"That's wrong!"- Communication Errors in Organizational Insider Threat Investigations and their Impact on Stress, Behaviour, and Emotional Resilience

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Abstract

Insider threat is a crime that is not uncommon within organizations. Attacks like data leakages or system manipulations cause financial and reputational losses for multiple organizations. However, although these consequences of insider threats are known, investigations into organizational insider attacks are lacking. Therefore, the best ways to handle, prevent and react to insider threat suspects is not familiar, increasing mistakes in the behaviour and reactions of investigative interviewers. This, however, can lead to diverse consequential impacts for both parties. Therefore, this study aims to assess behavioural and emotional responses to error making in organizational investigative interviewing. More specifically, attention is drawn to emotional resilience and whether its influences impact stress and behavioural responses of the interviewer.

The study was implemented as an experimental 2 (Error/ No error) x 2 (Accidental/ Deliberate insider threat) between-subject design, in which participants (N=112) were instructed to interview a suspect of insider threat. Further, pre- and post-surveys needed to be completed, which measured emotional resilience and stress perception.

Results in this study illustrated no significant relationship between being emotionally resilient, stress perception or behavioural response. Moreover, also making an error or the presumed motive did not indicate to influence stress or behavioural responses. However, although no significant relationships on the dependent variables could be identified, this study stresses the importance of further research into the topic of error communication in organizational investigations. Based on this, correct handling of insider suspects but also consequences and preventions of insider threat can be assessed.

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Edward Snowden, Chelsea Manning, and Kim Philby; names that can be associated with the action of data leakages, data selling’s or double agency (Kandias et al., 2010). What unites the individuals is their unique cases as insiders, and the consequential harm they produced to their organizations (Gioe & Hatfield, 2020). Insider threat can be defined as a damaging action performed by an individual with privileged access to confidential data and organizational systems (Hunker & Probst, 2011). Taking Edward Snowden as an example, he copied and leaked sensitive information from the National security agency (NSA), for which his company worked.

The action of insider threat cases is not uncommon within companies; however, the detection of the insider is challenging. While the attack is often noticed through reputational or financial changes, the person behind the threat is often not detected (Hunker & Probst, 2011). A possible reason for that is the lack of studies focusing on insider threat behaviour and correct handling of insider threat cases (Azaria et al., 2014). Due to this, data, or research about past cases of insider threats is often only about the financial losses of a company or inappropriate working-behaviour detected by technologies (Agrafiotis et al., 2015). However, the suspect, their intentions and reasons for the committed crime are not thematized, making prevention and mediation of the insider threat situation difficult. Due to this lack of knowledge, careers, reputations, and relations inside the company can be harmed, illustrating the necessity for a solution (Hunker & Probst, 2011).

Besides using technologies to detect, prevent and handle insider threats, the strategy of investigative interviewing can be used. In the justice context, investigative interviews can be described as a communication exchange to get insight into individuals under suspicion for malpractice or violation against company guidelines (Bull et al., 2009). In these interviews, diverse questions and facts are discussed, in which trust, and objectivity play an important part as the role of an interviewer (Bull et al., 2009). Although investigative interviewing is well-researched in the justice context, organizational investigations have not received much attention. Therefore, only encounters and theories from the justice field can be transferred into the organizational contexts.

In a study with police officers, it was found that a negotiator's behaviour and reaction towards a suspect can influence the situation and relationship between the two parties (Oostinga et al., 2018). For instance, presuming the suspect's motive as well as interpretation biases can lead to

errors in the communication and behaviour displayed to the suspect. In turn, these mistakes not only impact the relation between the two parties but can also affect emotional responses of the interviewer (error sender) (Oostinga et al., 2018). Therefore, in the context of this paper, error communication in organizational investigative interviewing will be discussed, with specialization on the psychological distress of the error sender. By this, insight into the effects of error making and behavioural responses can be gained to expand knowledge about the importance of the interviewer-suspect relationship. Moreover, through the expansion of adequate interviewer behaviour, investigative interviewing will also be improved, leading to better handling and prevention of insider threats. However, in order to sufficiently deal with insider suspects, one must first get insights into the distinct types.

Types of Insider Threat

For the notion of insider threat, no single definition can be given. However, a broad understanding can be established when breaking the two words down. An 'insider' is a person who is part of an organization or company and has access to confidential data or systems. 'Threat' refers to the consequential harm for a company when trusted information, data or the organizational structure is leaked or hacked (Kandias et al., 2010).

The act of insider threat is not uncommon. In a study by Data Breach Investigations Reports, it was indicated that 55% of all organizational threat incidents were committed by insiders, including both, deliberate- and accidental insiders (Safa et al., 2018).

Deliberate or malicious acts of insider threat refer to individuals who use their access to trusted data to purposely generate harm to the organization they work for. These acts most often have the motive of personal gain or stem from dissatisfaction with the company, for instance, financial incentives or revenge (Nurse et al., 2014). The cause of a malicious insider threat can be of different kinds. However, in studies about malicious insiders, frustration at the workplace, anger, and the inability to express empathy were most often named as characteristics of suspects (Nurse et al., 2014; Steele & Wargo, 2007).

In contrast to the malicious insider, *accidental* insider threats relate to acts that can increase future attacks on the organization. For instance, making mistakes, misunderstanding organizational guidelines, or accidentally revealing information to a third party (Nurse et al., 2014). Reasons for accidental insider threats often are family problems or health issues, increasing the rate of error

making (Nurse et al., 2014). Further, the main difference between deliberate and accidental insider attacks is the intention of the harm. While deliberate insiders intentionally decided to commit the transgression, accidental insider threats happen incidentally (Steele & Wargo, 2007). Nevertheless, both types of insider threat types can have essential impacts on the organization's financial losses, reputation, and trustworthiness (Safa et al., 2018).

In connection with error making in investigative interviewing, the act of deliberate or accidental threat could have important influences on the interviewer (error sender) (Hill et al., 2008). For instance, presuming guilt or establishing certain beliefs about the suspect can impact the judgment of an interviewer. In the case of deliberate or accidental insider threat, the interviewer might be biased by the motive of the suspect (Hill et al., 2008). In particular, presuming that a suspect committed deliberate insider threat, could lead to subjective interpretations about the suspect and their statements. Due to this, investigative interviewers might perceive evidence or statements of presumed deliberate suspects differently than of accidental insiders (Ask & Granhag, 2007).

Furthermore, as it was mentioned, not only the suspect's motive could influence interviewer behaviour but also the suspect's intention to commit the crime. Intention, in the justice context can be understood as the willingness to harm a counterparty. To exemplify this, some insiders are more willing to engage in harmful actions, like data leakages, to damage an organization, compared to others (Coffey, 2009). This malicious intent can influence the way interviewers interact and blame the suspect. According to Cushman et al. (2013), adults pay more attention to the intention of an action than to the consequences. This means that actions with the intention of harm are more likely perceived as worthy to punish, than actions that were not intended but resulted in consequential harm. Applying this theory to the case of deliberate and accidental suspects, the deliberate suspects are more likely to be punished than the presumed accidental insider (Nadler & McDonnell, 2011). As an illustration, according to social psychology, people assign blame to protect social rules. When these rules are harmed, for instance by betraying one's company, the will to blame and punish the suspect increases. As deliberate suspects intended to harm these rules, it is more likely that interviewers punish them instead of the accidental insider suspects. Due to this, it can also be expected that the impacts of error making differ when interacting with a suspect of deliberate or accidental insider threat. To clarify, when interviewers make an error in interaction with a presumed deliberate insider, the error might not be perceived as harmful but rather as deserved

punishment, meaning that less stress is perceived (Nadler & McDonnell, 2011). In contrast, when making an error in interaction with an accidental insider suspect, punishment of the suspect is not necessarily wanted as they did not intend to cause harm, therefore stress perception increases.

