews is scarce and limited to the field of law enforcement. Therefore, this study examined the effects of error making, error framing, and presumptions about the suspect's motive on interviewers' stress, distraction, and behavioural responses, within an interview in an organizational setting. Using role-play, adults (*N = 112*), with no interviewing experience, questioned an employee suspected of stealing company property. Participants were provided with materials that unknowingly assigned them to a random condition, using a 2 (Error: factual, control) × 2 (Presumed motive: accidental, purposeful) between-subjects factorial design. The results show that factual error making did not affect interviewers' levels of stress or distraction. Further, interviewers' framing of errors and motive presumptions did not affect stress or distraction after erring. Lastly, stress, distraction, error frame, and motive presumptions were not associated with interviewers' behavioural responses to errors. These findings provide early indications that there may be no effects of factual errors, error framing, and motive presumptions on interviewers' feelings and behaviours in an organizational setting. Still, additional research is needed to answer new questions such as whether the findings also hold for other types of factual errors. Combining these insights can help identify tools for interviewers to efficaciously cope with communication errors during organizational suspect interviews.

Keywords: suspect interviews; communication error management; error orientation; interviewer bias; insider threat; workplace investigation; stress; distraction; behavioural responses

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Interviewers' Responsiveness to Communication Errors within Organizational Suspect Interviews: The Impact of Error Orientation and Suspect Motives on Stress, Distraction, and Behaviour

In modern society investigative interviewers gather correct and detailed information from suspects to elucidate events. Researchers have tried to aid interviewers in their endeavours by informing them on appropriate communication practices during interviews (Christiansen et al., 2018; Drolet, & Morris, 2000; Soukara, 2017). Recently, research has started to unravel what happens when interviewers make mistakes in their communication with suspects (Oostinga et al., 2018b; 2020). Exploratory research by Oostinga et al. (2018b) revealed that communication errors by interviewers could impair the rapport and trust of suspects, depending on whether interviewers' ensuing reactions (e.g., denial, apologize) could repair the error. The ramifications of errors also reflect on interviewers themselves. Officers (i.e., interviewers) experienced increased stress and distraction after misnaming their suspects (Oostinga et al., 2020). Both stress and distraction are associated with impaired task performance (Dimitrova et al., 2015; Lin et al., 2020). Thereby, interviewers' ability to cope with communication errors can have serious implications for the efficacy of suspect interviews. Unfortunately, research on communication errors in interviews is scarce and has hitherto been limited to the field of law enforcement (Oostinga et al., 2018a, 2018b, 2020). Consequently, we investigated whether similar findings can be obtained in an organizational context. Since interviewers must deal with the psychological effects of errors and respond tactfully, we studied the effects of errors on interviewers in terms of stress, distraction, and behaviour.

A growing branch of organizational security is directed at investigative interviewing, part of which focuses on insider threats (Meerts, 2020; Williams, 2014). Insiders can include (past) employees, associates, or other third parties who can compromise organizations (Nurse et al., 2014). Misconduct may involve sharing confidential data, facilitating unauthorized access, or sabotaging systems (Coburn, 2006). In recent years, there was a global increase in the number of reported

insiders (Ponemon Institute, 2020; Spectorsoft, 2014; The National Insider Threat Task Force, 2016). The investigation of insiders remains mainly confined within organizations, as they fear reputational damage or productivity loss when approaching authorities (Meerts, 2020; PricewaterhouseCoopers, 2019). Nonetheless, organizations have limited funds to investigate threats (Williams, 2014). This combination of resource constraints and a growing caseload appeals to interviewers´ efficacy to amass information. Insights into the effects of communication errors may provide interviewers with the tools to adequately repair their errors, thereby minimizing adverse effects during interviews.

Aside from the direct effects of errors, non-interview literature suggests that an individual's appraisal of errors, known as one's error orientation, can affect levels of stress and distraction when an error occurs (Dimitrova et al., 2015, 2017; Farnese et al., 2020. Rybowiak et al., 1999). Therefore, it was examined whether one's error orientation affected interviewers' error responses.

Lastly, we also studied the impact of presumptions regarding a suspect's motive. Motives play an important role in the moral judgement of an individual's actions (Cushman et al., 2008; Gino et al., 2010). Since judgements can affect our interactions with others, we examined whether priming interviewers' presumptions on a suspect's motive affected interviewers' error responses.

In the following paragraphs, we provide support for our focus on organizational interviews, further conceptualize and present predictions for the effects of communication errors, error orientation, and presumed motives.

The Practice of Organizational Suspect Interviews

Workplace investigations are generally conducted after a reasonable suspicion of misconduct (Lattal, 2016; Meerts, 2016). Organizations may employ both internal staff (e.g., HR professionals) or external parties (e.g., private investigators, lawyers) to investigate an incident. Prior to the interview, information is gathered from diverse sources like witnesses, social media, and user systems. While these sources form the input for the interviews, organizational interviews remain the

primary source for gathering information (Meerts, 2020). Suspect interviews in law enforcement are similarly focused on gathering evidence (Alison et al., 2014),[1] which is why organizational interviewers may respond comparably to officers in face of communications errors.

Communication Errors

We operationalized errors in this paper according to the definition by Oostinga et al. (2018a), in which (1) an interviewer speaks, (2) the suspect notices an error and provides feedback to the interviewer, after which (3) the interviewer becomes aware of the error and responds. This definition focuses on unintentional and unanticipated errors, which do provide an immediate opportunity for reparation. Conforming with this definition, Oostinga et al. (2020) identified two prominent types of errors: judgment-, and factual errors. Judgement errors occur when interviewers inappropriately address the subjective experience of the suspect, for example by misinterpreting emotions. Factual errors occur when interviewers use objectively wrong information, for example by misnaming a suspect. The effect of errors on interviewers was most pronounced for factual errors (Oostinga et al., 2020). Subsequently, we focused on factual communication errors in this study.

Factual Errors, Stress, and Distraction

Stress is defined by an individual's perception of feeling overwhelmed, and unable to cope with a situation (Matthews et al. 2013, 2019). Elevated levels of stress have been associated with a decrease in an individual's communicative flexibility (Keith, & Frese, 2005; Quaedflieg et al., 2018). Which means an individual is less able to multitask, process new information, or solve problems.

[1] When referring to police interviews, we refer specifically to the practices as found throughout Australia, New Zealand, and Europe where information-gathering methods are used. In other countries like the United States, Canada, and various Asian countries accusatory methods are more prevalent (Vrij et al., 2014).

Distraction is the (partial) inability to attend an activity because attention is diverted to an unwanted source, which deprives an individual of mental capacity (Kanfer, & Ackerman, 1989). Interviewing itself is a cognitively demanding activity, in which increased cognitive demands (e.g., by distraction), can decrease one's ability to recall information (Hanway et al., 2021). Further, distraction may hamper one's ability to attend and process task-specific information (Strayer et al., 2007). Consequently, increased stress and distraction can impair task performance by decreasing one's ability to devise questions, attend the suspect's story, or provide adequate responses to the suspect (Fisher, 2010; Keith, & Frese, 2015; Lin et al., 2020)

Findings by Oostinga et al. (2020) showed that factual errors can evoke significant levels of stress and distraction in interviewers, possibly because errors were perceived as harmful for their reputation. Attending these thoughts interrupt the focus on the task and shifts the focus inward towards one's performance (Dimitrova et al. 2015; Kluger & DeNisi, 1996). These negative self-related thoughts may interfere with the process of interviewing, and cause distraction. Moreover, as the error presents a significant threat, interviewers may not immediately know how to cope with it, resulting in stress (Matthews et al., 2013; Rybowiak et al., 1999; Zajacova et al., 2005). Therefore, we predicted that a factual error would enhance interviewers' experience of stress and distraction.

Hypothesis 1 (H1): interviewers experience more stress and distraction after making a factual error, compared with interviewers making no error.

Error Orientation

An individual's response to errors may depend on how one approaches errors (Matthews et al. 2013), otherwise known as an error orientation (Rybowiak et al., 1999). Individuals can apply an *error management orientation* (EMO), or an *error prevention orientation* (EPO). The approach an individual favors differs depending on the context and is thus flexible. Individuals adopting an EMO tend to see errors as an opportunity to learn (Farnese et al., 2020; Rybowiak et al., 1999; Schell,

2012). Therefore, an EMO is focused on problem-solving. Contrastingly, individuals adopting an EPO perceive errors as undesirable. Therefore, an EPO is focused on preventing errors and the negative emotions that are associated with erring.

Error orientation can play an important role in learning from and improving task performance. Dimitrova et al. (2015) revealed that an EMO was positively associated with learning and task performance, as individuals gained a higher understanding of a task after errors. On the other hand, using an EPO has been linked to impaired learning and performance after errors (Dimitrova et al., 2017). Therefore, studying the effects of interviewers' error orientations may give a more detailed account of the impact of errors and provide useful input for potential interventions.

With regards to stress and distraction, individuals with an EMO perceive themselves as competent in dealing with errors and are more open to approach errors (Rybowiak et al., 1999). Therefore, it can be expected that interviewers with an EMO see factual errors as less of an ego threat, will have fewer task-interfering thoughts, and subsequently experience little distraction. Moreover, when interviewers feel more competent to cope with a communication error, they may also perceive little stress. This prediction is in line with prior research which suggests that an EMO promotes focus (Dimitrova et al., 2015), and that confidence in one's ability to cope negatively relates to experienced stress (Zajacova et al., 2005). On the contrary, individuals using an EPO generally feel less competent in dealing with errors and are more focused on avoiding them (Rybowiak et al., 1999; Schell, 2012). For them the occurrence of an error means they failed to prevent the error. We predict this might create negative thoughts about one's performance, which they want to supress. This is cognitively loading and may cause distraction. More so, feeling less competent would indicate that these interviewers perceive themselves as inapt to cope with the error, resulting in increased stress. These expectations are supported by Dickhäuser et al. (2011) who illustrate that task performance is impaired when individuals ruminate over their

incompetence. Further, the study by Zajacova et al. (2005) also implies that decreased confidence in one's ability to cope enhances stress.

