Exploring the effects of errors on trust and information sharing in suicide negotiations

Bachelor thesis in Psychology

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Abstract

This study explored the effects of errors in suicide negotiations. Real-life negotiators estimated that mistakes happen in every suicide negotiation (Oostinga et al., 2018a). Therefore, this study aimed to test the consequences of errors on the suspect and how to deal with them as a negotiator. The research consisted of a 2(perceived control over the error: on purpose, accidental) x 3(response strategy: apology, denial, deflection) between-participants design. A control addition was added where no error occurred, creating seven conditions which explored the effects of the variables on the trust of the suspect in the negotiator and the suspect's information sharing. In the study, no statistically significant results were found. However, the main findings of this research indicated that an error did not necessarily damage the relationship between the negotiator and the suspect, as long as the negotiator apologized for it. In that case, an error occurring even increased the suspect's trust and willingness to provide information. The main advice given to real suicide negotiators was to accept that errors might happen and to make sure to apologize for them. There were limitations that negatively influenced the results, which are discussed in this study. Future research could use this study as a basis and make improvements to come up with better results.

A young woman calls her fiancé and tells him that she sits in a car, has a gun with her and is going to end her life. When authorities reach her destination, she gets out of the car with the gun in her hand. Crisis negotiator Mark Lowther is called to the scene to talk to her and convince her to spare her own life. Mark Lowther is an experienced negotiator with a great training in suicide prevention. Upon this point, he was confronted with many suicide negotiations and was able to talk persons out of killing themselves every time. Lowther faces a challenge, as he does not have enough background information on the young woman to understand what might motivate her to commit suicide. During the two-hour long conversation, he gets the feeling that the young woman is listening to him, but he is not able to get her to talk much. Every time he wants to give her time to speak, the young woman becomes flustered and threatens to follow through with her intentions. The negotiator uses all of his expertise to convince the young woman, but this story has no happy ending. The young woman ends up killing herself and becomes the first fatality in the negotiator's suicide negotiation career (Raffan, 2019).

This story is a real-life example of a crisis negotiation involving a suspect that wants to commit suicide. While there are many events where negotiators can convince suspects to not kill themselves, there are also some cases that end tragically, like the one of the young woman from the story. Minimizing the cases with negative outcomes and improving negotiators' chances to have a successful suicide negotiation are therefore important challenges that this study aims to tackle.

While other studies focus on the role of the negotiator and the possible skills and actions that help in crisis negotiations (see Waring et al., 2013), this study analyses suicide negotiations from the suspect's perspective. The focal point here is to analyse how suspects react to errors made by the negotiator during the conversation. No matter how well a negotiator is prepared, mistakes can still happen. A study by Oostinga et al. (2018a) shows that many experts believe errors occur in every suicide negotiation. This is an issue, because mistakes during a suicide negotiation can lead to a suspect trusting a negotiator less, which damages the relationship of the two (Oostinga et al., 2018b).

However, it could also be that negotiators appear more humane when they make an error (Crigger, 2004). The consequence could be that negotiators becomes more likeable for suspects, as the they might appear more approachable. Oostinga et al. (2018b) also showed that errors during the conversation are not always negative but could bring advantages as well. It might be that a negotiator receives more information from the suspect after making a mistake. The potential positive effects of making an error might lead to the implication that

mistakes could be used as a strategy aimed at gaining these benefits. However, in the previous study by Oostinga et al. (2018b), the suspects regarded the error as accidental. The effects of a mistake might differ if suspects think that an error was made on purpose. This study is aimed at further exploring error making in suicide negotiations and check how the consequences of an error are influenced by whether suspects see the mistake as genuine or regard the error as being made on purpose.

Another factor that could influence the effects of an error is the response of the negotiator to the mistake. According to Benoit (1997), there are different ways one can react to making an error. Two of those ways are reducing one's responsibility for the error and trying to induce forgiveness. Whether a negotiator takes responsibility for a mistake and regrets it can be crucial for the further conversation after the error. The negotiator's reaction after making a mistake influences the suspect's perception of the error. Therefore, it is important to explore the effects of different types of responses on the suspect, to enable negotiators to minimize the possibly negative effects of mistakes.

In the story, the negotiator focussed on two important factors during the talk, which this study pays attention to. The first of these factors is to gain the trust of the suspect. By taking a slow and careful approach, indicated by the length of the conversation, the negotiator wants to build a trustful relationship with the suspect. The second point of emphasis is to increase the amount of information that the suspect shares. In the story, the negotiator does not have enough background information to understand the suspect's motives. So, he tries to involve the woman in a conversation, aimed at gaining information about her.

Accomplishing these two goals increases the chances of achieving a positive outcome and the next section explains why these two factors are crucial.

Suicide negotiations

Crisis negotiation involves the law enforcements efforts to interact with suspects who threaten violence, whether it is to others (e.g. hostage situations) or to themselves (suicide) ("Definitions", n.d.). In suicide negotiations, several factors play a role. Suspects get into a crisis state, which leads to them being unable to cope with their issues due to a high emotional tension and low rationality (Vecchi et al., 2005). Suspects begin to exchange rational and cognitive decision-making with emotional and affective action. Therefore, the aim of suicide negotiation is to re-establish a person's coping mechanisms, to avoid an escalation.

To do this, negotiators try to fulfil certain goals. One of those is to create a conversation and build a connection with the suspect. This is a crucial step in the bargaining process, as a good relationship with the negotiator makes the suspect more persuadable when

suggesting something. Thus, gaining the trust of the suspect is a vital step, as was also shown in the story of the introduction. Another goal is identifying and addressing the underlying emotions in the suspect's current situation. This can help with reducing the level of crisis a person experiences. To do this, suicide negotiation aims at gaining information. This enables the negotiator to assess the potential harm to the suspect and to understand the reasons for the suspect's crisis (Vecchi et al., 2005). Again, the story of the introduction acts as an example, as the negotiator tries to impel the suspect to talk more.