Investigative Interviewing and Error Types

Conducting investigative interviews in the organizational context presupposes that an individual is suspected as a possible cause for a threat. Changes in behaviour or the violation of organizational guidelines could be indications of potential threats (Weber et al., 2020). In order to get better insight into the behaviour of suspects and their explanations, investigative interviewing can be used.

Investigative interviewing is often only associated with law enforcement contexts. However, in the first place, investigative interviewing refers to a communication exchange between an interviewer and a counterparty who is connected to a crime scenario (Green, 2012). One of the main goals in this process is to acquire detailed information about the event by documenting the counterparties' recalling's of the event (Green, 2012). In order to achieve this goal, investigative interviewers rely on communication strategies and methods to establish a trusting relationship with the suspect (Weber et al., 2020). Methods and strategies in such settings can include different types of operations. For instance, understanding biases and respecting the impact personal behaviour can have on the suspect (Bull et al., 2009). Especially due to increasing work standards and employment, investigative interviewing also becomes important in the organizational context (Werlinger et al., 2009). Similar to the justice context, poor investigation or presumptions can harm the atmosphere of the situation, increasing the discouragement of the suspect (Werlinger et al., 2009). Nevertheless, humans are prone to make mistakes, specifically in their actions and interpretations of their counterparts' feelings and behaviour (Neumann et al., 2005).

As studies about personality and automatic behavioural responses illustrate, humans regulate emotional and behavioural reactions by assessing the situation they are in (Mandal & Awasthi, 2015; Neumann et al., 2005). In investigative interviews, this could be done by evaluating facial expressions or behavioural actions of the counterpart (Neumann et al., 2005). To exemplify, when suspects frown, cross their arms, and become frustrated, interviewers assess these movements and try to adapt to the situation, for instance by expressing understanding or reacting calmly (Mandal & Awasthi, 2015). However, if humans do not regulate their behaviour and become angry

or impatient the situation is wrongly approached. Specifically in investigations, getting caught up in one's own emotions can have essential consequences for the situation and the relation to the suspect. As Alison et al. (2013) report, it is of great importance to keep an objective, supportive and responsive atmosphere with the suspect to build a relationship and increase cooperation. When this atmosphere is not established, for instance by pressuring the suspect or by reacting in a wrong way, the risks of false confession and unresponsiveness increases (Alison et al., 2013). However, mistakes and incorrect treatment of suspects cannot only harm the atmosphere and the relation between the two parties, but also the interviewers themselves.

According to a study by Oostinga et al. (2018), communication errors can be of different types and can have diverse consequences for the situation and the individuals involved. In particular, the study separated communication errors into three communicational error types: factual, judgement and contextual errors. Factual errors are classified as errors that deliver a false fact. This could for example be using a wrong name or associated event. Judgement errors can be described as errors including inappropriate reactions to feelings or thoughts of the opposite party. This can happen by misinterpretations of feelings and unsuitable behaviour. Lastly, contextual errors refer to acts that do not fit into the present situation, for instance using jargon or giving away secret information. Moreover, the error types not only differ from each other, but they affect the error sender and receiver in diverse ways. For example, while judgement errors most often cause psychological distress in the error receiver, factual errors generate a higher likelihood of perceived stress in the error sender (Oostinga et al., 2018). Therefore, since this paper focuses on the psychological distress of the error sender, the further study concentrates on factual error making.

Stress Responses of Error Sender

As stated earlier, making communication errors in interactions can have consequences on the situation and the error sender. One of the consequences is the perceived *stress* response to the mistake. In humans, stress emerges when an event (problem) is perceived as exceeding one’s personal ability to cope with it (Fink, 2016). This means that humans cognitively evaluate if a problem could threaten their well-being and how significant that problem is to them. An example of assessing a situation as threatening is when perceiving a problem as failure. According to the PFAI (Performance Failure Appraisal Inventory) model, humans possess a fear of failure (Gustafsson et al., 2017). Therefore, they assess failure by five beliefs. The first belief includes that

failure will lead to the feeling of embarrassment and shame. Secondly, failure is seen as an influence on future possibilities, for instance in the job. Thirdly, humans connect failure to one's general performance or skills establishing the belief of being incapable. Fourth, they believe that one's values are associated with failure and five, the fear to hurt or impact the counterpart due to their failure (Gustafsson et al., 2017). When combining the theory of stress and the PFAI model, it can be considered that communication errors in investigative interviewing could be perceived as failure. As one of the beliefs states, failure is perceived when one's own performance abilities are questioned. Since the interviewer's task is to perform adequate investigations, making a factual error by misremembering facts about the suspects might be perceived as incompetence. Moreover, as this error might also influence the goals of the procedure, one's performance abilities might not only be assessed as incompetence but as failure. Consequently, this means that the problem or mistake exceeds coping abilities, producing the feeling of stress. Due to this, it could be hypothesized that:

H1: The investigative interviewer perceives more stress after making a factual error than making no error.

However, not only the mere making of an error could influence perceived stress but also the insider threat type. According to the motor theory of empathy, people empathize with others by identifying with their emotions or actions (De Vignemont, 2006). This means that people are more likely to understand others and take perspective when they are in a similar situation. Additionally, it was mentioned that not only the motive but also the intention of suspects is evaluated. Therefore, interviewers are less likely to blame presumed accidental insider suspects for their committed crime (Nadler & McDonnell, 2011). As an illustration, the intent of an accidental insider threat suspect gets not assessed as purposefully striving to harm the organization but rather producing harm unintentionally. Therefore, less blame is drawn to the suspect.

Connecting the motor theory of empathy to blame perception, it is expected that more stress is perceived when making an error in interaction with a suspect of presumed accidental insider threat. To exemplify, interviewers are able to draw a connection to the suspect as they also committed an unintentional error just like the suspect did (De Vignemont, 2006). As the interviewer themselves might feel bad because of making an error they can retrace how the suspect must feel

when being blamed for an unintentionally committed crime. Additionally, through emphasizing with the suspect, interviewers might want to ensure accurate performance, proving their competence to the suspect. However, by misremembering facts, not only the suspect's feelings are harmed, but also the competence of the interviewer is questioned, increasing stress levels (Tangney et al., 2011). Therefore, it can be hypothesized that:

H2: The investigative interviewer perceives more stress after making a factual error in the accidental insider threat situation than in the deliberate insider threat situation.

Emotional Resilience

As the emergence of stress theory explains, people tend to cognitively assess emerging problems by their capabilities to cope with them. In general, coping can be defined as the strategy to adapt to everyday changes and challenges, helping human beings to develop throughout their life (Mayordomo et al., 2016). Coping includes two types, namely problem-focused and emotional coping. While problem-focused coping concentrates on handling the cause or situation of the problem, emotional coping focuses on managing emotional responses to the issue (Mayordomo et al., 2016). Emotional coping or *emotional resilience* is composed of diverse subdisciplines, namely emotional intelligence, empathy, optimism, and social confidence. In emotional resilience, individuals try to reduce stressful situations by adapting or adhering to the situation in a positive manner. This can for example include, seeing a setback as a chance to learn or perceiving a mistake not as failure but as feedback (Murden et al., 2018). Due to the diverse subdisciplines of emotional resilience, like perspective taking, optimism and emotional regulation, individuals scoring high in these disciplines are not only better in emotional coping but also in social interactions (Grant & Kinman, 2014).

However, what differentiates emotional resilience from other coping resources is the ability to train the included skills (Murden et al., 2018). For instance, individuals who often reflect on their abilities and practice mindfulness, achieve greater and higher scores in the subdisciplines (Grant & Kinman, 2014). Due to unique differences in these skills, individuals perceive and deal with stress in diverse emotional ways. However, according to Grant and Kinman (2014), an individual scoring high in emotional resilience should perceive less stress in tense situations, by emotionally adapting to the stressor.