Hypothesis 2a (H2a): interviewers who are more oriented towards EMO experience less stress and less distraction after making a factual error, whereas interviewers more oriented towards EPO experience more stress and more distraction after making a factual error.

Presumed Motives

During insider investigations, there are two commonly found types of insiders: namely those with accidental motives, and those with purposeful motives (Nurse et al., 2014). Purposeful motives can be greed, vendetta, or social pressure. Accidental motives can include negligence, mistakes, or ignorance**.** An individual's motive for misconduct plays an important role in how one is judged (Cushman et al., 2008; Gino et al., 2010). However, during investigations motives are not always clear, which may prompt interviewers to rely on presumptions. Research has shown that interviewers' presumptions on a suspect can bias an interviewers' behaviour and perceptions during an investigation. Based on presumptions, people can come to use more suggestive questions (Adams-Quackenbush et al., 2020), ignore evidence which is inconsistent with their beliefs (O'Brien, 2009), and hold erroneous judgements of guilt (Kukucka, & Kassin, 2014). Taking the effects of presumptions into account, it is important to explore whether priming interviewers' presumptions on the suspect's motive can also affect interviewers' reactions to errors.

Research by Oostinga et al. (2020) has shown that interviewers perceived communication errors to harm the trust and rapport of suspects, both of which are commonly known to relate to suspects' cooperativeness (Abbe & Brandon, 2013). In light of motive presumptions, these findings can be interpreted in different ways. Firstly, accidental insiders are more likely to cooperate since providing information can minimize the damages, which is in their favor. Contrastingly, cooperation is not a given purposeful insiders. For instance, an insider motivated by vendetta may be less eager

to help resolve a threat. Therefore, errors may be given more weight in an interview with a suspect presumed to have a purposeful motive, relative to a suspect presumed to have an accidental motive. With a presumed purposeful insider, an error may impair an interviewers' confidence in their ability to lead the interview to a fruitful outcome, these negative thoughts may increase both stress and distraction. Effects that would not be expected when dealing with a presumed accidental insider.

On the other hand, research shows that individuals with ill intentions are judged more negatively (Parkinson, & Byrne, 2018). Therefore, it may be that interviewers consider the perceived trust and rapport of individuals presumed to have purposeful motives to be inferior to that of suspect who are presumed to have accidental motives. As a result, an error might result in higher stress and distraction when dealing with a suspect who is presumed to have accidental motives, relative to one who is presumed to have purposeful motives. Since either explanation is plausible, we chose for an open research question:

Research question 1 (RQ1a): how do the interviewers' presumptions on the suspect's motive moderate the effect of comitting factual errors on interviewers' stress and distraction?

Behavioural Responses

The study by Oostinga et al. (2020) found officers used four different behavioural responses to communication errors, namely *apologizing*, *explore, deflect*, and *no alignment*. Apologizing meant an officer took responsibility for their error; explore meant officers asked questions about the error; deflect meant that an officer averted the responsibility of the error to someone or something else; and no alignment meant officers disregarded the error or made a comment unrelated to the error. It is important to understand interviewers' behavioural responses to errors as maladaptive interviewer behaviour can decrease rapport in interview settings, and impair information provision (Alison et al., 2014; Christiansen et al., 2018; Oostinga et al., 2018b). Whereas an appropriate response can repair the relational damage done by errors (Keith, & Frese, 2015; Oostinga et al., 2018b). Studying the

effects of error orientation and presumed motives on interviewers' behavioural responses to communication errors may help discern individual differences in error responses and provide insight into how adequate responses may be induced (Keith, & Frese, 2015).

Error orientation and Behavioural Responses

An EMO is associated with a desire to learn from errors and with a hands-on approach of solving errors (Farnese et al., 2020; Rybowiak et al., 1999; Schell, 2012). Explore responses are most focused on gaining insights and correcting errors (Oostinga et al., 2018a, 2020). Insights are essential source to learn from errors (Metcalfe, 2017). Therefore, we predict that interviewers with an EMO are more likely to use explore responses. Other responses would either not resolve the error or not provide the necessary insights into the cause of the error. On the contrary, individuals with an EPO have been associated with a stronger desire to get rid of an error, or to cover them up (Rybowiak et al., 1999). We predict that interviewers with an EPO would favour deflect or no alignment responses, since these responses allow an interviewer to avert taking responsibility.

Hypothesis 2b (H2b): interviewers who are more oriented towards EMO will exhibit more explore responses after making a factual error, whereas interviewers scoring higher on EPO will exhibit more deflect or no alignment responses after making a factual error.

Presumed motives and Behavioural Responses

The study by Oostinga et al. (2020) suggested that the behavioural responses officers used were significantly predicted by their levels of stress and distraction after erring. Remarkably, these effects were only found when officers erred during negotiations, but not when officers erred during suspect interviews. These findings presumably reflected the different roles that officers occupied during these interactions (seeking information to provide care vs. seeking information for evidence). We wanted to examine whether this explanation of role differences holds. Further, in case an effect would be found, it was considered useful to examine whether presumptions on the suspect's motive

affected the relation between stress, distraction, and the behavioural responses. These insights could help evaluate and tailor approaches to cope with errors. Since little research has been conducted in this area, we used an explorative research question. Table 1 outlines all predictions.

Research question 1 (RQ1b): How do the interviewers' presumptions on the suspect's motive moderate the effect of stress and distraction on the behavioural responses used?

Table 1
Hypothesized relationships

			Psychological	
			Stress	Distraction
H1:	Error:	- making a factual error, relative to no error.	↑	↑
H2a:	Error orientation:	- error management after an error;	↓	↓
		- error prevention after an error.	↑	↑
RQ1a:	Presumed motive:	- accidental relative to purposeful.	?	?
			Behavioural Responses	
H2b:	Error orientation:	- error management after an error;	Explore ↑	
		- error prevention after an error.	Deflect, No alignment ↑	
RQ1b:	Presumed motive:	- accidental relative to purposeful.	?	

Methods

Design

This study used a 2 (*error type*: factual, control) × 2 (*presumed motive*: accidental, purposeful) between-subjects factorial design. Interviewers were randomly allocated to one out of four conditions. The interviewers' behavioural responses, levels of stress and distraction were used as dependent variables. Error orientation served as an additional continuous moderator variable. This study was part of a collective of bachelor theses which additionally examined the psychological aspects of shame and guilt, and personality aspects of conscientiousness and emotional resilience. These factors were not considered in this study.

Participants

A total sample of 115 participants was aggregated through convenience sampling,[2] in the rest of this paper these individuals will be referred to as "interviewers". Two students were recruited via the university's system and received course credits for participating, the remaining interviewers were recruited on voluntary basis via the researchers' personal network. To partake interviewers had to be at least 18 years of age and have proficiency in the English language. Three interviewers were removed from the sample (two error, one no error) because either the communication error had not been made or because the suspect, who was played by a confederate, did not use the standardized response. After exclusion, the sample consisted of 112 interviewers. This final sample had a mean age of 23.7 years (*SD* = 7.7). Gender was distributed among the interviewers with 51.8% identifying as female, 47.3% identifying as male, and 0.9% of identifying as neither male nor female. Further, 64.3% of the interviewers were Dutch, 27.7% were German, 0.9% had a different European nationality, and 7.1% had a non-European nationality. Lastly, 67.9% of the interviewers indicated having a bachelor level of education, 15.2% had a master's level of education, 9.8% had a secondary school education, 6.3% had an apprenticeship, and 0.9% had no educational background.

Materials

Stress

To measure interviewers' levels of stress the Dundee Stress State Questionnaire (DSSQ) by Matthews et al. (2002) was used. With 30 items in total, and three subscales, the DSSQ measured interviewers' *task engagement* (e.g., "My attention was directed towards the task."), *distress* (e.g., "I felt tense."), and *worry* (e.g., "I was worried about what other people might think of me."). Items were answered on a five-point Likert scale, with answer categories ranging from 1 (*definitely false*)

[2] Before this count, a total of 17 participants partook in the study. However, the data of these interviewers were excluded following the detection of a mistake in the suspects' instructions.

to 5 (*definitely true*). Matthews et al. (2002) did not specify to which subscale items belonged; hence, a principal component analysis was performed using an Oblimin rotation (Brown, 2009). This analysis revealed too many cross loadings; therefore, all items were combined into one mean score. Beforehand, positively worded items were reverse coded to ensure that high scores indicated higher experienced stress. The internal consistency was considered high (Cronbach's α = .88) (Taber, 2018).

Distraction

To measure interviewers' distraction two scales were used, one regarding *on-task thoughts* (OTT) ("I found it easy to concentrate on the task") adopted from Dimitrova et al. (2015), and a scale concerning *negative self-related thoughts* (NST) ("I thought about what the experimenter would think of me") adopted from Dickhäuser et al. (2011). Each scale consisted of six items and was scored on a five-point Likert scale, with answer categories ranging from 1 (*not at all*) to 5 (*very much so*). For analysis, mean scores were calculated per subscale. A high score on the OTT meant interviewers could better focus on the interview. A high score on NST meant interviewers were more distracted during the interview. The internal consistency was fairly high for both OTT (Cronbach´s α = .84), and NST (Cronbach´s α = .84) (Taber, 2018).