Response strategies and trust

One factor that influences trust is the response of negotiators to their own error. Oostinga et al. (2018a) identify four types of responses that experts commonly use during crisis negotiations (Accept, Apology, Attribute, Contradict). In this study accept and apology are merged into one category, as apologizing for a mistake includes accepting the mistake in the first place. Contradict and Attribute were transferred into this study but given different names. In total, the study consists of three response strategies, with the first being apology. Apology here means that the negotiator acknowledges the error and expresses remorse to the suspect. The second response category is denial. Here the negotiator claims there was no mistake made or that there was a misunderstanding. The third type of response is deflection, which consists of the negotiator admitting there was a mistake, but not taking responsibility for it. Instead, the cause of the error is attributed to someone else or to a circumstance. Each of those three response strategies affects trust differently. Moreover, response strategies can have individual consequences for every suspect, as every suspect has different needs (Oostinga et al., 2018b). Due to this, the study aims at identifying positive and negative effects of the different response strategies that are consistent for many suspects.

One of the goals of suicide negotiation is to create rapport with the suspect to build a good relationship. For this trust is a crucial element, as trust increases the chances of persuading suspects and changing their intents (Sikveland et al., 2019). The suspect being able to trust the negotiator is crucial for the credibility of the expert and the negotiator should work on gaining trust (Wells et al., 2013). Making a mistake influences trust. One could think that making an error lowers the trust levels of suspects, as they might become upset. This viewpoint is in line with the findings of Oostinga et al. (2018b), who found that in certain situations mistakes lower the trust level between a negotiator and a suspect.

The first hypothesis looks at the effects of negotiators' response strategies on suspects' trust levels. As outlined previously, an error can be damaging for a trustful relationship between negotiator and suspect. Out of the three response strategies in this study, apology

could be best for increasing the chances of that trust being regained (Kim et al., 2004). Lewicki and Polin (2013b) support this standpoint and explain that for trust to be repaired, the violator (in this case negotiator) must act and offer 'verbal account' in the form of an apology. Furthermore, raising the perceived benevolence of the suspect can improve their trust level. Perceived benevolence relates to the way negotiators treat suspects and to whether suspects think that negotiators behave well towards them (Lewicki & Polin, 2013a). If suspects think that they are treated well by the negotiator, it can increase their trust.

In a study by Oostinga et al. (2018a), professional crisis negotiators mention that it can be difficult for some of them to apologize, because they think that they could lose control over the conversation. The hypothesis tests if the gains of apologizing outweigh those worries due to the importance of the gained trust. Based on the literature, the first hypothesis is "Apology is a better response strategy than deflection and denial for gaining more trust by the suspect, regardless of whether the error was made on purpose or by accident".

Making an error and trust

Trust can also be influenced by the suspect's perception of the error. As previously stated, a differentiation is made between two situations in this study. In one case suspects know that an error is made on purpose, and in the other suspects think an error is genuine. One of the potential advantages of error making is that negotiators could appear more humane if they make a mistake, which could increase trust (Crigger, 2004). But negotiators can only appear more humane if suspects think that a mistake happened accidentally. In that case, errors may have a positive effect on the trust level of a suspect. However, if suspects believe that an error occurred on purpose, negotiators will not appear humane or likeable and thus any potential positive consequences on trust would be out of the question. Negotiators cannot know or control if suspects perceive an error as intentional or not. It therefore makes sense to weigh the potential advantages of an error against possible risks, regarding the effects on suspects. Hayes (2002) says 'bluffing' in a negotiation does not reduce the chance of a successful negotiation, even if the bluff is uncovered. Yet, in a high-stake situation like a suicide negotiation, risking losing all the work that has gone into building a good relationship with the suspect should be well considered (Dolnik, 2003).

The second hypothesis explores a scenario where negative effects are expected. While Oostinga et al. (2018b) have also stated positive effects of error making in their study, their findings were negative regarding trust. It is expected that these consequences are also visible in this study. This should particularly stand true when suspects know that the error is not genuine, due the increased risk of losing the trust in that scenario (Dolnik, 2003). An integral

part for a suspect's trust is the negotiator's perceived integrity, meaning that suspects believe that the negotiators are honest with them (Lewicki & Polin, 2013a). If suspects think that a negotiator lies to them, this will decrease the trust level between the two parties.

When looking at response strategies, denial is the response where the worst outcomes regarding trust are predicted as denying an error can lead to a significantly decreased trust level (Oostinga et al., 2018b). Benoit (1997) underlines this and states that error makers should admit the mistake, or they could risk that the error backfires. Another study that emphasises the danger of denying an error is the research of Kim et al. (2004). They showcase that denial might lead to a damaged trust level that cannot be rebuilt.

Based on these expectations regarding suspects' perceptions of a negotiator's honesty and on the literature on the negotiator's response strategy, the second hypothesis is "Making an error on purpose and then denying the error leads to the lowest level of trust of all conditions".

Making an error and information sharing

In addition to trust, information sharing plays an important role in the relationship of negotiators and suspects, too. When negotiators do not receive information from a suspect, they cannot effectively emphasize with the suspect, which might lead to a more distant conversation. As previously stated, negotiators try to gain information during the conversation to understand a suspect's motives and to assess the potential harm. This helps them to find the right tone to attune a suspect's internal state. Failing to do this could risk and escalation of the situation (Vecchi et al., 2005).

Making an error, purposefully or not, can influence information sharing. Errors may lead to suspects become less willing to provide information during the conversation, which hinders the goals of a suicide negotiation. This makes it important to explore the consequences of errors on information sharing. A negative result of a mistake could be that a suspect doubts the ability of a negotiator, regardless of the perceived level of control over the error. The result of this could be that a suspect does not believe that a negotiator can help them, potentially leading to them not wanting to share information. On the contrary, a mistake can also increase the amount of information shared. The idea here is that it might be that an error could lead to a correction by a suspect, possibly generating new information. To test the influence of the perceived level of control, this study explores the effects of errors that are genuine and mistakes that are made on purpose on information sharing.