Factual error making in investigative interviews could cause diverse reactions depending on an individual's level of emotional resilience (Grant & Kinman, 2014). For instance, when scoring lower in emotional resilience, fewer emotional coping strategies are available to the individual, which presumes more perceived stress. However, interviewers with a higher score in the subdisciplines of emotional resilience should perceive less stress in that situation. Therefore, in the context of this paper, it is hypothesized that:

H3: Investigative Interviewers scoring low in emotional resilience perceive more stress when making a factual error, compared to individuals scoring high in emotional resilience.

Moreover, due to the ability to cope with stress conveniently, individuals scoring high in emotional resilience should be able to adapt to the stress, independent of the suspect's motive (Grant & Kinman, 2014). As one of the subdisciplines of emotional resilience is emotional self-control, individuals scoring high in this construct should be able to regulate their emotions among different insider threat types (Grant & Kinman, 2014). This means that although interviewers with a higher score in emotional resilience might empathize more with the suspect of accidental insider threat, the perceived stress should not increase. Therefore, it is hypothesized that:

H4: Investigative interviewers scoring high in emotional resilience perceive less stress in interaction with a presumed accidental insider suspect, compared to interviewer's low in emotional resilience.

Behavioural Responses of the Error Sender

Emotional resilience cannot only influence perceived levels of stress or failure assessment but also individual's behaviour. As individuals with high scores in the subdisciplines of emotional resilience make more frequent use of reflective or perspective-taking skills, responses towards stressors differ from those scoring low in emotional coping (Johnson et al., 2017). This not only includes reflecting the situation in which the individual is but also the way the individual acts. For instance, in a study about emotional resilience and responses to failure, it was found that people with high scores of emotional resilience tend to respond to mistakes or failures with approaches of empathy and reflection (Johnson et al., 2017). This means that when a mistake or failure was

detected, individuals with high emotional resilience tried to take perspective and reflect on the mistake (Johnson et al., 2017). Therefore, an apology or explanation of the mistake followed (Johnson et al., 2017).

In a similar study on error making in the medical field, it was found that behavioural responses to error reporting can vary (Ziv et al., 2005). Most of the trainees who made an error took this as a chance for feedback. This ability was reflected in trainees, who apologized for the mistake and asked for advice on better performance. However, some trainees did not respond positively to the error reporting. The trainees who felt unsure or anxious when an error was detected often ignored and denied the error detection or shifted the responsibility of making the mistake to someone else (Ziv et al., 2005).

Similar results could be found in the study of Oostinga et al. (2018), about error communication in crisis negotiations. In the study, police officers reported their behavioural responses to an error made in a crisis situation. Due to this, behavioural responses could be clustered into the classifications of *Apology, Exploration, Deflect, and No-alignment*. The classification of *Apology* was reported when an apology about the error followed. In contrast, the category *Exploration* was assigned when a police officer explored the situation, for instance by asking for the right answer. Further, the category *Deflect* describes similar reactions as in the medical study. Police officers with these behavioural responses shifted the blame to a third party (Oostinga et al., 2020). Lastly, *No alignment* was assigned when the response did not fit into any of the classifications.

As it was described, emotional resilience cannot only influence the perceived stress that is felt after making a mistake but might also impact the way participants respond (Johnson et al., 2017). Individuals with a high score in emotional resilience have the ability to take perspective and emotionally adapt to a situation. Therefore, interviewers with a higher score in emotional resilience can regulate their emotional responses, independent of the suspects presumed motive. Additionally, due to their capability to reflect upon the situation, final conclusions about the suspects motive are not thoughtlessly drawn (Johnson et al., 2017). Consequently, it can be argued that individuals with high scores in emotional resilience are more likely to adapt when they make a mistake instead of denying it, independent of the presumed motive. Therefore, it can be hypothesized that:

H5: Investigative interviewers scoring high in emotional resilience are more likely to use the response categories of apology or exploration after making a factual error while interviewers low in emotional resilience use deflect.

H6: Investigative interviewers with high emotional resilience are more likely to use responses of exploration and apology, independent of the suspect's presumed motive.

Methods

Design

In this experimental study, a 2 (error vs. no error) x 2 (deliberate vs. accidental insider threat) between-subjects design was adopted. Participants were allocated to the error or no-error condition prior to the study in a randomized manner. For that, participants were assigned to the error or non-error condition through a randomized algorithm in Excel. For the deliberate and accidental insider threat condition, a simple randomization procedure in Qualtrics was applied. In this way, participants were equally distributed in one of the two conditions. Besides distributing the participants in two conditions, a pre-and post-survey was conducted. While in the pre-survey the moderating variable emotional resilience was measured, the post-survey analyzed the dependent variable of stress. Further, a second dependent variable, called behavioural responses was assessed. As this variable was drawn from the participants' interviews, responses were coded by the four researchers of this study. Since this paper is one part of a larger study, additional variables were also included. However, in this paper, the focus will be on the variables of stress, behavioural responses and emotional resilience.

Participants

In order to collect participants, convenience sampling was utilized. Therefore, the test subject pool “SONA " was used, through which students of the University of Twente could access the study. Participation through SONA was awarded with 0.5 course credits. Moreover, social media sites (WhatsApp, Instagram, Facebook, etc.) were also used for a wider spread of the study. Criteria for participating in this experimental study included being 18 years or older, having sufficient English skills and giving informed consent (Appendix A). In total 116 participants took

part in the study. From this sample, four participants were removed. Three of them were excluded since they failed to make the error (using the wrong lost object) and one did not complete the study. The rest of the participants were 58 females, 52 males and 2 non-binary individuals. Moreover, nationality was distributed into 64.3% Dutch, 27.7% Germans, 1.8% of other European countries and 6.3% of Non-European countries. These participants differed in their educational background, 0.9% had no-former education, 9.8% had an education of secondary school, 6.3% followed an Apprenticeship/HBO, 67.9% did a BSc and 15.2% a Master. The age of participants ranged from 18 to 67 (M = 23.77; SD = 7.77).

Materials and Measures

For the data collection of the independent and dependent variables, a survey in Qualtrics was established. After that, to analyze the variables, SPSS version 23 was used.

Emotional Resilience Scale

In order to test emotional resilience, the 'Brief Resilience scale' (BRS) by Smith et al. (2008) was used for the purpose of measuring an individual's ability to recover from stressful events. The Brief resilience scale consists of six items, split into three positively worded and three negatively worded items. Positively worded items emphasize the ability to recover quickly from a stressful event without much effort (e.g., 'I tend to bounce back quickly after hard times'). In contrast, negatively worded items focus on perceived difficulties in the recovery process (e.g., 'I have a hard time making it through stressful events') (Smith et al., 2008). Responses to the six items were assessed on a five-point Likert scale, ranging from (1) "Strongly disagree" to (5) "Strongly agree". Due to the necessity to reverse negatively coded items, the scale was reverse coded so that high scores reflect high emotional resilience. Further, for the sample of this study the Brief Resilience scale shows acceptable reliability (α = .75) and great validity (KMO = .80; Bartlett's Test = .001).

Scenarios

The experimental study also included an online interview. In this interview, participants had to act out the role of a human resource professional who works for the company Volkswagen. In order to prepare participants for their role, a scenario was presented to them. In this scenario, it was first explained that participants have to imagine themselves in the role of a human resource professional who is conducting investigative interviews with employees who violated company

guidelines. Further, the scenarios described that the manager of the company contacted them due to the case of Alex Baker. According to the manager, a rival company recently published a model of car headlights, similar to the design of car headlights Alex was working on. In addition, the manager explained that Alex Baker saved this design on a USB-stick which was reported as lost afterwards. After the explanation of the case, participants were provided with informative evidence about Alex Baker. To exemplify, the evidence explained that *"Alex Baker had several discussions with the manager about being dissatisfied with their pay grade, however, all requests for an increased pay were denied"* and *"The employee has a good relationship with other colleagues who described them as a friendly and ambitious person that is good with everybody."* The information was the same in both conditions.