Error Orientation

To measure interviewers' error orientation two out of eight subscales from the Error Orientation Scale (EOS) by Rybowiak et al. (1999) were adopted. With four and five items, respectively, we measured *learning from errors*, i.e., EMO (e.g., "Mistakes assist me to improve my work"), and *error strain,* i.e., EPO (e.g., "I am often afraid of making mistakes."). The scales were introduced by a hypothetical text to preserve the context-dependent nature of the EOS (see appendix A). Items were answered on a five-point Likert scale, with answer categories ranging from 1 (*this is totally not me*) to 5 (*this is totally me*). For analysis, mean scores were calculated. A high score on learning from errors meant an interviewer was mentally set to manage upcoming errors. A

higher score on error strain meant an interviewer had a higher fear of making errors. The internal consistency was considered high for learning from errors (Cronbach's α = .87), and fairly high for the error strain subscale (Cronbach's α = .84) (Taber, 2018).

Behavioural Responses

To capture interviewers' behavioural responses a coding scheme was devised. Aside from the theorized responses (apologize, explore, deflect and no alignment), the responses of *accept* and *contradict* were observed during the interviews and supplemented the coding scheme. All six responses were in accordance with previous literature (Oostinga et. al, 2018a; 2020). Because no alignment responses were not observed this code will not be accompanied by a quote in the explanations below. First, responses were coded as apologize when interviewers owned up to their responsibility of erring (e.g., "Oh, I am sorry …"). Second, responses were coded as explore when the interviewer sought additional information on the error by asking a question (e.g., "… what missing tablet?"). Third, responses were coded as deflect when the interviewer averted responsibility of the error to a third party (e.g., "… then maybe someone informed you wrong …"). Fourth, responses were coded as accept when the interviewer adopted the perspective offered by the suspect ("Yes, okay …"). Fifth, responses were coded as contradict whenever interviewers opposed the suspect's perspective on the conversation (e.g., "That is not correct …"). Lastly, responses would have been coded as no alignment whenever the interviewer's response disregarded the error.

Based on the recorded interviews verbatim transcripts were created, which were used in combination with the footage. Coding was based on the first remark by the interviewer after the onset of the error and were transcribed until the suspect reacted. We chose this interval to prevent interviewers' behaviour being affected by a suspect's responses. Further, some of the interviewers used combined responses, therefore a response was coded as the *prominent response* when it was accentuated most by the interviewer's non-verbal and verbal behaviour. When a response was also

used, but less dominantly, it was coded as a *secondary response*. Coding was done by the four researchers, where each subset was independently coded by one unique pair of researchers. During the coding process, the researchers knew about their individual predictions, but were held blind to the allocation of the motive condition and interviewers' scores on the dependent variables. The first pair of coders examined 28 interviews, and the second pair of coders examined 27 interviews. The inter-rater reliability (IRR) was calculated for both the prominent and secondary responses for each subset separately, weighted, and collapsed into two combined IRR scores. The IRRs of the first coding round were considered unacceptable.[3] Therefore, after review, a second round of coding was conducted. The result of this round was a weak IRR for the prominent responses (Cohen's $\kappa = .65$).[4] The agreement on the secondary responses remained too low (Cohen's $\kappa = .30$).[5] Therefore, the secondary responses were excluded from analysis. Disagreements were resolved by means of discussion.

Procedure

The experiment was conducted via video call, per Microsoft Teams and Google Meets. Firstly, the researcher informed interviewers about the procedure and goals of the study, which were approved by the Behavioural Management and Social Sciences Ethics Committee of the University of Twente. After having provided consent, interviewers completed a survey including items on the demographics and error orientation. Subsequently, a scenario was presented on screen that briefed interviewers on their role during the interview, which was that of a human resource

[3] First coding round: prominent response (Cohen's $\kappa = .38$); secondary response (Cohen's $\kappa = .37$).

[4] Prominent response: $\kappa = ((\kappa_{subset1} * \text{valid cases}_{subset1}) + (\kappa_{subset2} * \text{valid cases}_{subset2})) \div (\text{total valid cases}) = ((.57 * 28) + (.71 * 27)) \div (55) = .65$.

[5] Secondary response: $\kappa = ((\kappa_{subset1} * \text{valid cases}_{subset1}) + (\kappa_{subset2} * \text{valid cases}_{subset2})) \div (\text{total valid cases}) = ((.44 * 28) + (.15 * 27)) \div (55) = .30$.

professional asked to interview an employee suspected of causing a data breach.[6] The employee had been linked to the disappearance of a company-owned USB stick, which contained sensitive information. The information unknowingly prepared interviewers to make a potential error and manipulated interviewers' presumptions on the motive of the suspected employee. These manipulations are discussed in detail in the sections below. Lastly, the scenario also included a list of probing questions ("*What did the employee do on the day the USB stick went missing?*"). These provided interviewers with a lead to start the interview and encouraged interviewers to address the missing USB stick during the interview, which was necessary to realize the error.

After reading the scenario, interviewers were to close the scenario and were referred back to the video call. Next, the suspect was called in. Upon the suspect's arrival, the researcher started the video recording and requested the interviewers to start the interview after the researcher had turned off their webcam and microphone. At this stage the interviewers only had direct audio-visual contact with the suspect and could freely question them. Although, the suspect always denied involvement in the crime. This interview formed their first encounter, as none of the interviewers had met their suspect prior to the interview. After five minutes had passed, the researcher made clear that the interview had ended, that the suspect could leave the video call, and asked the interviewers to complete a new set of items. These included the scales on distraction, stress, and a manipulation check which is explained in a section below. At last, the interviewers were debriefed.

Error Manipulation.

[6] No significant results were found between the studies' outcome variables in relation to the individual portraying the suspect, nor for the suspect's gender (see appendix D).

Whenever interviewers asked the suspect about the whereabouts of the missing USB stick, the suspect differentiated their answer based on the interviewer's allocated error condition (error vs. no error). In the no error group, the suspect affirmed the disappearance of the USB stick: "*Yes, I heard there was a USB stick missing*". In the error group, however, the suspect defied the interviewers' assertion that a USB stick was missing with the remark: "*I thought this interview was about the missing tablet, not a USB stick*" (see appendix B). By contradicting interviewer's recollection of the information provided in the scenario, interviewers should have been led to believe that they had used incorrect information and had made an error. The use of standardized responses helped establish uniform interactions and enabled between-group comparisons.

Motive Manipulation.

We also manipulated the interviewers' ideas on the suspect's motive (purposeful vs. accidental). All interviewers received the same scenario, the only between-group difference was the preliminary judgement on the suspect's motive which was integrated in the scenario's closing statements. The scenario in the purposeful condition read that the suspect may had purposefully lost the USB stick (see appendix C), whereas the scenario in the accidental condition read that the suspect may had accidentally lost the USB stick (see appendix D).

Motive manipulation check.

To assess whether the motive manipulation was successful, interviewers were presented a closed-ended question directly after the interview. We asked all interviewers to indicate what their impression of the suspects' motive had been prior to the start of the interview. Interviewers could indicate that they initially had either believed that (1) the suspect was innocent, (2) that the suspect had purposefully lost the USB stick, (3) that the suspect had accidentally lost the USB stick, or (4) that they had not reached a conclusion on the suspect's motive. If the motive manipulation was effective, that is interviewers had adopted the presumed motive according to the information

provided in the scenario, we expected to find significantly more answers of the second category in the purposeful group, and significantly more answers of the third category in the accidental group.

Results

Preliminary Analysis

Descriptive Statistics and Intercorrelations

As can be seen in Table 2, a positive, albeit weak, significant association was found between EMO and OTT, whereas a moderate positive association was found between EPO and NST. This means that a higher score on an EMO was accompanied by better focus during the interview, whereas a higher score on an EPO was associated with more distraction during the interview. Further, stress had a strong positive correlation to NST, and had a moderate negative correlation to OTT. This implies that as interviewers experienced more stress, they also tended to experience more distraction during the interview, and inversely. As can be seen in Table 3, the differences between the (combined) error conditions were small for stress, OTT, and NST.

Table 2

Means, standard deviations, and intercorrelations among age and the studied variables

Variables	$\bar{x}$	*SD*	1	2	3	4	5	6
1. Age	23.77	7.77	–					
2. Error management (EMO)	3.75	0.76	-.15	–				
3. Error prevention (EPO)	2.56	0.82	.13	**-.39****	–			
4. On-task thoughts (OTT)	3.83	0.73	.00	**.25****	**-.32****	–		
5. Negative self-related thoughts (NST)	2.36	0.90	**.19***	**-.20****	**.52****	**-.47****	–	
6. Stress	2.41	0.52	.14	**-.25****	**.50****	**-.65****	**.80****	–

Note. $N = 112$.

$^{*}p < .05$. $^{**}p < .01$.

Table 3

Means and Standard Deviations of Stress, On-task thoughts and Negative self-related thoughts per error-motive combination

Presumed motive condition	Accidental (*n* = 56)				Purposeful (*n* = 56)				Combined conditions (*N* = 112)			
	Error (*n* = 26)		No error (*n* = 30)		Error (*n* = 29)		No error (*n* = 27)		Error (*n* = 55)		No error (*n* = 57)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Stress	2.48	0.57	2.42	0.54	2.40	0.55	2.36	0.42	2.44	0.55	2.39	0.48
On-task thoughts (OTT)	3.53	0.72	3.90	0.72	3.91	0.73	3.96	0.69	3.73	0.75	3.93	0.70
Negative self-related thoughts (NST)	2.33	0.85	2.40	1.05	2.50	0.96	2.20	0.70	2.42	0.90	2.30	0.90

Motive Manipulation Check

To examine whether the manipulation of the interviewers´ presumptions on the suspect´s motive was effective we ran a chi-square test of independence. We assessed the link between the interviewers' allocated motive condition and the motive manipulation check. We expected interviewers favoured the purposeful motive answer during the manipulation check when they were assigned to the purposeful condition, and that interviewers favoured the accidental motive answer in the accidental condition. However, a non-significant difference was found, χ^2 (3, *N* = 112) = 6.52, *p* = .09.[7] Therefore, there was no evidence to suggest that interviewers' presumptions on the suspect's motive differed between the manipulated conditions. However, we still analysed the allocated motive condition because we inquired interviewers on their presumed motives only after the interview. This could mean that the answers on the manipulation check had been adulterated by the content of the interview, rather than that it reflected the efficacy of the motive manipulation.