The third hypothesis focusses on the link of suspects' perception of the level of control over the error by negotiators and their information sharing. This time, a scenario is discussed

where a positive effect is expected. The second hypothesis expects that suspects believing that negotiators make a mistake purposefully leads to an unfavourable outcome. The third hypothesis expects the opposite and argues that the 'reward' for making an error is higher for information sharing than for trust, which makes it more reasonable to take the risk of the suspect potentially thinking an error was intentional. While Oostinga et al. (2018b) showed negative consequences of errors on trust, they also found that suspects share more information after judgment errors (e.g. misjudging the emotions of a suspect) and provide a higher quality of information after factual errors (e.g. stating a fact wrongly). The reason for this could be that the suspect feels the need to correct the negotiator. It is expected that these findings can be confirmed, even if suspects know that an error occurs on purpose.

Making an error on purpose is not only expected to have the same effects as accidentally making a mistake, it could even be that an error that was made purposefully increases the possible positive outcomes. Errors can lead to negotiators doubting themselves and fearing the potential consequences. When the negotiator knowingly makes the mistake, those issues do not occur. While it seems that this aspect affects the negotiator only, it benefits the suspect as well. Due to an error, negotiators get distracted from their task to help suspects, as their focus shifts away from the negotiation and towards the mistake (Oostinga et al., 2018a). When negotiators can fully aim their attention at the conversation, they can concentrate on gaining as much information as possible, which increases the chances of a successful suicide negotiation. One might raise ethical concerns about purposefully lying in a situation where a life is at stake. However, Josephson and Hanson (2002) argue that while ethically approved deceiving is rare, it is acceptable if one wants to save a life. Lying in this situation could lead to gaining more information and eventually stopping suspects from killing themselves. Therefore, it is not only ethically acceptable to deceive suspects but could also help to save their lives.

Based on the above-mentioned expectations, the third hypothesis states that "Purposefully making an error leads to more information than accidentally making an error, whilst using the same response strategy".

Response strategies and information sharing

Besides the perceived level of control over the error, another factor that could play a vital role in minimizing the potential negative effects of the error on the amount of information that the suspect shares is the response strategy of the negotiator. As indicated above, a mistake can damage the relationship between a negotiator and a suspect. A negotiator's failure to respond respectively to that error could lead to a suspect not cooperating with the negotiator anymore

(Vecchi et al., 2005). To avoid this, a negotiator should focus on repairing the relationship with the suspect. If the negotiator finds an appropriate way of dealing with the error, it would enable them to continue gathering crucial information.

The fourth hypothesis explores a scenario in which suspects share the most information. The hypothesis is related to the third hypothesis regarding the perceived level of control over the error. The third hypothesis argues that a mistake that is made on purpose has a positive effect on information sharing. However, other literature indicates that deceiving the suspect can also have negative consequences and reduce the information shared by suspects. For example, Grover (1997) states that lying can reduce the quality of information that one receives. In the context of this study this would mean that the negotiator would receive insufficient information from the suspect, which could have grave consequences for the conversation.

Another aspect that the third hypothesis indicates is that mistakes made on purpose have a different effect on information sharing than on trust, as it contradicts the first hypothesis which expects that trust is negatively influenced. Butler (1999) challenges this standpoint by showcasing that trust is linked to information sharing. According to this, purposefully making an error should have similar effects on trust and information sharing and thus lead to less information shared by suspects. Based on this literature, a genuine mistake results in a higher chance of achieving a positive effect with the error regarding information sharing compared to a mistake that was made on purpose. The study consists of contradicting hypotheses deliberately, so that varied expectations based on different previous findings are explored.

The argument of Butler (1999) can also be viable when looking at the most advantageous response strategy regarding information sharing. The literature that is used to argue in the first hypothesis emphasises that apologizing creates the highest trust levels. If trust and information sharing were linked, this should mean the apology is also the best response strategy for generating the most information. The findings of Oostinga et al. (2018b) support this assumption, as in their study apologizing led to suspects showing a higher willingness to provide information than contradicting, which is a response that diminishes a negotiator's responsibility for the mistake.

Based on the literature and the resulting expectations, the fourth hypothesis states that "Making an error accidentally and apologizing for it leads to more information sharing than other conditions".

Method

Design

The study was conducted via an online survey. The study consisted of a 2(perceived control over error: on purpose, accidental) x 3(response strategy: apology, denial, deflection) between-participants design. The variables led to six different conditions for the survey. In addition to that, a control condition was added, where no error occurred during the negotiation. The dependent variables in the study were the trust of suspects in the negotiatior and the quality of information provided by suspects.

Participants

In total, 134 people participated in the survey. A requirement for participation was that participants had to be students at the time of participation. They were randomly assigned to one of seven conditions. 42 people were excluded from the analysis entirely because the survey was not filled out. This means that those participants' results cannot contribute to the analysis of the error effects, as they most likely did not see the error at all. The remaining 92 participants were checked for their eligibility in the final analysis. Three raters agreed on 64 participants that could be used for further analysis (see Appendix A). Three reasons for exclusion were found. The first was that participants did not finish the survey, which lead to incomplete data. A second reason was that participants failed to notice that an error occurred. The third reason for exclusion was not providing serious answers. Those participants gave answers that made it obvious that they did not treat the situation realistically, which could influence the results. An example is that a participant jokingly indicated that other people were with them, which contradicts the scenario.

When looking at the exclusions per condition, eleven participants from the "on purpose" conditions and 15 from the "accidental" conditions were taken out of the analysis. The number of exclusions because the participants did not finish was equal between the two groups. However, there were more removals due to participants not understanding the error in the "accidental" conditions. The response strategy "apology" led to eight exclusions, "denial" had eleven removals, and seven participants were taken out of the analysis from the "deflection" conditions.

The age of the 64 participants in the analysis for hypotheses testing ranged from 18 to 30 (M = 22.22, SD = 1.90). There were 23 male participants, 40 females and 1 participant did not give any information. 56 participants were German, 4 Dutch, 1 Austria, 1 Greek, 1 Polish and 1 participant gave no data.

Measures

Trust

Trust was measured with a scale that was initially used to test trust in emergency room doctors (Kelly et al., 2005). As there are no existing scales to measure trust in suicide negotiators, this scale was used as a basis because emergency room doctors also operate in scenarios in which life is on the line. The original scale consists of 18 items. Of these 18 items, five were selected as they could be reworded to refer to a suicide negotiator. These items covered trust, integrity, benevolence and propensity, areas of trust that are significant for the overall measure of trust (Mayer & Davis, 1999). Ability is the last field that is part of the measure of trust, so a sixth item was added to cover this area (Table 1). The final scale was a 5-point Likert Scale, ranging from 1 (=Strongly disagree) to 5 (=Strongly agree).