Deliberate and Accidental Scenario. Depending on the presumed motive condition participants were assigned to, different conclusions about the suspects were drawn. As an illustration, participants assigned to the accidental crime scenario, were informed that Alex probably, unintentionally, lost or misplaced the USB-stick (Appendix B). In contrast, participants in the deliberate insider threat scenario got a conclusive statement that Alex Baker is presumed to have purposefully given the USB-stick to a rival company (Appendix B). After that, information for the participants was the same in both conditions. At the end of the scenario, participants were offered an interview guide to help participants throughout the interview. Example questions included statements like "What did the suspect do on the day the USB-stick went missing?" or "Check the background information of the employee that was stated above (e.g., job position, tasks, name, age)" (Appendix B).

Error Condition. Participants were not only distributed into accidental or deliberate but also into error and non-error conditions. This was done by a randomized algorithm in Excel, assigning participants to identification numbers and conditions. Independent of the condition's participants were told that a USB-stick went missing, which was used by Alex Baker before it was lost. The missing object was repeated throughout the scenario, for instance in the evidence of the suspect or the example questions. By this, it was ensured that participants would ask about the USB.

However, depending on the condition, responses of the suspects varied when the USB-stick was brought up. As illustration, participants assigned to the error condition were convinced that instead of a USB-stick a tablet with sketches was lost. This was done by responding "*I thought this*

conversation was about the missing tablet" when the USB stick was brought up. Further, to highlight that participants made an error by thinking a USB-stick was missing, suspects explained that "*The design department's tablet containing all of its vital sketches is missing, not a USB stick"* when participants asked for additional information (Appendix C). In contrast, when participants in the no-error condition brought up the USB-stick, suspects agreed on the missing by stating "*Yes, I heard there was a missing USB".* After that, the suspects continued with the questions of the interviewer. In both conditions, the suspect denied any responsibility.

The reason for the two conditions and standardized responses was that participants assigned to the error condition should feel like they made a mistake (factual error). Standardized responses were chosen to ensure similar responses among the researcher and limit influential impacts through possible third factors. Due to this, further standardized answers were provided to the researchers when the participant aimed for the example questions (Appendix C). For instance, when Alex was asked about their involvement in the insider threat, it was responded with: *"The only thing that I can do is tell you my side of the story, but I have not done anything wrong''*. This ensured that every participant got the same information about the suspect, independent of the presumed motive they were assigned to.

Stress Scale

For the assessment of the perceived stress of participants, the Dundee stress state questionnaire (DSSQ) by Matthews et al. (1999, as cited in Matthews et al., 2006) was applied. The DSSQ makes use of 30 items that measure individual stress states during task executions. Therefore, items are categorized into three subscales that either focus on Task Engagement, Distress or Worry. Items asking for Task performance include statements that focus on the motivation and concentration during the task (e.g., I am determined to succeed on the task). Distress is measured by items that concentrate on the psychological state of the individual (e.g., I feel tensed). Lastly, the subscale of Worry consists of items that concentrate on the feelings perceived towards the task performance (e.g., I am thinking about how other people might judge my performance). Responses to the items were measured using a five-point Likert scale, ranging from "Definitely false", " Somewhat false", "Neither true nor false", "Somewhat true" to "Definitely true". In order to ensure that perceived stress was measured, positive items were reverse coded. Due to that, the higher the score of the stress scale, the more stress is perceived. The Dundee stress

state questionnaire showed good reliability (α = .88) and good validity (KMO = . 78; Bartlett's Test = <.001) in this study.

Manipulation Check Motive

At the end of the survey, a manipulation check was included, which measured if the manipulation in the scenarios affected the participant's impression of the suspect's motive. Therefore, participants had to respond to the question *"What was your first impression of the suspect's motive?"*. Answer possibilities included a) *the suspect was innocent* b) *That the suspect had deliberately provided the competitor with the information* c) *That the suspect accidentally lost the information* or d) *I could not reach a conclusion on the suspect's motive* (Appendix D).

Behavioural Responses:

In order to categorize the behavioural responses of the suspects, a coding scheme was used. In the first coding scheme the categories of *Apology, Deflect, Exploration*, and *No alignment* were considered as other research studies identified similar categories (Oostinga et al., 2020; Ziv et al., 2005). To minimize disagreement between the researchers while coding, definitions for each behavioural response were given. For instance, the category of apology was applied when participants apologized for the factual communication error, however, this strategy could not be identified in this study. In contrast, deflect was allocated to the participant when the mistake was denied or ascribed to another party (e.g., *"Ehm, there must have been, must have made a mistake because I have been told it was concerning a USB."*). Further, exploration was coded when participants examined the mistake by asking for the right information (e.g., *"A tablet? Okay, because I thought it was about a USB, but you had a tablet then?"*). Lastly, no alignment was assigned when participants' responses did not fit in any of the other classifications.

However, additionally, to the proposed response categories, two distinct answers were noted during the interviews, namely *contradicting*, or *accepting* the mistake. These new categories were based on a study about communication errors by Oostinga et al. (2018) and matched the responses of participants in this study. Contradict explained reactions that denied the error. In contrast, to deflect participants insisted on the denial of the mistake (e.g., *"No, it was about the missing USB-stick because you were the last person who signed up for using it."*). The other identified category was acceptance. In contrast to apology and exploration, acceptance was used in cases where participants immediately accepted that the missing object was not a USB (e.g., "Okay, what do you know about a missing of the tablet?").

Furthermore, the response categories were coded by the four researchers involved in this study. Therefore, it was discussed that behavioural responses consist of primary and secondary responses. For the primary response, the reaction that immediately followed after the error detection was used. For the secondary response, the reaction was used that followed after participants expressed their first concerns. Therefore, the 112 participants were divided into two groups. The first 56 participants contained 30 error conditions. In this sample, weak interrater reliability for the primary response (Cohen's Kappa = .58) and weak agreement for the secondary response (Cohen's Kappa = .44) was reached (McHugh, 2012). The second group of researchers coded 27 error conditions among 56 participants. For this group, moderate interrater reliability for the primary response (Cohen's Kappa = .72) and no agreement for the secondary responses (Cohen's Kappa = .15) was found (McHugh, 2012). Due to the low interrater reliability of the secondary responses, only the primary categories will be used for further analysis.

Procedure

Initiation of the study was approved by the BMS Ethics Committee of the University of Twente. After participants signed up for the study, they were contacted by the researchers via email. Through this email, participants were provided with the link to the interview meeting, hosted over Microsoft Teams. Additional material in the email consisted of an information sheet in which the purpose of the study was described and the participants' identification number.

When joining the interview meeting, participants were greeted by one of the four researchers. The researcher welcomed the participants to the study and provided further instructions about the procedure of the study and its tasks. After this, a Qualtrics link to the study was shared in the Microsoft Teams chat. In this study participants first had to give consent and complete a pre-survey including the moderator emotional resilience. When all scales were completed, one of two scenarios was presented, leading the participants to believe that the suspect either committed deliberate or accidental insider threat. In addition, an interview guide for the upcoming interview was displayed to the participants. In the study, participants were not allowed to write down the example questions provided to them; however, they could request time to look over the scenario and questions again. Through this period, the researcher stayed in contact with the participant in case of upcoming questions. As all questions were answered and participants felt confident to start the interview, the researcher introduced a second researcher who played the

suspect. The further process of the study depended on the error condition participants were assigned to. After around five minutes in the interview, the first researcher intervened and ended the interview study. Then the participant was instructed to continue the survey, measuring the dependent variable stress. After the completion of the survey, a debriefing (Appendix E) was shown, explaining participants the purpose of the study as well as the manipulation procedure and its intention.