Hypothesis Testing

[7] This chi-square test violated the assumption that a maximum of 20% of the expected counts may be less than five, because two cells (25%) fell below that criterion. However, other tests did not show a correct fit with our 2 × 4 contingency table (motive condition × motive manipulation check). A close alternative, Fisher's Exact Test, also revealed a similar non-significant difference, *p* = .09.

In order to test our predictions that interviewers who made factual communication errors would experience more stress and distraction compared to interviewers that did not make this error (H1), that this relationship would be moderated by interviewers' error orientation (H2a) and moderated by interviewers' presumed motive (RQ1a) we performed a two-way multivariate analysis of variance (MANOVA). Prior to conducting the MANOVA, the assumptions were tested, which were all satisfied but one: The Shapiro-Wilk test showed a significant deviation from normality for both OTT, $W(112) = .08$, $p = .01$, and for NST, $W(112) = .10$, $p = .01$. We ignored this violation as the distributions did approximate normality (see appendix E). We used error making, presumed motive, EPO, and EMO as predictor variables. We included OTT, NST, and stress as outcome variables.

Stress and Distraction

Direct Effects by Error. Contrasting our prediction that erring would enhance interviewers' levels of stress and distraction compared to interviewers that did not make a communication error (H1), there was no significant multivariate effect of error making, $F(3,102) = 0.36$, $p = .78$. $\eta_p^2 = .01$. This indicates that there is insufficient evidence to suggest that making factual errors affected interviewers' experiences of stress and distraction.

Moderating Effects by Error Orientation. We predicted that interviewers with a higher score on EMO would endure less stress and distraction after making an error, compared to interviewers with a lower score on EMO. The opposite pattern was expected for interviewers with a higher score on EPO, relative to interviewers with a lower score on EPO (H2a). These predictions were not supported, because both moderation effects were non-significant. From EMO on error condition, $F(3,102) = 0.31$, $p = .82$. $\eta_p^2 = .01$, as well as from EPO on error condition, $F(3,102) = 1.15$, $p = .33$. $\eta_p^2 = .03$. Therefore, one's error orientation did not affect the level of stress and distraction after erring.

Notably, the MANOVA revealed a significant direct effect of EPO, $F(3,102) = 11.62$, $p > .001$, with a significant association to stress, $F(1, 104) = 28.43$, $p < .001$, $\eta_p^2 = .22$; OTT, $F(1, 104) = 7.57$, $p =$

.01, η_p^2 = .07; and NST, $F(1, 104) = 32.93$, $p < .001$, η_p^2 = .24. Considering the directions of the correlations (see Table 2), this means interviewers scoring higher on EPO did, regardless of erring, perceive more stress and distraction during the interview than did interviewers with lower scores.

Moderating Effects by Presumed motive. The moderation effect of interviewers' presumed motives on perceptions of stress and distraction after erring (RQ1) was non-significant, $F(3,102) = 1.28$, $p = 29$. $\eta_p^2 = .04$. This suggests that interviewers' presumptions did not affect their experience of stress or distraction after erring.

Behavioural Responses: Deflect and Exploring

Interviewers responded relatively frequent to the error by using deflect (*n* = 14), followed by an explore response (*n* = 12). Of the additional responses, contradict was used most often (*n* = 28) and the accept response was marginally used (*n* = 1). The accept response could not provide credible estimates, as the observed frequency was too low, and was therefore excluded from analysis. Further, since the contradict was not considered in the hypotheses, this response is included in an additional analysis that ensues below this section.

To assess the direct effects of error orientation (H2b) on the used behavioural responses we computed several binary logistic regressions, one per behavioural response type. Additionally, we allowed for a moderating effect by presumed motive (RQ1b) on stress and distraction. Each binary logistic regression included stress, OTT, NST, EMO, and EPO as predictor variables for the behavioural responses.[8] The responses were coded as binary dependent variables, with 0 = not used

[8] The correlation between stress and NST was relatively strong (see table 2). This could signal multicollinearity when both variables would be used as predictor variables, as is the case in these regressions. Running collinearity diagnostics revealed stress had a variance inflation factor of 3.85. We opted to retain both stress and NST during this behavioural analysis. The variance inflation factor was considered sufficiently low and would therefore not impair statistical significance (Allison, 2012). Further, we wanted to avoid an omitted variable bias, which would have given a false impression of the predictive value of the individual predictors.

and 1 = used. Additionally, we allowed for an interaction effect of presumed motive with stress, with OTT, and with NST. Table 4 presents the coefficients of these regressions.

The full models for predicting both deflect and exploring were non-significant, explaining 11.4% and 22.4% of the variance (Nagelkerke R^2), respectively. Therefore, combining stress, distraction, error orientation, and presumed motive did not improve the ability to explain the variance in the interviewers behavioural responses, relative to chance. In other words, the predictor variables taken together did not affect the behavioural responses of interviewers after erring. Further, none of the variables showed individual significance.

Table 4

Regression, Standard Deviations, and Odds Ratios of Coefficients for the Response strategies as defined by Interviewers' Stress, Distraction, Error Orientation and Presumed Motives.

	Response strategies											
	Deflect (n = 14)[a]				Explore (n = 12)[b]				Contradict (n = 28)[c]			
	B	*SE B*	Odds Ratio	Intervals	*B*	*SE B*	Odds Ratio	Intervals	*B*	*SE B*	Odds Ratio	Intervals
Constant	-3.44	5.96	0.03	-	5.98	5.91	396.14	-	-3.74	4.26	0.03	-
Stress	-0.09	1.66	0.92	[0.04, 23.66]	-1.10	1.97	0.33	[0.00, 15.82]	-1.58	1.27	0.21	[0.02, 2.48]
Error management (EMO)	-0.25	0.42	0.78	[0.34, 1.78]	-0.24	0.49	0.79	[0.30, 2.05]	0.48	0.34	1.62	[0.82, 3.17]
Error prevention (EPO)	-0.19	0.49	0.82	[0.32, 2.14]	-0.73	0.55	0.48	[0.16, 1.41]	0.48	0.37	1.62	[0.78, 3.36]
On-task thoughts (OTT)	0.82	0.88	2.27	[0.41, 12.61]	-1.64	0.90	0.19	[0.03, 1.14]	0.34	0.61	1.41	[0.43, 4.65]
Negative self-related thoughts (NST)	-0.21	0.93	0.81	[0.13, 4.96]	-1.32	1.00	3.74	[0.53, 26.52]	0.86	0.64	2.37	[0.68, 8.26]
Presumed motive condition[d] × Stress	2.40	2.31	11.07	[0.12, 1028.75]	0.29	2.73	1.34	[0.01, 282.50]	-0.28	1.83	0.76	[0.02, 27.33]
Presumed motive condition × OTT	-0.77	1.14	0.46	[0.05, 4.28]	0.84	1.29	2.32	[0.19, 29.01]	-1.64	0.93	0.19	[0.03, 1.19]
Presumed motive condition × NST	-0.45	1.17	0.64	[0.06, 6.36]	-1.07	1.32	0.34	[0.03, 5.52]	-0.87	0.90	0.42	[0.07, 2.43]

[a]$\chi^2(9, n = 56) = 6.99$, $p = .64$, $R^2 = .11$. [b]$\chi^2(9, n = 56) = 13.15$, $p = .16$, $R^2 = .22$. [c]$\chi^2(9, n = 56) = 10.55$, $p = .31$, $R^2 = .13$. [d]0 = Accidental, 1 = Purposeful.

*$p < .05$.

Additional Analysis

Behavioural Responses: Contradict

In line with prior analyses, we ran an additional binary logistic regression for the contradict response, as shown in Table 4. The full model for predicting contradict explained 13.3% of the variance

(Nagelkerke R^2) but was non-significant. This meant that combining the predictor variables did not improve prediction of a contradiction response by interviewers after they had made an error. Again, none of the individual variables showed significance.

Discussion

This study examined the effects of communication errors on interviewers levels of stress and distraction during organizational interviews. Further, it was examined whether this relationship would be affected by interviewers' error orientation and presumptions about the suspect's motives. Lastly, we assessed whether interviewers' error orientation and motive presumptions affected interviewers behavioural responses to errors. Our findings suggest that factual errors did not affect the experience of stress or distraction in interviewers. Moreover, interviewers' error orientation and allocated motive condition did not affect how interviewers felt and behaved after erring.

These findings must be interpreted with caution since they are based on novel experimental research. This means that important shortcomings have surfaced that need to be considered. These shortcomings will be discussed throughout the upcoming sections. For now, we can only provide preliminary indications of what these findings might tell us.

Factual Errors and Error Orientation

Against our expectations, making factual errors did not significantly increase interviewers' experience of stress or distraction. These findings contradict earlier research by Oostinga et al. (2020) which showed that making factual errors significantly enhanced officers' levels of stress and distraction. A possible explanation for the findings by Oostinga and colleagues was that officers perceived their error to have a negative impact on their reputation. In contrast, interviewers in our study did not experience significantly increased negative thoughts about their performance after being confronted with errors. Rather, interviewers generally were able to focus on the interview. This may suggest that interviewers typically did not ruminate over the impact of the error on their

image. Further, the absence of a significant increase in stress among interviewers who made errors may indicate that interviewers did not perceive the error as threatening.