Table 1 – Items of the trust scale

Item	Area
I was treated like an individual, not a case number by Anne	Trust
Anne took me seriously	Integrity
Anne was honest in dealing with me	Integrity
Anne appeared willing to help	Benevolence
Anne should have shown more respect	Propensity
I feel very confident about Anne's skills	Ability

Quality of information

The quality of information provided by suspects was assessed with two different measures. The first part was willingness to provide information. This was determined with the "willingness to provide information" scale (Beune, 2011) that was also used by Oostinga et al. (2018b) before. The scale contained three items, "To the negotiator…: 1. …I told everything I knew, 2. …I gave a lot of information, 3. …I gave truthful information". The participants were asked to rate these items from 1 (=Strongly disagree) to 6 (=Strongly agree). The average score of these items was used to measure willingness to provide information.

The second measure for quality of information was actual information provided. In the experiment scenario, three factors were mentioned to the participants as reasons for barricading themselves. The first factor was that the participants are stressed because of their struggles in university. The second factor were the difficulties the participants experience within their family. The third factor was that the participant's best friend does not support them when the participant told them about their problems. These factors are important

information for the negotiator, therefore the actual information provided was measured by checking how many of those factors were mentioned by the suspect in the survey. Before the error, the negotiator asked why the participants barricaded themselves. The response of the participants to that questions was checked, with a score given between 0 (=no factors mentioned) and 3 (=all factors mentioned). To test the effect of the error, the participants' response after the error occurred was inspected in the same manner. The actual information provided was the number of added factors mentioned after the error compared to before the error. If a participant named one factor before the error and two factors after the error, the actual information provided score was 1.

The analysis showed that only six of the 64 participants mentioned any new factors after the error. Due to the low number of participants who mentioned new factors after the error, "actual information provided" was removed from further analysis. The dependent variable "quality of information provided" was further measured with the "willingness to provide information" scale only.

Procedure

At the start of the online survey, that participants read an introduction to get a general understanding of the topic of the study. To avoid potentially influencing the participants, they were only told that they will imagine themselves in a situation where they barricaded themselves in a room with the intent of committing suicide. The participants were asked to act realistically and were told that there will be a video to help visualize the scene. Next, the participants gave consent to participating in the study. The participants were also informed that they can abort the study at any time if they feel uncomfortable in the study.

The following step was to read through the first part of the scenario. Here, the participants were asked to imagine that they are currently under a lot of stress in university because they are not motivated enough and fail to meet requirements. On top of that, they have family issues as their father is violent and their mother is addicted to alcohol. The participants are informed that they find a gun and decide to take it with them to a meeting with their best friend at the university. Lastly, the participants read that their best friend is not supporting them and thinks that they are annoying. They lose their temper and barricade themselves in a room.

After reading through the first part of the scenario, the participants viewed a short video that was supposed to help visualizing the situation. The video was shot from a first-person perspective. The participants could see themselves running into a room and locking the

door. They saw a laptop on a table and could see how they pull out the gun from their backpack and turn towards the door.

After watching the video, the participants proceeded to the second part of the scenario. Here, they were asked to imagine that a crowd has gathered in front of the room and that they threaten to kill themselves. The police arrived and the participants were informed that the police is trying to contact them via the laptop that they saw in the video, and that the communication will be made through chatting, with a negotiator named Anne.

At this point, the participants were randomly assigned to one of the seven conditions. The participants of the various conditions saw different versions of the survey from here on.

Perceived control

Next, the participants of the "on purpose" conditions (conditions 1-3) saw a message on their screens that informed them that they could hear the police talking in front of the room. The participants could overhear how the police planned to say something incorrect on purpose to induce a reaction. The participants of the "accidental" and control conditions (conditions 4-7) saw a different message. They read that a police officer told another that the suspect studies at this university. This was done to ensure that the length of the survey was similar for all participants.

Afterwards, all participants were asked several questions by the negotiator. This was done in a simulated chat to make it seem more realistic. The participants could type in their response to secure that every response was possible. The participants could see when the negotiator was typing and there was a real-time clock displayed. All participants answered four "base" questions. Between those questions, the negotiator made an error (conditions 1-6). First, the negotiator asked why the participants barricaded themselves and the participants typed in their responses. Then, the negotiator falsely concluded that the reason for the participants locking themselves was that they lost their part-time job.

In the control condition, no error occurred. The participants in this condition saw something different instead, to again make the length of the survey similar. After the negotiator asked why they barricaded themselves, the negotiator said "Ok. So you barricaded yourself and you are a student here?" next.

Response strategy

After the error happened, the participants of the different conditions received different versions of the survey again. For the participants in the "apology" conditions (conditions 1 and 4), the negotiator admitted the mistake and apologized. For the "denial" conditions (conditions 2 and 5), the negotiator claimed that the participant misunderstood something and

that there was no error. In the "deflection" conditions (conditions 3 and 6), the negotiator blamed a colleague for the mistake. As there was no error during the negotiation in the control condition, the participants were told that the negotiator wrote down everything that they said before instead.

After finishing the chat section, all participants answered the same questionnaire. The survey included the questions about the dependent variables, as well as meta-questions about the comprehensibility of the survey and demographic questions. Lastly, the participants were debriefed. Here, they were informed that the goal of the study was to test the effect of errors in suicide negotiations and that they have been randomly assigned to one of seven conditions.

The research was ethically approved by the ethics committee of the University of Twente. For the entire survey, see Appendix B.

Materials

Qualtrics (https://www.qualtrics.com/) was used to create the online survey. Further materials were needed for the video. A mobile phone was used for recording. To make visualization easier, a laptop and a gun prop were seen in the video.

Data analysis

To test the dependent variables, the scale items were calculated into an average score to express the variables in a single number. To do this, item 5 of the trust scale ("Anne should have shown more respect") needed to be reverse coded. Next, reliability analysis was done on the scales, using Cronbach's alpha (Cronbach, 1951). Descriptive statistics were created for both trust and willingness to provide information, to make general statements about the variables.