Results

Descriptive Statistics Stress

Before performing the analysis for the posed hypotheses, the data set was cleared out of invalid responses. Moreover, reliability, as well as validity scale analysis were performed for the covariate variable emotional resilience (5-point Likert-scale) as well as for the dependent variable of stress (5-point Likert-scale). In order to get a better understanding of the diverse independent variables, the overall means, skewness and correlations were tested on stress.

For the independent variables of error/no-error ($M = 2.41$, $SD = .52$) and presumed motive ($M = 2.41$, $SD = .52$) stress seemed to be perceived in low to moderate levels with a skewness of -.048 in both conditions. This means that error making as well as presumed motive did not seem to cause high stress responses in interviewers. Moreover, a moderately strong negative correlation can be identified between the dependent variable stress and the moderator emotional resilience ($r = -.41$, $p = .001$). Specifically, this means the higher participants scored on emotional resilience, the less stress was perceived and vice versa, which was predicted in the introduction.

Moreover, to get insight into stress perception in the different conditions, descriptive statistics for stress in the conditions of presumed insider motive and making an error/no-error were examined. As it can be seen (see Table 1), participants were nearly equally distributed in the presumed motive and error condition. Further, according to the means, it seems that participants in the accidental scenario did perceive slightly more stress when making an error, compared to the no-error condition. In the deliberate scenario, stress did not differ among making an error or making no-error, which seems to contradict prior expectations.

Table 1

Descriptive Statistics of the Perceived Levels of Stress in the Conditions Motive and Error

	Accidental		Deliberate	
	Error Stress	No Error Stress	Error Stress	No Error Stress
N	28	29	27	28
Mean	2.47	2.40	2.40	2.40
SD	.55	.53	.56	.44
Min	1.67	1.37	1.43	1.40
Max	3.50	3.30	3.43	3.13

Frequencies of Behavioural Responses

Further, to assess the second dependent variable behavioural responses, frequencies, and percentages for each response in the conditions of accidental and deliberate motive were analyzed. In total 28 participants were clustered in the accidental motive scenario while 27 participants were confronted with the deliberate motive scenario. As it can be seen (Table 2) people did not variate with great differences in their behavioural responses among the different presumed motives. Although there are some minor differences in the categories of deflect, exploration and acceptance, a high frequency of the category contradict can be identified in both conditions. Due to this, it seems as if there were no great differences in the usage of response categories and the two presumed motive conditions.

Table 2

Frequencies and Percentages of the Behavioural Responses per Condition

Behavioural Response	Accidental	Deliberate
Deflect	8 (28.6%)	6 (22.2%)
Exploration	5 (17.9%)	7 (25.9%)
Contradict	15 (53.6%)	13 (48.1%)
Acceptance		1 (3.7%)

Manipulation Check Motive

As in this study, participants were manipulated in either believing that they interacted with a suspect of accidental or deliberate insider threat, a manipulation check was included to test if the manipulation affected the participants. Therefore, participants were questioned if they assumed the suspect to be a) innocent, b) a deliberate insider, c) an accidental insider or if they d) could not draw a conclusion. In order to analyze the manipulation check, the file was split by the condition of the presumed *Motives* to identify the distinct types of insider threat, accidental or deliberate. Further, a Chi-square analysis was performed, comparing the manipulation check across motives and errors. As the Chi-Square Test demonstrates, there was no significant relationship between the manipulation check and the condition accidental [X^2, (3, N = 57) = 1.65, p = .65] or deliberate [X^2, (3, N = 55) = 1.31, p= .73]. This could also be demonstrated by the frequent response's participants gave for the manipulation check. In the accidental insider threat scenario, 7% thought that the suspect seemed to be innocent, 15.8% indicated that the suspect committed the crime deliberately and 35.1% could not draw a conclusion on the suspect's motive. Therefore, only 42,1% of the participants were affected by the manipulation of the accidental motive. In comparison, in the

deliberate insider scenario, 9.1% of the participants thought that the suspect was innocent, 18.2% that the suspect accidentally committed the crime and 49.1% could not draw a conclusion. Due to this, only 23.6% supported the manipulation belief that the suspect deliberately committed the crime. Although this seems to prove that the manipulation of the presumed motive was not effective, no conclusion on this can be drawn. As an explanation, the manipulation check was provided at the end of the survey while the actual manipulation was placed at the beginning. Due to this, not the manipulation of the motive was measured but rather the impression of the suspects intent after the interview, which could have influenced the manipulation. Therefore, it is unsure whether the manipulation worked or not.

Dependent Variable: Stress

In order to test the four primary hypotheses, a General Linear Model was applied. Therefore, the perceived level of stress served as the dependent variable, whereas the conditions of making an error/no-error and the presumed motive were treated as independent variables. Further, emotional resilience was applied as a moderator variable. Besides the main effects of the included variables, interaction effects were also assessed. In particular, it was tested if error making and presumed motive influence stress perception. Moreover, it was examined if emotional resilience and error making as well as emotional resilience and presumed motive influence stress responses.

For the first hypothesis, it was tested whether investigative interviewers perceive more stress after making a factual error than making no error. For this, the model illustrated no significant main effects ($F(1,104) = .71$, $p = .40$) for the error ($M = 2.47$, $SD = .07$) and no-error condition ($M = 2.37$, $SD = .06$). More specifically, this means that interviewers making an error did not perceive more stress compared to interviewers who were not making an error, rejecting the first hypothesis.

Moreover, it was examined if more stress is perceived by the interviewers when making an error in interaction with a presumed accidental insider suspect (H2). Even though this hypothesis primarily focuses on the interaction between presumed motive and error making, it was also tested whether the main effect of presumed insider motivation has an influence on stress perception. The model demonstrated that no significant relation between the main effect of presumed motive ($F(1,104) = .48$, $p = .49$), accidental ($M = 2.43$, $SD = .64$), deliberate ($M = 2.41$, $SD = .07$) and stress could be identified. Moreover, the interaction effect between making an error or no-error and the presumed motive condition also illustrated insignificant results ($F(1,104) = .05$, $p = .82$).

Consequently, this means that interviewers did not perceive more stress when interacting with a presumed accidental insider suspect, even when a factual error was made, rejecting the second hypothesis.

For the third hypothesis, it was tested if interviewers with low emotional resilience perceive more stress when making an error, compared to interviewers scoring high in emotional resilience. In the model, it was examined that the main effect of emotional resilience has significant effects on stress perception ($F(1,104) = 21,79, p = .001$). These results demonstrate that people with higher scores of emotional resilience perceived less stress than individuals scoring low in the construct. In order to test if emotional resilience also predicted lower stress when making an error, the interaction effect was analyzed. For the interaction effect of emotional resilience and making an error, no significant results could be found ($F(1,104) = .43, p = .51$). Specifically, this means that interviewers' high emotional resilience did not perceive lower levels of stress when making an error, rejecting the third hypothesis.

Additionally, it was also hypothesized that interviewers high in emotional resilience perceive less stress in interaction with a presumed accidental insider than interviewers scoring low in emotional resilience. Therefore, the interaction effect of presumed motive and emotional resilience was identified. Similar to the other results, no significant interaction could be found for emotional resilience and presumed motive on stress ($F(1,104) = .55, p = .46$). This means that emotional resilient interviewers did not perceive less stress when interacting with an accidental insider suspect compared to interviewers with low emotional resilience, rejecting the fourth hypothesis.

Lastly, it was identified if a three-way interaction of the independent variables and the moderator resulted in more stress. Although this analysis did not refer to any hypothesis, the three-way interaction was applied to test whether the interaction of emotional resilience and making an error is influenced by presumed insider threat motivation. However, no significant interaction could be found among the three variables ($F(1,104) = .10, p = .75$). Due to this, it can be concluded that interviewers who made an error and were high in emotional resilience did not perceive less stress when interacting with the insider threat suspects, compared to interviewer's low in emotional resilience.