These conflicting findings may be explained by a difference in participant samples. The findings from Oostinga et al. (2020) were derived from experienced police officers, whereas this study made use of inexperienced interviewers. Matthews et al. (2019) argue that individuals with little expertise underestimate the consequences of their errors. Further, Keith and Frese (2015) suggest that individuals are inclined to attend errors with more severe consequences, rather than errors with negligible consequences. The suspect in our study was instructed to answer all questions, therefore interviewers did not encounter obvious consequences of their error. The lack of apparent consequences combined with using naïve interviewers may have led to interviewers' non-response to factual errors.

Against our predictions, interviewers' error orientation did not significantly moderate interviewers' levels of stress and distraction after erring. The correlations revealed significant statistical relationships between the error orientations and the measures for stress and distraction. But, when comparing the error orientations on interviewers' levels of stress and distraction after error making, no statistically significant differences were found. Further, our findings reveal interviewers' error orientation also could not significantly predict the behavioural responses interviewers used.

These finding may provide additional support for the suggestion that interviewers did not see the error as consequential. Error orientations focus on managing the consequences of errors, either by focusing efforts on regulating emotional states or by coping with the source of a problem (Dimitrova, 2015). Yet, when an error does not provide apparent consequences to be coped with, one's error orientation will not be relevant – not for stress, distraction, or the behavioural responses.

Remarkably, interviewers with high EPO scores were significantly affected by distraction and stress, but not in relation to errors. This could suggest that interviewers scoring high on an EPO generally felt more at unease during the interview. However, we cannot be affirmative on this interpretation since confounding variables cannot be ruled out. Different from earlier research we did not manipulate the error orientation via instructions (see e.g., Dimitrova et al., 2015, 2017). Instead, we tried to establish what error orientation interviewers would naturally use when they approach factual communication errors. For future research, manipulating the error orientation can help rule out confounding variables, and provide new insights into the role of error orientations in interviews.

Factual Errors and Presumed motives

We devised two explorative questions to examine the role of interviewers' presumptions in error handling. The first question focused on whether presumptions on the suspect's motive could moderate the effect of errors on interviewers' levels of stress and distraction. The second question examined whether interviewers' presumptions on the suspect's motive could moderate the effects of stress and distraction on the behavioural responses interviewers used after erring. The findings suggest that there is no evidence for a moderation effect of presumed motives on stress and distraction, or on the behavioural responses used. We need to be careful in interpreting these findings since the motive manipulation check was non-significant, which means that is uncertain whether the manipulation worked or whether there was in fact no effect of presumed motives. We will further elaborate on this limitation in a later section. We now proceed to interpret the findings under the assumption that the manipulation was effective, which would mean interviewers had acquired different motive presumptions on the suspect's motive.

With regards to the moderation effect of presumed motives on stress and distraction, the findings indicate that interviewers did not show more stress or distraction after making factual

errors when interviewing a presumed purposeful insider compared to when interviewing a presumed accidental insider. We argued, based on the findings by Oostinga et al. (2020), that presumed motives could affect how interviewers' would evaluate the impact of their errors. However, as suggested earlier it may be that interviewers were not aware of the consequences of their errors. Whenever interviewers do internalize the impact of their errors, then they would also not be able to make an (un)conscious evaluation of how problematic they perceive their error to be, relative to the suspect.

The moderation effect of presumed motives on the relationship between stress, distraction and the behavioural responses interviewers used was non-significant. Therefore, interviewers presumptions on the suspect's motive did not affect how stress and distraction associated to the behavioural responses. Moreover, the experienced levels of stress and distraction did not significantly predict interviewers' behavioural responses to errors. The latter findings seem to be in accordance with the suggestion by Oostinga et al. (2020). Namely, that when interviews apply an instrumental approach, stress and distraction do not predict the behavioural responses interviewers use. Instead, interviewers opt for more dominant behavioural responses.

One concluding alternative explanation for the findings above may be that interviewers did not perceive the error to be their responsibility. This is supported by the finding that interviewers primarily used deflect, explore, and contradict responses. Neither of these responses take the responsibility for the error (Oostinga et. al, 2018a; 2020). Whenever interviewers do not feel responsible for the error, they would also not negatively evaluate themselves based on the error (i.e., distraction), or feel threatened by the error (i.e., stress). To explore this alternative explanation, future research may want to use additional qualitative questions about the error after the interview.

Limitations and Recommendations

Our study also has important limitations, and we will discuss five of these below. First, as discussed previously, one of the alternative explanations for a lack of findings may be that we based the factual error on a missing object. This is different from the study by Oostinga et al. (2020) who based the error on misnaming someone. We decided on changing the content of the error because trial interviews showed that interviewers were not inclined to use the suspect's name.
With that decision it is uncertain whether the non-significant effects of errors result from the fact that factual errors generally do not affect interviewers' responses in an organizational setting, or because this specific factual error is not impactful in this context. To provide clarity, future studies could include different types of factual errors and run in-between group comparisons.

Second, the study's sample consisted predominantly of students, inexperienced with conducting interviews. Although not all occupational interviewers have been trained to conduct interviews (Lattal, 2016; Meerts, 2020), students cannot fully substitute them. Occupational interviewers have prior experience that they can revert to (Lattal, 2016), which students do not possess. A consequence may be that occupational interviewers intuitively perceive errors different than novices would and exhibit dissimilar responses accordingly. As a result, novice interviewers may perceive the communication errors as less disruptive. We tried to overcome this limitation by providing interviewers with a scenario that showed how an interviewer might normally approach an interview. However, this scenario likely does not compensate for lacking experience, and did not provide insight into possible consequences of errors.

Notably, the interviewers were recruited via convenience sampling. This approach may bias estimates because of under- or overrepresentation of subgroups, which impairs external validity. The shortcomings in the recruited sample and the sampling procedure were a direct result of the limited resources for conducting this study. A possible step to overcome these limitations would be to recruit occupational interviewers, preferably using probability sampling methods.

Third, the experiment was conducted via role-play. Although, role-plays can be a valid research method, this is only the case when participants experience the role-play as realistic (Greenwood, 1983). A lack of realism may affect interviewers' responsiveness to errors. Considering the role-play was conducted via video call, during which interviewers led the interview from their own home, and in which one of the researchers played the suspect, realism cannot be guaranteed. This may provide an alternative explanation of our findings, since Oostinga et al. (2020), whose findings were fundamental for our predictions on the effects of errors, did cover these shortcomings. Future studies could improve by employing an actor, by making use of a realistic setting, and/or by inquiring interviewers how realistic they experienced the interview to be.

Fourth, we administered the manipulation check only after the interview. We did so to prevent subject bias, which means that interviewers would (un)consciously act in accordance with the perceived goals of the study. However, as a result, the manipulation check may not have measured interviewers presumptions on the suspects guilt, as these may have been affected by the interview itself. Consequentially, it could not be established whether the manipulation on presumed motives was ineffective, or whether there was indeed no effect of interviewers' presumptions and their responses to errors. Future studies may therefore opt to administer the manipulation check directly after presenting interviewers with the scenario.

Fifth, the criterium of 'prominence' during the coding process was too ambiguous. Coders agreed on which responses were observable, but not on the prominence thereof. The result was poor coding reliability for both the primary as the secondary responses. An additional round of coding only slightly improved reliability, which had two implications. Firstly, the consistency of the first response category remained rather low, which could also explain a lack of findings on the behavioural responses. Secondly, reliability was too low for the secondary responses, which therefore needed to be precluded from analysis. Consequently, we could not analyse the combined

responses, which would have provided additional insights on interviewers' responses to errors. Therefore, future studies may benefit from making stricter agreements on the operational definitions during the coding process.

Conclusion

This study examined the psychological and behavioural effects of factual communication errors on inexperienced interviewers in an organizational context. No statistically significant effects were found for error making on interviewers' levels of stress and distraction, nor for moderating effects by interviewers' motive presumptions or error orientation. Further, interviewers' behavioural responses to errors seemed unaffected by interviewers' motive presumptions and interviewers' error orientation. These findings provide early indications that factual errors, motive presumptions, and error orientation may have no disruptive impact on interviewers in an organizational context. However, this is one of the first studies that focused on communication errors in a workplace setting, consequently more research is required. A next step could be to examine whether the current findings are rooted in the perceived severity of the error, the error type, or the interview setting. These efforts can expand our understanding of the impact of communication errors during interviews and could help train interviewers in recognizing and handling their errors.