After checking the scales, correlation analysis was run. The Pearson correlation coefficient (Blyth, 1994) was employed to test the relationship between the dependent variables and age. As gender is a dichotomous variable, Point-Biserial correlation (Tate, 1954) was used to check the link to the variables.

The final step was the hypotheses testing. First, means of trust and willingness to provide information were created for each condition to get a general overview of the data. Then, the significance of mean differences between the conditions was tested. For this, normality was checked, to see if a parametric or non-parametric test was applicable.

Results

Table 2 – Means, standard deviations, scale reliability and correlations of study variables

Variables	Mean	SD	Cronbach's alpha	1	2	3
1. Trust [a]	2.88	.75	.81			
2. Willingness to provide information [b]	3.17	.94	.72	.10		
3. Age	22.22	1.90	-	-.25*	.03	
4. Gender [c]	-	-	-	.18	-.02	-.39**

[a] Scores from 1 to 5. [b] Scores from 1 to 6. [c] Males coded with 1, females coded with 2.
** Significant (p<.05). ** Significant (p<.01).*

In table 2, one can see information about the dependent variables trust and willingness to provide information and their correlation to each other and to the age and gender of the participants. There was no significant correlation between the two dependent variables trust and willingness to provide information. Neither of the two variables was significantly correlated to gender. For age, there was no significant correlation to willingness to provide information. However, there was a small significant negative correlation to trust (-0.25), meaning that the older participants were, the less trust they had in the negotiator (see Appendix C).

Hypothesis 1

Hypothesis 1 stated that apologizing would generate more trust than denying or deflecting the error. The trust mean scores for the response strategies "apology", "denial", "deflection", and "control" can be seen in table 3. Apologizing for an error created the highest trust level, while denying the error had the consequence of the suspect trusting the negotiator the least. Normality was tested using the Shapiro-Wilk test (Shapiro & Wilk, 1965) (see Appendix D). There were four grouping variables (apology, denial, deflection, control). There was a normal distribution for all groups, so one-way ANOVA (Kim, 2017) was used to test the significance of mean differences. The differences in mean scores were not significant, $F(3, 60) = 2.32$, $p = .08$. As this p-value only slightly missed the cut-off point for statistical significance, a Tukey post hoc test was run to see if the test would show significant differences between the response strategies. The test showed no significant differences between any responses (see Appendix E). The difference between apology and denial was almost significant, with the test showing that apology ($3.21 \pm .70$) had higher trust scores than denial ($2.57 \pm .81$, $p = .06$).

The mean scores showed that apologizing is the best way to create a good trust level with the suspect, but the mean differences were not statistically significant. Therefore, hypothesis 1 was rejected.

Table 3 – Trust scores per response strategy

Response strategy	Trust score
Apology (*N* = 17)	3.21 (*SD* = .70)
Denial (*N* = 17)	2.57 (*SD* = .81)
Deflection (*N* = 18)	2.81 (*SD* = .68)
Control (*N* = 12)	2.97 (*SD* = .70)

Hypothesis 2

Hypothesis 2 expected the condition "on purpose/denial" to create the lowest trust score. Table 4 shows the mean scores for each condition in the study. Accidentally making an error and apologizing for it led to the highest trust score in the study, while making an error on accident and then denying it led to the lowest trust level. To test whether the differences in means were significant, normality was tested for trust in each condition, using the Shapiro-Wilk test. The data was not normally distributed in condition 1, $W(10) = .84$, $p = .04$, and condition 2, $W(8) = .81$, $p = .04$. As the variables were not normally distributed in all groups, the Kruskal-Wallis test was employed to test the significance of the differences between the groups (Kruskal & Wallis, 1952). The Kruskal-Wallis test showed that the differences between the conditions were not significant, $H(6) = 7.49$, $p = .28$.

As making an error on purpose and denying it had only the second lowest trust score and the differences between the conditions were not significant, hypothesis 2 was rejected.

Table 4 – Trust scores per condition

Condition	Trust score
On purpose/apology (*N* = 10)	3.15 (*SD* = .56)
On purpose/denial (*N* = 8)	2.60 (*SD* = .62)
On purpose/deflection (*N* = 10)	2.75 (*SD* = .70)
Accidental/apology (*N* = 7)	3.29 (*SD* = .91)
Accidental/denial (*N* = 9)	2.54 (*SD* = .99)
Accidental/deflection (*N* = 8)	2.88 (*SD* = .69)
Control (*N* = 12)	2.97 (*SD* = .70)

Hypothesis 3

The third hypothesis predicted that making an error on purpose would lead to more information sharing than accidentally making a mistake. Table 5 shows the mean scores for willingness to share information for the three perceived levels of control "on purpose", "accidental", and control. Making an error on purpose generated the highest willingness to share information by the suspect. When no error at all occurred, suspects were least willing to share information. Normality was again tested and there were three grouping variables (on purpose, accidental, control). This time, the data was normally distributed in all groups. Therefore, one-way ANOVA was used to test the significance of mean differences. The test showed that the score differences between the groups were not significant, $F(2, 61) = .25$, $p = .78$.

While the mean scores indicated that making an error on purpose led to a higher willingness to share information, the mean differences were not significant. Therefore, hypothesis 3 was rejected.

Table 5 – Willingness to share information scores per perceived level of control

Perceived level of control	Willingness to share information score
On purpose ($N = 28$)	3.26 ($SD = 1.04$)
Accidental ($N = 24$)	3.10 ($SD = .93$)
Control ($N = 12$)	3.08 ($SD = .71$)

Hypothesis 4

The fourth hypothesis expected that the condition "accidental/apology" would have the highest willingness to provide information score. Table 6 shows the mean score for willingness to share information in every condition. Making an error on purpose and blaming someone else led to the highest willingness to share information in the study. The least information was shared when the negotiator made an error on purpose and then denied it. Testing for normality included the same grouping variables as in hypothesis 2, only this time the dependent variable was willingness to share information. The variable was not normally distributed in condition 2, $W(8) = .80$, $p = .03$, and condition 6, $W(8) = .82$, $p = .04$. Thus, the Kruskal-Wallis test was used to test for significance. The Kruskal-Wallis test showed that the differences between the conditions were not significant, $H(6) = 9.33$, $p = .16$.