Dependent Variable: Behavioural Responses

For the last two hypotheses, a Multinomial logistic regression was conducted. For this, the behavioural responses were used as the dependent variable while the condition of presumed motive served as independent variable. Emotional resilience functioned as a continuous predictor variable. In particular, this model tested if high emotional resilience predicts the behavioural responses of apology or exploration when an error was made and if emotional resilience and presumed motive predict these same responses. Further, before the analysis was performed it is important to note that the category of apology was not used by participants and is therefore cut from the analysis. In order to analyze the behavioural responses, deflect was used as a comparator as it was the most prominent used category among participants.

For the fifth hypothesis, it was tested if investigative interviewers scoring high in emotional resilience are more likely to use the response categories of apology or exploration after making a factual error while interviewers low in emotional resilience use the response of deflect. As only the behavioural responses of interviewers in the error condition were used, the main effect of emotional resilience on these responses is tested. The analysis showed no significant effect of the continuous predictor emotional resilience in the response category of exploration (B = -.39, SE = .66, p= .56) after an error was made. Due to this, it can be concluded that interviewers with high emotional resilience were not more likely to use the response of exploration than interviewers with low scores. According to this, the fifth hypothesis can be rejected.

Moreover, the sixth hypothesis expected that “Investigative interviewers with high emotional resilience are more likely to use responses of exploration and apology, independent of the suspect's presumed motive.” Therefore, the interaction effect of emotional resilience and the presumed motive were also analyzed. Like the other interaction effect, no significant effects could be identified for exploration (B = -.20, SE = .22, p = .36). Therefore, people with high emotional resilience did not differ in their behavioural responses when interacting with presumed accidental or deliberate insider threat suspects after an error was made, which was hypothesized. However, as the focus lied on the behavioural response categories of exploration and apology and these categories were not chosen over deflect, the sixth hypothesis can be rejected.

Additional Analysis:

Behavioural Response: Contradict

Since during the study it was noted that two other behavioural responses categories were also used, an additional analysis was applied to test if contradict might be impacted by emotional resilience or the presumed motive. Although the response category of acceptance was also added, the category was cut from the analysis due to low frequency (one participant).

To test if the moderator emotional resilience as well as presumed insider threat motivation, have significant outcomes, contradict was added as a response category to the Multinomial logistic regression. Deflect was again used as the reference category. Similar to the first analysis, neither exploration (B = -.30, SE =.60, p = .62) nor contradict (B = -.435, SE = .51, p= .39) displayed significant effects between emotional resilience and behavioural responses after an error was made. Additionally, the interaction of emotional resilience and presumed motive was not significant for neither exploration (B = -.19, SE = .21, p= .40) or contradict (B = -.06, SE = .18, p = .72). Consequently, it can be concluded that interviewers with higher emotional resilience did not differ in their behavioural responses compared to interviewers with low emotional resilience.

Responsibility Testing

An additional analysis was performed to test if error making, emotional resilience or presumed motive might impact response strategies that take responsibility for the made mistake. In the introduction it has been assumed that people who score higher in emotional resilience are more likely to adapt to the situation, increasing the likelihood of responding with the response categories of exploration or apology. Although results did not seem to be significant for the single response categories it was tested if interviewers with high emotional resilience are more likely to choose responses that take over responsibility (exploration), instead of using responses that deny responsibility (deflect, contradict).

Due to this, a binary logistic regression was conducted to identify if a significant relation between responsibility and emotional resilience, making an error and presumed insider threat motivation, can be identified. In the model, the presumed motive was highlighted as a categorical variable, predicting either accidentally or deliberately committing an insider threat. This model analyzed that 78.2% of the participants could be correctly categorized by all predictors (Cox and Snell R^2 = 0.22, $X^2(3) = 1.21$, p = .75). However, as illustrated in Table 3, no significant predictors for emotional resilience, nor making an error/no-error or presumed motive could be found.

Consequently, this means that emotionally resilient interviewers were not more likely to take responsibility under the effect of any of the condition variables.

Table 3

Logistic regression of the Condition and Moderator Variables on Responsibility responses

Predictor	Beta	Lower CI	Upper CI	Wald	*p*
Constant	19.38			.001	1.00
Presumed Motive	-.54	.16	2.15	.65	.42
Emotional resilience	-.134	.33	2.32	.07	.79
Error/No-error	-19.89	.001		.001	1.00

Discussion

The introduced study aimed to investigate the effects of error making in organizational investigative interviewing. More specifically, it was tested how much stress participants perceive when they make a communication error in an insider threat investigation. Therefore, not only the perceived levels of stress but also participants' reactions and emotional resilience towards error making, were analyzed.

Emotional resilience, Error Making and Presumed Motive on Stress and Behaviour

Opposing to what has been hypothesized no significant relation between the proposed variables could be found. More specifically this means that investigative interviewers did not perceive more stress when making an error or when interacting with a suspect of presumed accidental insider threat. Moreover, it was also counterproven that interviewers with high

emotional resilience perceive less stress when making an error or when interacting with a presumed accidental insider suspect. Lastly, also the hypotheses that interviewers with high emotional resilience aim for the behavioural responses of apology and exploration when making an error, independent of the suspect's motive, were not significant.

Error Condition

Contrary to the expectations, making an error did not influence perceived levels of stress nor did emotional resilience affect interviewer's perception of stress when making an error, or their choice of behavioural responses. Unlike these findings, literature suggested that error making can have diverse consequences for the emotional and behavioural responses of an investigative interviewer, one of them being increased stress perception. According to the PFAI model, people form beliefs about the consequences of their mistakes or about the impression they made (Gustafsson et al., 2017). Through these beliefs, people often underestimate their own performance abilities. Consequently, this underestimation and the belief that failure occurred, influence stress perception (Gustafsson et al., 2017). As no significant results could be found in this study, participants seemed to not perceive the error as a crucial consequence on their performance. An explanation for this could be that the judgement of the error and the setting of the situation were unknown to the participants. As Gustafsson et al. (2017) describe, to form beliefs of failure, crucial consequences need to be connected to the mistake. However, since the majority of the participants were students, experience in the field of investigative interviewing was rare. Due to missing knowledge of investigative interviewing procedures, the error might not have been assessed as harmful for the conversation or the relation between suspect and interviewer. As a result, failure beliefs might not be created, and performance not questioned. Therefore, stress is not perceived in higher levels when making an error (Gustafsson et al., 2017).

In addition to that, the non-significant effects of being emotionally resilient and making an error can also be explained. Based on previous findings, it was expected that interviewers high in emotional resilience perceive less stress when making an error because of their coping abilities (Grant & Kinman, 2014). However, as the error seemed to be evaluated as irrelevant to the situation, emotional coping was not necessary. This could be illustrated as emotional resilience had a significant influence on stress, however when making an error no significant differences in stress perception could be found.

Further, as error making was also expected to influence behavioural responses, it could also be that the chosen factual error (missing object) was the cause of the failure. In contrast to the study of Oostinga et al. (2020), the factual error chosen in this study was the missing object, not the suspect's name. To clarify, although both studies represent factual errors, using the wrong name harms personal information of the suspect. In contrast, confusing the missing object is not connected to the suspects' themselves but to information about the crime case, emotionally distancing the error from the suspects personal information (Goldberg et al., 2002). As participants were told to find out more about the suspects and the insider threat, they might have understood the error as additional information. As an illustration, after the debriefing form, some participants stated that to them it seemed as if the mistake was unintentionally included in the study. Therefore, they responded with deflect or contradict to highlight the error. Other participants thought that the error belonged to the suspect's strategy to hide the insider threat. Consequently, interviewers rather seemed to interpret the error as a further detail to the crime story, however not as a mistake of themselves. This was also illustrated by the results of the responsibility testing.