References

Abbe, A., & Brandon, S. E. (2013). The role of rapport in investigative interviewing: A review. *Journal of Investigative Psychology and Offender Profiling*, *10*(3), 237-249. https://doi-org.vu-nl.idm.oclc.org/10.1002/jip.1386

Adams-Quackenbush, N. M., Vrij, A., Horselenberg, R., Satchell, L., & van Koopen, P. (2020). Articulating guilt? The influence of guilt presumption on interviewer and interviewee. *Current Psychology*. https://doi.org/10.1007/s12144-020-00726-z

Alison, L., Alison, E., Noone, G., Elntib, S., Waring, S., & Christiansen, P. (2014). The efficacy of rapport-based techniques for minimizing counter-interrogation tactics amongst a field sample of terrorists. *Psychology, Public Policy, and Law*, *20*(4), 421-430. http://dx.doi.org.vu-nl.idm.oclc.org/10.1037/law0000021

Allison, P. (2012, September 10). *When can you safely ignore multicollinearity?* Statistical Horizons. https://statisticalhorizons.com/multicollinearity

Brown, J. D. (2009). Questions and answers about language testing statistics: Choosing the right number of components or factors in PCA and EFA. *JALT Testing & Evaluation SIG Newsletter*, *13*(2), 19-23. https://hosted.jalt.org/test/bro_30.htm

Christiansen, P., Alison, L., & Alison, E. (2018). Well begun is half done: Interpersonal behaviours in distinct field interrogations with high-value detainees. *Legal Criminological Psychology*, *23*(1), 68-84. https://doi.org/10.1111/lcrp.12111

Coburn, N. F. (2006). Corporate investigations. *Journal of Financial Crime*, *13*(3), 348-368. https://doi-org.vu-nl.idm.oclc.org/10.1108/13590790610678422

Cushman, F. (2008). Crime and punishment: Distinguishing the roles of causal and intentional analyses in moral judgment. *Cognition*, *108*(2), 353-380. https://doi.org/10.1016/j.cognition.2008.03.006

Dickhäuser, C., Buch, S. R., & Dickhäuser, O. (2011). Achievement after failure: The role of achievement goals and negative self-related thoughts. *Learning and Instruction*, *21*(1), 152-162. https://doi.org/10.1016/j.learninstruc.2010.01.002

Dimitrova, N. G., van Dyck, C., van Hooft, E. A. J., & Groenewegen, P. (2014). Don't fuss, focus: The mediating effect of on-task thoughts on the relationship between error approach instructions and task performance. *Applied Psychology: An International Review*, *64*(3), 599-624. https://doi.org/10.1111/apps.12029

Dimitrova, N. G., van Hooft, E. A. J., van Dyck, C., & Groenewegen, P. (2017). Behind the wheel: What drives the effects of error handling? *The Journal of Social Psychology*, *157*(6), 658-672. https://doi.org/10.1080/00224545.2016.1270891

Drolet, A. L., & Morris, M. W. (2000). Rapport in conflict resolution: Accounting for how face-to-face contact fosters mutual cooperation in mixed-motive conflicts. *Journal of Experimental Social Psychology*, *36*(1), 26-50. https://doi.org/10.1006/jesp.1999.1395

Farnese, M. L., Fida, R., & Picoco, M. (2020). Error orientation at work: Dimensionality and relationships with errors and organizational cultural factors. *Current Psychology*. https://doi-org.vu-nl.idm.oclc.org/10.1007/s12144-020-00639-x

Fisher, R.P. (2010). Interviewing cooperative witnesses. *Legal and Criminological Psychology*, *15*(1), 25-38. https://doi-org.vu-nl.idm.oclc.org/10.1348/135532509X441891

Gino, F., Shu, L. L., & Bazerman, M. H. (2010). Nameless + harmless = blameless: When seemingly irrelevant factors influence judgment of (un)ethical behavior. *Organizational Behavior and Human Decision Processes*, *111*(2), 93-101. https://doi.org/10.1016/j.obhdp.2009.11.001

Greenwood, J. D. (1983). Role-playing as an experimental strategy in social psychology. *European Journal of Social Psychology*, *13*(3), 235-254. https://doi-org.vu-nl.idm.oclc.org/10.1002/ejsp.2420130304

Hanway, P., Akehurst, L., Vernham, Z., & Hope, L. (2021). The effects of cognitive load during an investigative interviewing task on mock interviewers' recall of information. *Legal and Criminological Psychology*, *26*(1) 25-41. https://doi-org.vu-nl.idm.oclc.org/10.1111/lcrp.12182

Kanfer, R., & Ackerman, P. L. (1989). Motivation and cognitive abilities: An integrative/aptitude-treatment interaction approach to skill acquisition. *Journal of Applied Psychology*, *74*(4), 657–690. https://doi-org.vu-nl.idm.oclc.org/10.1037/0021-9010.74.4.657

Keith, N., & Frese, M. (2005). Self-regulation in error management training: Emotion control and metacognition as mediators of performance effects. *The Journal of applied psychology*, *90*(4), 677-91. https://doi.org/10.1037/0021-9010.90.4.677

Keith, N., & Frese, M. (2015). Action errors, error management, and learning in organizations. *Annual Review of Psychology*, *66*(1), 661-687. https://doi-org.vu-nl.idm.oclc.org/10.1146/annurev-psych-010814-015205

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, *119*(2), 254-284. https://doi-org.vu-nl.idm.oclc.org/10.1037/0033-2909.119.2.254

Kukucka, J., & Kassin, S. M. (2014). Do confessions taint perceptions of handwriting evidence? An empirical test of the forensic confirmation bias. *Law and Human Behavior*, *38*(3), 256-270. https://doi-org.vu-nl.idm.oclc.org/10.1037/lhb0000066

Lattal, A. (2016). The hidden world of unconscious bias and its impact on the "neutral" workplace investigator. *Journal of Law and Policy*, *24*(2), 411-466. https://brooklynworks.brooklaw.edu/jlp/vol24/iss2/3

Lin, J., Matthews, G., Wohleber, R. W., Funke, G. J., Calhoun, G. L., Ruff, H. A., Szalma, J., & Chiu, P. (2020). Overload and automation-dependence in a multi-UAS simulation: Task demand and individual difference factors. *Journal of Experimental Psychology*, *26*(2), 218-235. https://doi.org/10.1037/xap0000248

Matthews, G., Campbell, S. E., Falconer, S., Joyner, L. A., Huggins, J., Gilliland, K., Grier, R., & Warm, J. S. (2002). Fundamental dimensions of subjective state in performance settings: Task engagement, distress, and worry. *Emotion*, *2*(4), 315-340. https://doi.org/10.1037/1528-3542.2.4.315

Matthews, G., Szalma, J., Panganiban, A. R., Neubauer, C. & Warm, J. (2013). Profiling task stress with the Dundee Stress State Questionnaire. In Cavalcanti, L. & Sofia A. (Eds.), *Psychology of Stress* (pp. 49-91). Nova Science Publishers. https://www.researchgate.net/publication/256650794_Profiling_Task_Stress_with_the_Dundee_Stress_State_Questionnaire

Matthews, G., Wohleber, R., & Jinchao, L. (2019). Stress, skilled performance, and expertise: Overload and beyond. In Ward, P., Schraagen, J. M., Gore, J. & Roth E. M. (Eds.). *The Oxford Handbook of Expertise*. https://www.researchgate.net/publication/333934636_Stress_Skilled_Performance_and_Expertise_Overload_and_Beyond

Meerts, C. A. (2016). A world apart? Private investigations in the corporate sector. *Erasmus Law Review*, *9(*4), 162-176. https://doi.org/10.5553/ELR.000073

Meerts, C. (2020). Corporate investigations: Beyond notions of public–private relations. *Journal of Contemporary Criminal Justice*, *36(*1), 86-100. https://doi.org/10.1177/1043986219890202

Metcalfe, J. (2017). Learning from errors. *Annual Review of Psychology*, *68*, 465-489. https://doi-org.vu-nl.idm.oclc.org/10.1146/annurev-psych-010416-044022

Nurse, J. R. C., Buckley, O., Legg, P. A., Goldsmith, M., Creese, S., Wright, G. R. T., & Whitty, M. (2014). Understanding insider threat: A framework for characterising attacks. In *2014 IEEE Security and Privacy Workshops* (pp. 214-228). https://doi.org/10.1109/SPW.2014.38

O'Brien, B. (2009). Prime suspect: An examination of factors that aggravate and counteract confirmation bias in criminal investigations. *Psychology, Public Policy, and Law*, *15*(4), 315-344. https://doi.org/10.1037/a0017881

Oostinga, M. S. D., Giebels, E., & Taylor, P. J. (2018a). 'An error is feedback': The experience of communication error management in crisis negotiations. *Police Practice and Research, 19*(1), 17-30. https://doi.org/10.1080/15614263.2017.1326007

Oostinga, M. S. D., Giebels, E., & Taylor, P. J. (2018b). Communication error management in law enforcement interactions: A receiver's perspective. *Psychology, Crime & Law*, *24*(2), 134-155. https://doi-org.vu-nl.idm.oclc.org/10.1080/1068316X.2017.1390112

Oostinga, M. S. D., Giebels, E., & Taylor, P. J. (2020). Communication error management in law enforcement interactions: A sender's perspective. *Criminal Justice and Behavior, 47*(1), 39-60. https://doi.org/10.1177/0093854819870856

Parkinson, M., & Byrne, R. M. J. (2018). Judgments of moral responsibility and wrongness for intentional and accidental harm and purity violations. *Quarterly Journal of Experimental Psychology*, *71*(3), 779-789. https://doi.org/10.1080/17470218.2016.1276942

Ponemon Institute (2020). *2020 cost of insider threats – global report*. Observe IT. https://www.observeit.com/wp-content/uploads/2020/04/2020-Global-Cost-of-Insider-Threats-Ponemon-Report_UTD.pdf

PricewaterhouseCoopers (2019). *Economic Crime Survey Nederland 2019*. https://www.pwc.nl/nl/actueel-publicaties/assets/pdfs/pwc-economic-crime-survey-2019.pdf

Quaedflieg, C. W. E. M., & Schwabe, L. (2018). Memory dynamics under stress. *Memory*, *26*(3), 364-376. https://doi.org/10.1080/09658211.2017.1338299

Rybowiak, V., Garst, H., Frese, M., & Batinic, B. (1999). Error Orientation Questionnaire (EOQ): Reliability, validity, and different language equivalence. *Journal of Organizational Behavior*, *20*(4), 527-547. http://dx.doi.org/10.1002/(SICI)1099-1379(199907)20:4%3C527::AID-JOB886%3E3.0.CO;2-G