As making an error on accident and apologizing for it produced the second highest willingness to share information in suspects only and the differences between the conditions were not significant, hypothesis 4 was rejected.

Table 6 – Willingness to share information scores per condition

Condition	Willingness to share information score
On purpose/apology (*N* = 10)	3.30 (*SD* = .62)
On purpose/denial (*N* = 8)	2.58 (*SD* = 1.24)
On purpose/deflection (*N* = 10)	3.77 (*SD* = .99)
Accidental/apology (*N* = 7)	3.38 (*SD* = .83)
Accidental/denial (*N* = 9)	2.96 (*SD* = 1.22)
Accidental/deflection (*N* = 8)	3.00 (*SD* = .69)
Control (*N* = 12)	3.08 (*SD* = .71)

Discussion

This study explored the effects and consequences of errors in suicide negotiations to gain knowledge that can help negotiators save lives. In the study, no statistically significant results could be found. But looking at the numbers can still give indications that may be worth exploring in future research. The first hypothesis wanted to find the best response strategy for gaining a suspect's trust and expected that apology would be best for this. In this study, the mean differences for trust were slightly insignificant ($p = .08$). Because the result was only slightly insignificant, a Tukey post hoc test was run. This test found slightly insignificant differences between apology and denial ($p = .06$). Therefore, the results only hint that apology leads to higher trust scores than denial but do not confirm this. No significant differences were found between apology and deflection. The findings might partly confirm the previous findings by Kim et al. (2004) and Lewicki and Polin (2013b), who stated that apologizing helps repairing a damaged trust relationship best. In this study, the findings indicate that apologizing could be better than denying the error, but not better than deflecting a mistake. As the results were ultimately not significant, these interpretations are unproven.

Hypothesis 2 aimed at identifying a scenario in which the trust level of the suspect would be the lowest. It was expected that making an error purpose and denying the mistake afterwards would damage the trust relationship between the negotiator and the suspect the most. The differences between the conditions were not significant ($p = .28$), so the interpretation of the results is speculative. Keeping this in mind, the results show that the "on purpose/denial" condition had the second lowest score, while the "accidental/denial" condition led to the lowest trust level. This result would contradict the findings of previous literature, that argued that deceiving suspects would have more negative effects than accidentally making an error (Dolnik, 2003; Lewicki & Polin, 2013a). The reason for this

finding could be that because the participants in the "on purpose" conditions already knew that an error would occur, they were less disappointed by the mistake than the participants who did not expect the error. The findings could confirm the expectation that denying the error afterwards would have the worst consequences for trust.

The third hypothesis opposed the second hypothesis and expected that making an error on purpose would not have a negative effect but lead to more information sharing by the suspect. The mean differences of the perceived levels of control were very insignificant (p = .78), so statements about the results are unproven. When strictly comparing the scores for willingness to share information, they indicated that the hypothesis would be confirmed in this study. Oostinga et al. (2018b) argued that making an error could bring more information sharing by the suspect. The study might confirm these findings. Moreover, Oostinga et al. (2018a) stated that negotiators might become distracted by unexpectedly making an error, which is why it was expected that negotiators would be able to gather more information if they plan on making an error. This study's results could support this expectation.

Hypothesis 4 aimed at finding the best scenario for gathering the most information from the suspect. The hypothesis contradicted the third hypothesis and predicted that making an error accidentally and apologizing afterwards would lead to the most information. In this study, the differences between the conditions were not significant (p = .16), so making statements about the results is speculative. The results indicate that the expectations were false, as the condition "on purpose/deflection" had the best score for information sharing. Regarding the perceived level of control, this result would contradict the findings of Grover (1997), who stated that lying would reduce information sharing. When looking at the response strategies, the outcome of this study could differ from the findings of Butler (1999). Butler argued that trust and information sharing are linked to each other. In this research, the correlation between the two variables was not found, which could explain why the results disprove the expectations. As to why the "on purpose/deflection" condition produced the highest willingness to share information, there is no literature that could explain this result. It might be that this score was a coincidence, potentially influenced by the low number of participants. A different possible explanation might be that the measures in the study were flawed. It could be that combining willingness to share information and the actual information provided would produce different results. Potentially, the willingness to share information alone is not suited to measure information sharing, explaining why the results could differ from the expectations that were derived from previous literature. As the measure actual information provided had to be removed from the analysis, it is not possible to test this.

This study explored weighing risks and advantages of mistakes against each other. For this, the study included conditions in which the participants knew that the negotiator was making an error on purpose. As the findings in this study were not significant, the following interpretations are unproven. Hayes (2002) argued that deceiving the suspect does not decrease the chances of a successful negotiation even if the lie is uncovered, and this study could confirm the findings. Not only does the survey suggest that making an error does not necessarily lead to a bad relationship between the negotiator and the suspect, it could even indicate that the error might increase trust and the willingness to share information compared to no error happening at all. In a previous study, it was found out that deception can increase trust levels (Levine & Schweitzer, 2015), and this could be supported by this study. However, in this study the error only brought advantages if the negotiator apologized to the suspect after the error. This might confirm the findings of Kim et al. (2004), who argue that apologizing is the best way to restore trust. The findings in this experiment could partly align with the findings of Oostinga et al. (2018b) regarding the willingness to share information by the suspect. In their study, they also found that apologizing leads to a higher willingness than denying or deflecting the error. However, in that experiment the willingness was even higher if no error occurred. In this study, the willingness to share information was greater if an error happened, regardless of the perceived level of control. A difference between the two studies was that in this study some participants were aware that an error was made on purpose. It might therefore be that they felt like they were expected to share information and were thus more cooperative.