In an additional analysis, it was analyzed if interviewers with high emotional resilience are more likely to take responsibility (apology, exploration) for the factual error. However, no significant preferences in the behavioural responses of apology or exploration could be connected to high scores in emotional resilience. As an illustration, in order to take responsibility, interviewers must be able to detect the error. However, if interviewers rather interpret the error as an extra detail to the situation and not draw a connection between the error and themselves, responsibility for the mistake is not required. Due to this, an emotional distance is created, decreasing the chance that interviewers opt for apology or exploration as responses.

Nonetheless, as error making did not lead to higher stress levels in general, it should also be considered that the factual errors might not affect investigative interviewers as expected. Although other studies indicated that consequential impacts could follow after (factual) error making (Oostinga et al., 2018, 2020; Ziv et al., 2005), it might be that impacts of errors differ in organizational interview contexts. To clarify, expectations of error making were based on studies in the justice or medical field. As error making in negotiations or during medical assessments might have more crucial consequences for the situations, they might also have more essential impacts on the psychological distress of individuals. Therefore, it might also be important to assess other errors

in the organizational investigation context to evaluate their influence on distress and behavioural reactions.

Presumed Motive

Regarding the presumed insider threat motive, it was anticipated that interviewers perceive more stress when making a factual error in interaction with a presumed accidental insider suspect. Moreover, it was proposed that emotional resilient interviewers perceive less stress in interactions with accidental insider suspects and use behavioural responses of apology and exploration, independent of the suspect's motive.

As literature states, the procedure of investigative interviewing can be impacted by diverse biases and beliefs. For instance, presumptions about the suspect's motive or assumptions about the insider threat intention, shape the way interviewers react towards the suspect. Due to the manipulation check procedure, it seemed as if participants were not affected by the manipulation in this study, explaining the insignificant results (Alison et al., 2013). However, as the manipulation check was placed at the end of the questionnaire, it is questionable what the manipulation check measured. To illustrate, the manipulation of the participants occurred in the scenarios displayed at the beginning of the survey, whereas the manipulation check was placed at the end of the survey (Appendix D). Therefore, it did not measure if the participants believed the motive of the suspect but rather the impression of the suspects intent after the interview. Due to the interview, participants could be influenced by the suspects perspective falsifying the effect of the manipulation. As a result, it is uncertain if the manipulation worked.

Regardless, if the manipulation check measured the impression of the motive, it could also be that participants were unconcerned by the motive. A reason for this could be the objectivity promoted in the scenarios. As described by Bladini (2013, as cited in Wettergren & Bergman Blix, 2016), objectivity is an important value in the justice system. However, objectivity can also harm individuals' ability to rationally judge a suspect. Since objectivity increases the empathy felt for the suspect, the rational perception of the case decreases. Therefore, contradictory to what was highlighted by Cushman et al. (2013), participants might have not blamed deliberate suspects more than accidental suspects although they broke social rules and intended to harm the organization. Consequently, punishment would have not been perceived as necessary, minimizing the difference of stress perceptions when interacting with the two distinct insider types. As a result, participants might have encountered the interview with objectivity, decreasing the probability that the suspects

were perceived as deliberate/accidental suspects. This can be illustrated as the majority (42%) choose the answer category *"I could not reach a conclusion on the suspects motive."* (Appendix D).

Further, it was expected that interviewers with low emotional resilience would perceive more stress when interacting with a suspect of accidental insider threat. Based on previous literature, the interviewer should have drawn a connection with the suspect of accidental insider threat as both parties unintentionally committed a mistake (De Vignemont, 2006). Besides objectivity, a reason for the unresponsiveness to the presumed motive could be that similarities were not drawn as the consequences of the committed mistakes cannot be compared. As an illustration, unintentionally making a communication error and accidentally committing a crime, differ greatly in their impact and consequences. Therefore, interviewers might not empathize with the suspect, decreasing the likelihood that more stress is perceived by interviewers with low emotional resilience.

Interestingly, it was also identified that interviewers with high emotional resilience do not report less stress when interacting with accidental insider suspects. To demonstrate, participants high in emotional resilience were expected to adapt to the emotional stress caused by empathizing with accidental insider suspects (Grant & Kinman, 2014). Therefore, less stress should have been perceived compared to interviewers with low resilience. However, as no differences in stress perception between interviewers with high or low emotional resilience could be found it can be expected that the similarities in the made mistakes were not noted and therefore no emotional adaptation was of importance.

Connected to that is the argument that interviewers high in emotional resilience aim for the behavioural responses of apology and exploration, regardless of their presumed motivation. This was based on the presumptions that emotional resilient interviewers are more likely to reflect, emotionally adapt and take responsibility. Even though no difference of behavioural responses could be detected among the two different presumed suspect motivations, it could be identified that participants high in emotional resilience did not take responsibility for their error making. As mentioned before, a reason for this could be that the making of an error was not connected to the suspect but rather to the information about the committed insider threat. Therefore, apology and exploration were not used, regardless of the presumed motive.

Limitations and Recommendations

Error Condition

As it has been illustrated, diverse explanations could be identified for the insignificant effect of making an error on stress perception and behavioural responses. One major limitation was the error condition. As it has been concluded, the reason for the failed error perception might be due to emotionally distancing the error from the suspects' personal information. In contrast to the study of Oostinga et al. (2020), the factual error in this study was the missing object and not the name. This was done as a pilot test illustrated that participants did not use the name of the suspect but rather focused on the missing object. In order to ensure that participants make the error, the object (USB) was chosen as the factual error.

To better convince participants of the error, recommendations for future research could be identified. As a recommendation, more personal information of the suspect should be chosen as the error. This could for instance be the suspect's name, age or even their job description, ensuring that the interviewer identifies the mistake and does not treat it as additional information. Further, it could also be considered to teach the participants about investigative interviewing beforehand. As participants' knowledge about investigation procedures and formalities was rare, explanations about the setting and the importance of the relationship to the suspect might help to illustrate that errors can have harmful consequences. Due to this, information about the purpose, goals and procedure of investigative interviewing should be provided to the participants prior to the study.

Nevertheless, as in this study, the error did not seem to be of importance for participants, it would also be interesting to test if error making might be perceived differently in the organizational setting compared to the justice or medical context. Therefore, it should be considered to test error making among more professional investigative interviewers to point out realistic impacts and consequences errors might have. Moreover, another recommendation would be to additionally focus on other types of errors, like judgement or contextual errors. As this study only shed light on the impacts of factual errors it could also be that consequences in the organizational context differ when errors are of different types.

Presumed Motive

Moreover, a substantial limitation in this study was the manipulation check and the presumed motive. The manipulation of the accidental and deliberate scenario was established by giving participants the same information about the suspect, despite one conclusive sentence.

Additionally, to check whether participants believed the manipulation, a question regarding the presumed motive of the suspect was provided. However, as it has been discussed, the manipulation check was misplaced in the study, falsifying the impressions of the suspect's motive. Nevertheless, not only the placement of the question was a limitation, but also the answer categories of the question. As an illustration, the manipulation check asked, *"What was your first impression of the suspect's motive?"*, followed by the answer categories a) t*he suspect was innocent* b) *That the suspect had deliberately provided the competitor with the information* c) *That the suspect accidentally lost the information* or d) *I could not reach a conclusion on the suspect's motive.* Due to the offered response categories, participants were prone to answer the question in one way, neglecting other possibilities. Due to that, a future recommendation for the manipulation check is to place the manipulation check right after the manipulation effect so that it measures the pure manipulation independent of the interview. Secondly, it should be considered to use a Likert scale or sliders to assess the presumed motive. By that, participants are able to place the slider in between answers categories. For instance, a slider could reach from *innocent* to *deliberate*, letting participants decide where they place the slider.