Schell, K. L. (2012). The Error-Oriented Motivation Scale: An examination of structural and convergent validity. *Personality and Individual Differences*. *52*(3), 352-356. https://doi.org/10.1016/j.paid.2011.10.035

Soukara, S. (2017). Investigative interviewing of suspects: the way forward. In Spinellis, C. D., Theodorakis, N., Billis, E., Papadimitrakopoulos, G., & Sieber, U. (Eds.) *Europe in crisis: crime, criminal justice, and the way forward* (pp. 902-920). Ant Souklas. http://crime-in-crisis.com/en/wp-content/uploads/2017/06/48-SOUKARA-KOURAKIS-FS_Final_Draft_26.4.17.pdf

Spectorsoft (2014). *SpectorSoft 2014 Insider Threat Survey*. https://silo.tips/download/spectorsoft-2014-insider-threat-survey

Strayer, D. L., & Drews, F. A. (2007). Cell-phone–Induced driver distraction. *Current Directions in Psychological Science*, *16*(3), 128-131. https://doi.org/10.1111/j.1467-8721.2007.00489.x

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, *48*, 1273-1296. https://doi.org/10.1007/s11165-016-9602-2

The National Insider Threat Task Force (2016). *Protect your organization from the inside out: government best practices.* United States Government. https://www.dni.gov/files/NCSC/documents/products/Govt_Best_Practices_Guide_Insider_Threat.pdf

Vrij, A., Hope, L., & Fisher, R. P. (2014). Eliciting reliable information in investigative interviews. *Policy Insights from the Behavioral and Brain Sciences*, *1*(1), 129-136. https://doi.org/10.1177/2372732214548592

Williams, J. W. (2014). The private eyes of corporate culture: The forensic accounting and corporate investigation industry and the production of corporate financial security. In Walby K., Lippert R.K. (Eds), *Corporate Security in the 21st Century*. Palgrave Macmillan. https://doi.org/10.1057/9781137346070_4

Zajacova, A., Lynch, S. M., & Espenshade, T.J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, *46*, 677-706. https://doi.org/10.1007/s11162-004-4139-z

Appendix A

Accompanying Test EOS

In a few minutes you are about to take on the role of a Human Resource professional, as a Human Resource professional you have conversations with other employees daily. When answering the sentences below, imagine yourself being in a situation where you asked your colleague how she felt about her promotion as Marketing Manager. However, it turns out you misunderstood and that your colleague had been promoted as Technology Manager. Describe to what degree these sentences agree with how you would think in this given situation.

Appendix B

Suspect Factors

Computing a two-way MANCOVA on the studies' outcome variables in relation to suspect factors showed neither significant results for the individual portraying the suspect (IS), Wilk's $\lambda = .98$, $F(3, 101) = .67$, $p = .57$, nor for the suspect's gender (SG), Wilk's $\lambda = .9$, $F(3, 101) = .19$, $p = .91$. The variables therefore did not affect interviewers' experienced stress or distraction after erring.

The same procedure was followed for the behavioural responses, except here separate binary logistic regressions were used. The effects were considered both non-significant for contradict (SG: $B = .35$ SE = .47, $p = .45$; IS: $B = .05$, SE = .24, $p = .83$), both non-significant for explore (SG: $B = -0.79$, SE = .72, $p = .27$; IS: $B = 0.11$, SE = .34, $p = .75$), and both non-significant for deflect (SG: $B = -0.87$, SE = .71, $p = .22$; IS: $B = -0.52$, SE = .36, $p = .14$). Therefore, the suspect factors did not affect the behavioural responses interviewers used. Following this, we did not include the suspect factors in the final analysis.

Appendix C

Suspect Script

Context / Background information

Imagine yourself in the following situation and try to act as realistically as possible. You are a 30-year-old automobile designer at a Volkswagen manufacturing plant in Wolfsburg. You have been employed there now for about 6 years. During the years you have slowly grown dissatisfied with your monthly pay grade. Several discussions with your managers have led to no avail, the management did not want to raise your pay. You feel like you are underpaid for your efforts and the experience you bring in.

Currently, you and your team are working on an exciting new project, the design of a new advanced electric model. Your task is to make sketches for the exterior of the car. Although you enjoy the actual drawing process most, your job also involves a lot of planning, developing concepts, revising, and having meetings with the art directors. You take your work seriously. You work very orderly and follow the deadlines tightly. Besides doing the necessary administration in the company's shared file system, you also make copies of your design work at the end of each shift.

A few weeks ago, a message popped up in your work's group chat which stated that the department's shared *tablet/USB-stick* containing vital sketches was missing from your design department's storage. It is a tablet/USB-stick that you use often to store your finalized sketches. In the meantime, a few weeks passed until news broke that the competing car manufacturer showcased a new model with headlights that shared an uncanny resemblance with those of the design you and your team were working on.

Your direct manager has called you and told you that there is a human resource professional that wants to have a video call with you. When you open the HR-interviewer video call you are told

that you are interviewed about a leak of sensitive information within the company. Although you have no clue what exactly happened, you are willing to answer all questions and tell your side of the story to the best of your ability.

Essential answers

When the interviewer starts the conversation, try to answer all questions. But never take the initiative in mentioning the *tablet/USB stick* was missing. Always, let the interviewer initiate this topic.

- It is possible that the interviewer mentions the missing of a USB stick containing the sketches. Then, there are two possible scenarios:
    1. No Error: The interviewer correctly indicates a USB stick containing the sketches is missing. In this scenario the interviewer has a correct understanding of the missing object. You always respond with ‘’*Yes, I heard there was a USB stick missing,’*
        i. If you are asked a specific question start with this sentence, and pause irrespective of what the answer after it is supposed to be. Make it a memorable pause as if you are thinking.
    2. Error: The interviewer falsely claims an USB stick containing the sketches was lost, as in reality a tablet was lost.
        ii. React surprised, and slightly frustrated whilst responding with the following sentence: *‘I thought this interview was about the missing tablet’*. After the initial response by the interviewer to this statement, irrespective of the response that is given, you always follow up with: ‘’*The design department’s tablet containing all of its vital sketches is missing, not a USB stick’’,* Use the same intonation as the sentence before.

- Whenever asked how it is possible that you were the last one registered to have used the USB stick/Tablet respond with: *the USB stick/tablet is also used by people who do not register for its usage. It may have happened like that. I don't know.*
- Whenever asked about your daily routine, or about the day the USB stick/Tablet went missing, respond with an outline of the following:

  1. Checking in at the office,

  2. Looking at your scheduled appointments,

  3.Opening your email to check for news, responding when necessary.

  3. Start working your way through the appointments,

  4. At the end of the day you always schedule time to work on the design after which you draw some additional doodles for working at home.

  5. Shut the systems down, clean up your desk, store the sketches on the USB stick /Tablet.

  6. Check out at the office.
- Whenever asked about anything working-related (your bosses, deadlines, projects etc.): always respond in an up-beat manner, you appreciate all of it. The only subject you are dissatisfied with is your current pay grade, whenever asked about this respond with: *'Although I am not really paid [50.000 Euro] what I am worth, I am contend with it*."
- Whenever the interviewer makes any statement about your possible guilt: ''*The only thing that I can do is tell you my side of the story, but I have not done anything wrong''.* In all situations you deny involvement.
- Whenever asked about whether the competing company has stolen the files, or when asked about the guilt of other individuals respond with: *''Of course that might be possible, but in my opinion, it can also be coincidence. I've seen plenty of designs in the past which looked alike, it happens'*.

- Whenever asked about details that happened in days before the missing of the USB stick, respond with *''Oh sorry, I honestly can't remember. A lot of time has passed since.''*
- If the interviewer asks a question that is not work-related try to answer them by either using the demographics below, or by making something up:
    - Age: 30 years old.
    - Sex: based on who takes the role of the interviewee.
    - Educational attainment: MSc in graphic design
    - Employment status: permanent contract, first company you worked for after your MSc.
    - Occupation: graphic designer.
    - Home situation: one partner working in a primary school as a teacher.
    - Nationality: German.
    - Activities besides work: reading non-fiction.

Before the start of the interview one of the researchers will indicate which scenario (Error or No error) needs to be adhered to. *Try to act as naturally as possible and try to behave as similar as possible towards all interviewers, furthermore it is of importance to try to answer all questions that come up.*

Appendix D

Interviewer Scenario in the Purposeful Condition.

You are a human resource professional for the company 'Volkswagen', for which you have been working for 10 years now. One of your tasks as a human resource manager is leading investigative interviews. As an investigative interviewer you already interviewed a lot of people in the company that were under suspicion of breaking the company's policy or engaged in malpractice.

Yesterday, one of the department managers called and told you that there was an incident in the design department. More specifically, two weeks ago, a USB stick with the designs for a new important project went missing. After this incident, a competing company publicly revealed their plans for the production of a new car with a similar look to the design saved on the lost USB. On the day the USB went missing the employee (Alex Baker) was the last one who signed up for using it. Therefore, you are asked to investigate the incident by interviewing Mr(s). Baker, a 30-year-old product designer, about the possible crime.

To prepare for the investigative interview, you begin to collect information about Mr(s). Baker.

Evidence

- The employee has a good relationship with other colleagues who described them as a friendly and ambitious person that is good with everybody.
- Mr(s). Baker did not sign out for the used USB stick disregarding company policy, which states that all use of equipment should be registered.
- Mr(s). Baker had several discussions with the manager about being dissatisfied with their pay grade, however all requests for an increased pay were denied.

- You hear from a colleague that Alex Baker has considered quitting the job in the past but has not yet done so.