Advice for further research and limitations

Participants

The results of the experiment were influenced by the number of participants in the study. A part of the issue was that many participants had to be excluded. The number of participants that had to be excluded should be discussed to see if certain conditions were linked to the exclusions. There were more exclusions due to participants not understanding the error in the "accidental" conditions. This might indicate that the error confused more participants when they did not expect it. The response strategies cannot be linked to participants not understanding the error, as they only come into play after the mistake happened. But when it comes to participants not finishing the survey, the numbers implied that denying an error could potentially lead to participants being upset and not wanting to finish, although the differences were small. These possible reasons for the exclusions in some conditions are speculative and some of the exclusions might not be linked to the content of the survey and

could have random causes. Still, the study was hampered by them. There were only seven to twelve participants per condition, which is not enough to get meaningful results (Creative Research Systems, n.d.). Future studies should focus on reducing the number of participants that must be excluded.

Face to face conversations

One way to do this would be to simulate the negotiation in a face to face conversation instead of a written online conversation. According to Lewicki and Polin (2013b), it is more likely that trust develops during face to face communication than during written communication. While this would be more time-consuming and would require either a real crisis negotiator or a researcher role-playing, it would reduce the number of participants not finishing the survey. Moreover, there would be room for adjustment during the negotiation, which would make the negotiation more tailored to every participant. While this would bring problems with the uniformity of the experiment, it could reduce the number of participants refusing to talk with the negotiator. In this study, this would have helped with including the "actual information provided" measure in the analysis. Including this measure could have helped with gaining more meaningful results. Furthermore, some participants thought that they did not know the negotiator enough to rate the items in the trust scale. Having a real-life negotiator in front of them, participants could find it easier to indicate the trust level they feel. At the time of this study, conducting face to face conversations was impossible due to the Covid-19 pandemic. Future research should explore the effects of face to face negotiations compared to online surveys.

Language

Another way to decrease the possibility of misunderstandings is to adjust the language of the survey. The study was conducted in English to make it possible for participants from different countries to take part. However, 56 of the 64 participants were German and could have benefited from the experiment being in their language. Future research could limit participants to one country and organize the survey in its language to increase immersion and decrease potential confusion. Afterwards, further studies could explore the effects for other nationalities if the results indicate that it would be useful.

Conclusion

While this study was not able to deliver statistically significant results, it can still be interesting to further explore what the outcome indicates. The main findings of this study are the following. One thing the study did not show is that errors ruin the chances of a negotiator to persuade a suspect. The study signals quite the opposite, as trust levels and the willingness

to share information were higher in some situations if an error occurred. Those positive effects only happen when the negotiator apologizes for the error. This leads to the second main finding, which is that if an error occurs, apologizing for it seems to be the best response strategy. As a hint for practice, real-life negotiators can take away from this study that mistakes can happen and are not a disaster, as apologizing can restore if not increase a suspect's trust level and information sharing.

On a final note, it must be highlighted that significant results are necessary to make definite statements on the consequences of errors. Future research can use this study as a basis and conduct new studies, with potentially different, optimized designs. A challenge in this study was to create immersion during the experiment without participants feeling uncomfortable with imagining themselves as suicidal. The scenario combined with the video seemed to work well in this study and can be used as an example for new studies. But there was also a small number of participants who reported that they could not identify with the situation, so other ideas might work better at creating immersion. Further research would be useful and could bring important insights for real suicide negotiations.

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Appendices

Appendix A - Participants

Table A1 – Overview of participants

Condition	In final analysis	Excluded/not finished	Excluded/error not understood	Excluded/no serious answer	Total
On purpose/ apology	10	1	3	-	14
On purpose/ denial	8	3	3	-	14
On purpose/ deflection	10	1	-	-	11
Accidental/ apology	7	2	2	-	11
Accidental/ denial	9	2	2	1	14
Accidental/ deflection	8	1	4	1	14
Control	12	2	-	-	14
Total	64	12	14	2	92

Appendix B – Full experiment

Introduction

Thank you for participating in this research project! Within this online study, we want to find out how you deal with the following situation: You will be asked to imagine that you barricaded yourself in a room and intend to kill yourself, because of several personal issues. Then the police will try to approach you and we will look into how you respond to their attempts to come into contact with you. It is important that you try to react as you would if the situation was real, try to react naturally. To help visualize the situation, we use a video. Within this video, you will see everything through the eyes and ears of someone who barricades him/herself in a room. The crisis negotiator (someone from the police with special police training) will try and get into contact with you and will start a conversation. After the conversation, we will continue by asking some general questions about what happened.
The study will take about 30 minutes. Information gathered is part of the research of some students from the police academy and for the bachelor thesis of the students Elias Berrada, Lars Meiländer, Tabea Platje and Adele Watford-Spence.

Informed consent

"I hereby declare that I have been clearly informed about the nature and method of the study, as explained in the previous statement. I fully agree to participate in this research. I reserve the right to withdraw my agreement without having to give a reason and I recognize that I can stop the study at any time. If the study is completed all information will be anonymized and my identity will stay hidden, and I will stay anonymous throughout the research process and with the use of my data. Without my expressed consent, my personal data will not be accessed by third parties. If I want to get more information about the outcome of the research, I can contact Lars Meiländer, l.meilander@student.utwente.nl.
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 researchers, 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.

( ) "I have provided agreement and consent for the investigation. I declare that I am ready to answer the questions as realistic and truthfully as possible."

We have provided explanations for the investigation and declare ourselves ready to answer any further questions about this investigation, research and outcome.

Elias Berrada, Lars Meiländer, Tabea Platje and Adele Watford-Spence

Scenario

Please imagine the following situation:

You are a 2nd-year student. Since you lack the motivation to study for exams and do the assignments, you always start to work just before the exam or the deadline. This has caused you trouble in the past semesters but still, you always managed to pass. Last semester you did not pass one component and have to do two resits while you also have to work for the current semester. Now, you have to study for two resits, one theory exam and you have to work on your research project. You feel more and more drained by the stress.

In addition to that, your family circumstances are difficult. Your father is violent and your mother is addicted to alcohol. This morning you found a gun in your mother's bedside cabinet. Because you are afraid that she wants to commit suicide, you put the gun into your backpack and drive to the university to meet your best friend, to talk and study together. After having a small conversation about the current situation your friend tells you that you are annoying and that you always talk about your family and university problems but never do anything against it. You are sad about this, because you expected your best friend to support you instead of blaming you. You get into an argument and you lose your temper. You run into a room and lock the door.