Furthermore, as the impression of the suspect's presumed motive relied on the questions that were asked, it could be considered to give the participants a more structured interview guide. Compared to the study of Oostinga et al. (2020), participants in this study did not have knowledge in investigations, meaning that they depended on the vague interview guide provided to them. As a result, some participants reported feeling unsure about the motive due to not asking enough or precise questions to draw a conclusion. Although it was considered to let participants write down questions for themselves or use a structured approach to increase information gaining, these possibilities were rejected. Even though writing down questions would increase participants' responsibility in the study, it would also enhance the risk that participants do not include the error in their questions. Moreover, the structured approach was rejected because the error might have been connected to the information provided to them and not to themselves.

In order to improve that participants focus more on the presumed insider motivation, a recommendation would be to give participants a structured interview guide. Although a risk would be that participants notice that the error was made due to wrong information, participants might be more concerned with the motive of the suspect, assigning more attention to it.

Behavioural Responses

Moreover, another limitation could be identified in the coding procedure of the behavioural responses. As this study included four researchers, the coding of the behavioural responses was divided among four people, increasing the probability of disagreement. This can be illustrated as originally two behavioural response strategies were planned to be included in the study, one illustrating the first reaction to the error, the second the expression after the first concern. However, the disagreement was too high in the second category, which was the reason that some response categories were excluded in the analysis, for instance, no alignment or acceptance. Based on this, recommendations for future research would be to include the responses of contradict and acceptance from the beginning on. Additionally, more precise rules for the coding procedure should have been written down. For instance, "*If the notion 'No' is followed right after the suspect's reaction, the behaviour is categorized as contradict not as deflect."* By that, disagreement can be minimized, and reliability increased.

Other Limitations

Further, other limitations of this study focus on hosting the study online. Due to this, mimics, gestures, and behaviours could only be assessed partly, depending on the internet connection and camera settings. Additionally, language barriers also impacted the study. Although sufficient English was a criterion to take part in the study, the difference in the diverse backgrounds of the people also influenced their English skills. The criterion was chosen, as the setting of this study was international. However, a recommendation for future studies would be to include people with similar English levels or to offer the study in multiple languages depending on the participants' mother tongue (German, Dutch, English). By this, meanings and interpretations are not impacted by language barriers, influencing the emotional and behavioural responses.

Conclusion

The proposed study examined deeper insights into error communication in organizational insider threat investigations. Therefore, six hypotheses focusing on the perceived level of stress, behavioural responses as well on emotional resilience, were tested on a sample of non-professional interviewers. Unlike what has been hypothesized, neither the making of an error nor the presumed suspect motivation impacted stress perception or behavioural responses of investigative interviewers. Further, although emotional resilience generally did promote lower levels of stress,

no significant effects of emotional resilience could be identified on stress or behavioural responses when making an error or when interacting with insider threat suspects.

In conclusion, this study gave a primary indication that error making and presumed insider motivation did not influence stress perception or behavioural responses in this sample. However, as this study was one of the first focusing on error making in organizational investigations, improvements for future studies and further research are necessary.

To exemplify, as in this study the majority of the sample was students, more realistic insights into the procedures and behaviours of professional investigative interviewers would be helpful to assess reactions and realistic consequences of interviewers and suspects. By this, deeper insight into the appropriate handling of suspects, and in turn on insider threat prevention could be evaluated. Further, as error making did not seem to be of important consequence in this study it would be of keen interest to assess if factual errors have impacts on professional organizational interviewers or if other error types might have more influence on them. Through this, investigative interviewers could be better educated and prepared in the coping with errors but also in their behavioural responses to them, enhancing the interviewer-suspect relationship.

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Appendix A

Consent Form

This study consists of a pre- and post-survey and an interview. The total duration of the study will be approximately 30 minutes. This study is part of the researchers' psychology BSc thesis at the University of Twente. Participation in this study is and always remains voluntary. You can withdraw from this study at any moment, without having to give an explanation. Participation does not come with anticipated risks. The data captured during this research, will be used for analyses only. In this assignment the data will be kept confidential and will be anonymized. To ensure your privacy we will make use of an identification number. Audio- and/or video recordings will be securely saved after the interview took place and will in no instance be made public. The participant is eligible to request erasion of, correction of and access to any personal data captured. If you have any questions during, between or after the study you are always welcome to contact the researchers for questions, remarks or complaints.

Contact persons for this research:
Mees Groen: m.a.groen-1@student.utwente.nl
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This study is supervised by:
dr. Oostinga : m.s.d.oostinga@utwente.nl
dr. Watson: s.j.watson@utwente.nl

Please tick the appropriate boxes

- I have read and understood the study information. I have been able to ask questions about the study and my questions have been answered to my satisfaction.
- I consent voluntarily to be a participant in this study and understand that I can refuse to participate and that I can withdraw from the study at any time, without having to give a reason.

- I understand that taking part in the study involves capturing demographics, and a video-recording of me role-playing during an interview.
- I understand that the video recording will be transcribed, and that the footage will be stored in a safe place.

Use of the information in the study

- I understand that information I provide will be used for fulfilment of an academic thesis, (recordings will be anonymized and kept confidential)
- I understand that personal information collected about me that can identify me will not be shared beyond the research team.
- I give permission that statements I make during the interview may be quoted in the research outputs.

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by ethicscommittee-bms@utwente.nl

Appendix B

Accidental and Deliberate Scenario

Imagine yourself in the following scenario and try to act as realistically as possible.

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. This violates 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?

Deliberate

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?

Appendix C

Interviewee 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 *ipad/usb-stick* containing vital sketches was missing from your design department's storage. It is an ipad/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 you told 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 ,’*
        1. 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 a USB stick containing the sketches was lost, as in reality a tablet was lost.
        1. 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 it’s 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 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 / 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

Manipulation Check Question

What was your first impression of the suspect's motive?

- That the suspect was innocent.
- That the suspect had deliberately provided the competitor with the information.
- That the suspect had accidentally lost the information
- I could not reach a conclusion on the suspect's motive.

Appendix E

Debrief

The Effects of Presumed Motive and Error Making in an Organisational Interview Context

Thank you for participation in this interview study! As you were aware this study focuses on the communication process within interview settings. The goal of this research is to research how **communication errors** (saying the wrong missing object) by **interviewers** affect the way they feel, think and behave. Further, it was researched whether an interviewer's perception of the **suspect's motive,** and the way interviewers are inclined to give meaning to their mistakes may influence the aforementioned relationship. In this research we wanted to minimize the probability of demand characteristics, in other words, that you would (unconsciously) react in ways you think favorable for the research. But, which are not your intuitive reactions. Therefore, the interview was manipulated in two ways without informing you.

Firstly, in advance we have provided you with information on the lost object that may have caused the leak. Before the interview we have instructed the suspect, who was part of the research team, to respond to hearing you bring up that object differently depending on the participant group you were assigned to. Either the suspect was supposed to act as if the USB stick was indeed the object that was missing. If that were the case the suspect should have just continued the conversation, in this case you will not have noticed anything. If you were in the incorrect object participant group, then the suspect was instructed to respond somewhat offended and surprised whilst commenting that not a USB stick was lost, but a tablet. This allowed us to observe how you did (or did not) react to making a communication error.

Secondly, we have manipulated your presumed motives (what you considered the suspect's motive for his or her deeds) by providing you with one of two possible texts. Either you were informed that the suspect was guilty to the offence of leaking company information and did so purposefully. Or you were also informed that the suspect was indeed guilty, but that he or she had accidentally leaked the company information. We wanted to find out whether manipulating someone's presumed motives would affect the way they reacted to making communicational errors.

As you were not informed about these manipulations beforehand you have not been able to give a full consent to participate in this research, we hope this information has provided you with a clear view of our study. If you have any questions left about your participation, feel free to ask them now in the Teams call or to reach out to us at a later moment. We find it important that you can make a full informed decision on your participation, this means you are also still free to revoke the use of your data within one week after participation. If you wish to do so feel free to let us know. Otherwise, all of us thank you for your participation and wish you a wonderful day!

Thank you for your participation in this study!