Your conclusions

Based on this information you believe that Mr(s). Baker has given the USB-stick to a rival company. You base this idea on the evidence that although the employee appears to be a very ambitious and involved worker, they have also frequently requested a higher salary and thought about leaving the company. Further, the fact that Alex did not sign out for borrowing the equipment is unusual. During the interview, do not give all this information right away but try to ask directed questions to understand the suspects point of view. The goal of the interview, you are about to conduct, is to find out more about Mr(s). Baker and if they are involved in the leak of company information. During the interview you should treat Mr(s). Baker with respect and in a professional manner.

Interview guide:

- At the beginning of the interview, check the background information of the employee that was stated above (e.g. their job and tasks)
- What did the employee do on the day the USB stick went missing?
- Was there a change in their usual routine that day?
- How satisfied are they with their current job?

The duration of the interview will be about 5 minutes.

Appendix D

Interviewer Scenario in the Accidental condition.

You are a human resource professional for the company 'Volkswagen', for which you have been working for 10 years now. One of your tasks as a human resource manager is leading investigative interviews. As an investigative interviewer you already interviewed a lot of people in the company that were under suspicion of breaking the company's policy or engaged in malpractice.

Yesterday, one of the department managers called and told you that there was an incident in the design department. More specifically, two weeks ago, a USB stick with the designs for a new important project went missing. After this incident, a competing company publicly revealed their plans for the production of a new car with a similar look to the design saved on the lost USB. On the day the USB went missing the employee (Alex Baker) was the last one who signed up for using it. Therefore, you are asked to investigate the incident by interviewing Mr(s). Baker, a 30-year-old product designer, about the possible crime.

To prepare for the investigative interview, you begin to collect information about Mr(s). Baker.

Evidence

- The employee has a good relationship with other colleagues who described them as a friendly and ambitious person that is good with everybody.
- Mr(s). Baker did not sign out for the used USB stick disregarding company policy, which states that all use of equipment should be registered.
- Mr(s). Baker had several discussions with the manager about being dissatisfied with their pay grade, however all requests for an increased pay were denied.
- You hear from a colleague that Alex Baker has considered quitting the job in the past but has not yet done so.

Your conclusions

Based on this information you believe that Mr(s). Baker has accidentally misplaced or lost the USB stick, which could give someone else the chance to copy the design or take the stick with them. You base this idea on the evidence that the employee is said to be a very ambitious and involved worker. Further, despite they frequently requested for a higher salary, they have not left the company. Also, the fact that Alex did not sign out for borrowing the equipment is unusual.

During the interview, do not give all this information right away but try to ask directed questions to understand the suspects point of view. The goal of the interview, you are about to conduct, is to find out more about Mr(s). Baker and if they are involved in the leak of company information. During the interview you should treat Mr(s). Baker with respect and in a professional manner.

Interview guide

- At the beginning of the interview, check the background information of the employee that was stated above (e.g. their job and tasks)
- What did the employee do on the day the USB stick went missing?
- Was there a change in their usual routine that day?
- How satisfied are they with their current job?

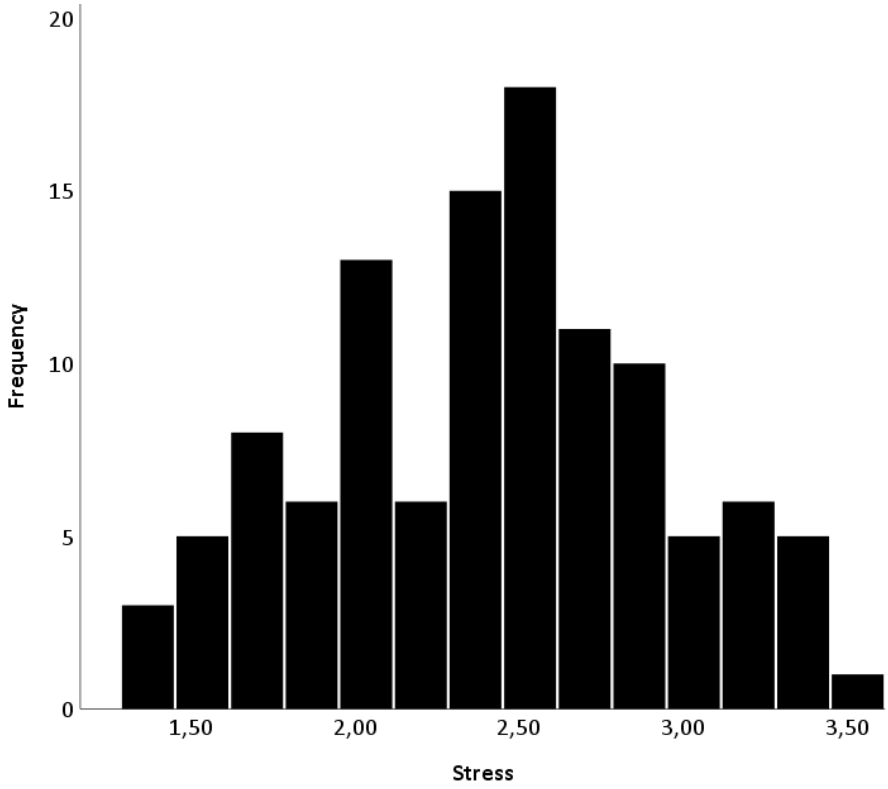
The duration of the interview will be about 5 minutes.

Appendix E

Histograms for the Dependent Variables

Figure E1

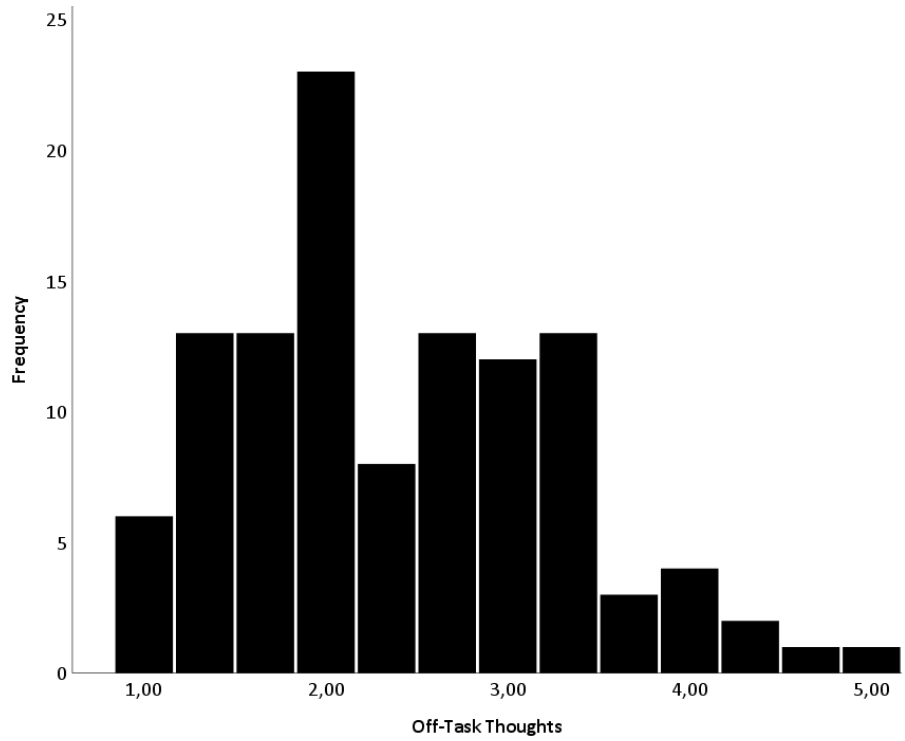
Histogram of Stress



Note. N = 112, $\bar{x}$ = 2.41, SD = .52.

Figure E2

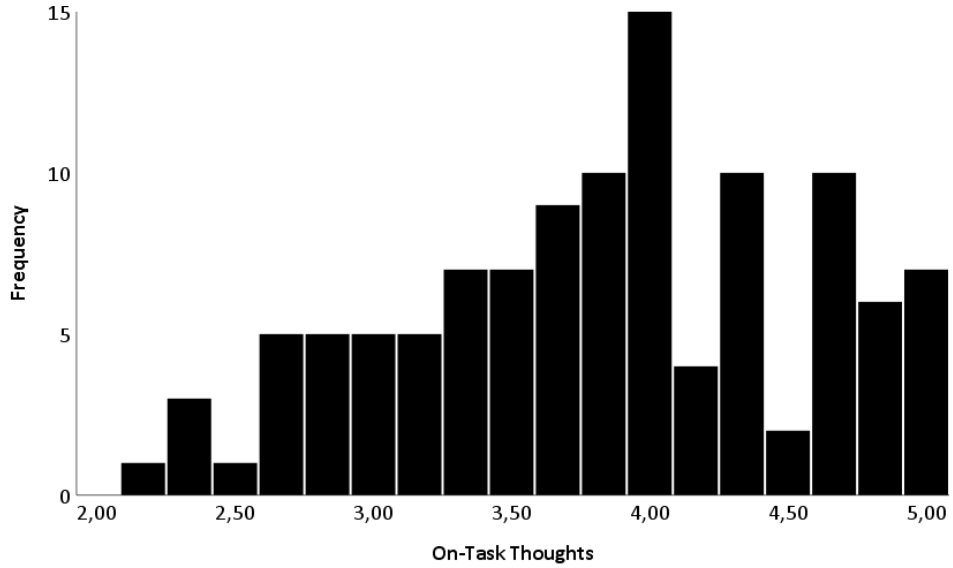
Histogram of Off-task Thoughts



Note. N = 112, $\bar{x}$ = 2.36, SD = .90.

Figure E3

Histogram of On-task Thoughts



Note. $N = 112$, $\bar{x} = 3.83$, $SD = .73$.