Video

Please click on the link below and watch the video.

(The video is recorded from a first-person perspective. So, please imagine that this is what you see.)

Scenario 2

Please imagine the following situation:

Many people heard the argument between you and your friend and now they are standing outside the room. You shout at them that you have gun and that you will kill yourself if they try to enter the room. In a short amount of time, all the people left the building and the police were engaged. The police are trying to contact you via the computer which is in the room.

(For the condition "intentional error"):

You hear the police talking in front of the door. You can hear that they are talking about you. They say "Say something incorrect on purpose, the suspect might react to that".

(For the condition "accidental error"):

You hear the police talking in front of the door. You can hear that they are talking about you. They say "The suspect studies at this university".

(For the condition "no error"):

You hear the police talking in front of the door. You can hear that they are talking about you. They say "The suspect studies at this university".

To ensure the anonymity of the participants everyone is getting a number.

Your number is 150.

It can take some minutes until the police responds.

Unfortunately, we were unable to make video contact with the police officer. That is why you are only able to talk over chat. Anne sends you the following message:

Chat:

Hello, I am Anne from the police: Who am I talking to?

Answer

I was told that you have barricaded yourself in a room?

Answer

Can you tell me a bit more about what is going on and why you have barricaded yourself in a room?

Answer

(For the condition "no error/control"):

Ok. So, you barricaded yourself and you are a student here.

Answer

(For the condition "error"):

Ok. So, you barricaded yourself because you lost your part-time job.

Answer

RESPONSE (for the conditions "accidental error" and "error on purpose"):

Apology: I got it wrong, I am sorry.

Denial: I did not get it wrong. You misunderstood me.

Deflect: My colleague gave me the wrong information.

RESPONSE (for the condition no error"): **I have written it all down.**

Answer

Are you alone in the room?

Answer

What is your exact plan?

Answer

The connection interrupts

Message from the researchers:

Thank you for answering the questions. You now continue to the questionnaire.

Questionnaire

Trust:

Item	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree
1. I was treated like an individual, not a case number by Anne.	O	O	O	O	O
2. Anne took me seriously.	O	O	O	O	O
3. Anne was honest in dealing with me.	O	O	O	O	O
4. Anne appeared willing to help.	O	O	O	O	O
5. Anne should have shown more respect.	O	O	O	O	O
6. I feel very confident about Anne's skills	O	O	O	O	O

Willingness to share information:

Item	1	2	3	4	5	6
	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
To Anne...						
...I told everything I knew	O	O	O	O	O	O
...I gave a lot of information	O	O	O	O	O	O
...I gave truthful information	O	O	O	O	O	O

Meta-questions:

The scenario was easily understandable.

I strongly agree	I agree	Neutral	I disagree	I strongly disagree
O	O	O	O	O

The questions were easily understandable.

I strongly agree	I agree	Neutral	I disagree	I strongly disagree
O	O	O	O	O

Demographic questions:
How old are you?
…
Which gender do you most identify with?

- Male
- Female
- Other, ……

What is your nationality?

- Dutch
- German
- Other, …

In which year are you in your studies?
…
Do you have any further feedback or suggestions?
…

Debrief:

The purpose of this study was to investigate the effects of errors made on purpose and errors made by accident. Depending on the condition you were assigned to, you either heard the police conspiring to lie to you, perceived the lie as an accident, or perceived no error at all. Should you have any further questions, would like to withdraw from the study, or would like to be informed about the results of the study, please contact l.meilander@student.utwente.nl. Please do not share what we are measuring with fellow students, as this may interfere with our results.

Appendix C – Correlation analysis

Table C1 – Correlation table

		1	2	3	4
1.Mean trust	Pearson correlation	1	.101	-.249*	.176
	Sig. (2-tailed)		.429	.049	.167
	N	64	64	63	63
2.Mean willingness	Pearson correlation	.101	1	.026	-.015
to share information	Sig. (2-tailed)	.429		.841	.905
	N	64	64	63	63
3.Age	Pearson correlation	-.249*	.026	1	-.387**
	Sig. (2-tailed)	.049	.841		.002
	N	63	63	63	62
4.Gender	Pearson correlation	.176	-.015	-.387**	1
	Sig. (2-tailed)	.167	.905	.002	
	N	63	63	62	63

*= $p<.05$. **= $p<.01$.

Appendix D – Normality tests

Table D1 – Shapiro-Wilk test hypothesis 1

Mean trust	Condition	Statistic	Df	Sig.
	On purpose/apology	.835	10	.039
	On purpose/denial	.810	8	.037
	On purpose/deflection	.909	10	.272
	Accidental/apology	.895	7	.302
	Accidental/denial	.949	9	.674
	Accidental/deflection	.962	8	.826
	Control	.957	12	.740

Table D2 – Shapiro-Wilk test hypothesis 2

Mean willingness to provide information	Perceived level of control	Statistic	Df	Sig.
	On purpose	.962	28	.363
	Accidental	.946	24	.225
	Control	.966	12	.861

Table D3 – Shapiro-Wilk test hypothesis 3

Mean trust	Response strategy	Statistic	Df	Sig.
	Apology	.902	17	.074
	Denial	.961	17	.657
	Deflection	.960	18	.610
	Control	.957	12	.740

Table D4 – Shapiro-Wilk test hypothesis 4

Mean willingness to provide information	Condition	Statistic	Df	Sig.
	On purpose/apology	.905	10	.247
	On purpose/denial	.797	8	.027
	On purpose/deflection	.891	10	.172
	Accidental/apology	.930	7	.555
	Accidental/denial	.922	9	.407
	Accidental/deflection	.819	8	.044
	Control	.966	12	.861

Appendix E – Tukey post hoc test

Table E1 – Tukey post hoc test

	Mean difference	Std. Error	Sig.
Apology-Denial	± .64	.25	.06
Apology-Deflection	± .40	.24	.37
Apology-Control	± .23	.27	.83
Denial-Deflection	± .24	.24	.77
Denial-Control	± .40	.27	.46
Deflection-Control	± .17	.27	.93