

# **Improving Data Quality of Influencing Strategies in a Crisis Negotiation Database**

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**Abstract**

Crisis negotiations are critical situations in which every word and decision can influence the outcome, often determining a life-or-death scenario. However, data quality is an issue when documenting these negotiations. Therefore, this study aims to investigate the data quality in the context of crisis negotiations and improve it through an intervention, specifically focusing on the strategies used by crisis negotiators to influence a perpetrator or individual in crisis.

With a convenience sample of 45 participants, this study employed a between-subject experimental design to investigate the impact of raising awareness regarding the importance of data quality on data input. In addition, the data input in general was examined on four criteria across the full sample. The results indicated that participants were not able to provide sufficient qualitative data. However, the intervention did not have any significant effect on the participant's data input. Yet, participants had a high perceived importance of data quality. Overall, this study found an interesting problem, which is that the data quality problem remains, even though people are aware of the importance of data quality.

Keywords: crisis negotiation, influencing strategy, data quality, database.

### **Improving Data Quality of Influencing Strategies in a Crisis Negotiation Database**

“I’m from the police, my job is to sit here and talk to you and try and help, see what we can do to help ya” pleads the crisis negotiator. In response, the individual says the following words “You can’t, I’m dying tonight” (Sikveland & Stokoe, 2023). This exchange sets the tone for the importance of understanding these complex processes called crisis negotiations, where every word or decision can be a matter of life or death. Data from these interactions is collected to improve future crisis negotiation processes and outcomes. However, behind these crucial moments lies a hidden problem regarding the data collection of crisis negotiations, as data quality remains an issue. Poor data potentially leads to escalation rather than defusing a situation due to wrong decision-making based on low-quality data. Therefore, it is essential to investigate data quality in crisis negotiations (O’Connor et al., 2021).

Crisis negotiations not only include personal crises like the example above but also cases with a perpetrator, such as hostages or kidnappings. The importance of data collection in crisis negotiations is evident given the high stakes involved. Therefore, a (Crisis) Negotiator Database in the Netherlands (NDB-NL) will be implemented in 2024. The NDB-NL aims to offer valuable insights for future crisis negotiations and potential policy adjustments based on evidence-driven approaches. However, the success of this database is uncertain, as previous databases show a high prevalence of poor data input (O’Connor et al., 2021).

This study aims to investigate the data quality of crisis negotiations. Specifically with a focus on the data input of strategies employed by crisis negotiators to influence perpetrators or persons in crisis and emphasising on improving data quality. The strategies will be explained, and their effectiveness will be discussed, while drawing attention to the role of a database in this field and the consequences of low-quality data. Consequently, raising awareness about the

importance of data with the aim to improve data quality will be discussed.

### **Influencing Strategies: A Guide**

The crisis negotiator can influence behaviour of the opposing party via several strategies, potentially contributing to a shift in the conversation and leading to a peaceful outcome. Ten of those strategies are explained by Giebels (2002) in the so-called 'Table of Ten'. A distinction was made between relational strategies (strategies 1-3), focusing on the relation between the parties, and content strategies (strategies 4-10), focusing on the communication content. This framework is being used in the NDB-NL as a classification for influencing strategies and will therefore be used in this research. The Table of Ten can be found in Appendix I.

To easily and effectively execute the research, the focus will be on the relational strategies: being kind, being equal, and being credible. *Being kind* can be used, for example, by asking how the person is doing, stating that the negotiator is there to help, or active listening. This strategy is used because people are more likely to be influenced by people they like. Secondly, *being equal* is used by stating that the negotiator and the opposed party are similar in a way or have something in common. The reasoning here is that people are more likely to be influenced by someone who resembles themselves. Lastly, *being credible* is used by showing the opposing party that they can be trusted, or show authority, as someone is more likely to be influenced by someone they can trust (Giebels, 2002).

### ***Effectiveness of Influencing Strategies***

Analyses of crisis negotiations show the impact of these influencing strategies. Kamphuis et al. (2006) stress the relevance of influencing strategies in crisis negotiations by investigating the effectiveness of the Table of Ten and its influence on the actual outcome of crisis

negotiations. The research is executed by coding 35 different crisis negotiations according to the framework of the Table of Ten. Kamphuis et al. (2006) concluded that several strategies, including ‘being equal’, are proven to be at least somewhat effective in the crisis negotiation process. Furthermore, the importance of the relationship between the crisis negotiator and the other party is stressed, referring to the use of the three relational strategies explained earlier.

Moreover, Giebels and Noelanders (2004) highlight the fact that the level of effectiveness differentiates between incident type and cultural context. A distinction is made between low-context cultures and high-context cultures. Low-context cultures rely on explicit and clear communication, meanwhile, high-context cultures prioritise implicit communication and shared understanding within the context of relationships and cultural norms. The strategy ‘being kind’ is recommended to be used in a low-context culture, while other strategies are suggested to be used in a high-context culture. In addition, when considering the incident type, ‘being credible’ is proven to be effective in kidnappings, and ‘being equal’ is recommended for hostages (Giebels & Noelanders, 2004). Overall, it is crucial to understand when to apply what strategy, as this is key to a successful outcome (Grubb, 2023). Thereby, the collection of qualitative data is necessary to be able to correctly execute similar analyses.

### **Data Collection at Police Departments**

As mentioned earlier, the NDB-NL will be implemented in 2024, allowing for a large-scale, comprehensive, and representative dataset that is analysable. However, when collecting data into a database, a critical problem regarding data quality arises. O’Connor et al. (2021) have found in a database at a police department in Canada that there has been a lack of attention regarding collecting high-quality data. Police officers have not focused on storing good data, but merely on just storing data. This leads to a garbage in, garbage out principle in the police

database, where 70% of the police officers rate the data as being unclear or not very clear (O'Connor et al., 2021). Furthermore, Hickman and Poore (2015) noted the significant problems regarding the reliability and validity of data collection on citizen complaints, broadening the problem of data collection at police departments in general. This data problem is concerning, given the fact that the data is used for several purposes.

To address the issue, it is necessary to follow guidelines for data collection. When writing down data, one should adhere to the following four C's: clear, concise, complete, and correct ("Writing a police report," n.d.). This means that collected data should be as detailed as possible, while also being simple and straightforward. Furthermore, all necessary information should be included, and the data should be accurate. When adhering to these guidelines, data input is qualitative, hereby solving the data issue.

### ***Importance of Data Collection***

It should be emphasised that accurate data collection at police departments is critical, as poor data collection can have detrimental consequences. The collected data within this field is being used for several aspects, such as analyses, guiding operations, predictive policing, or making knowledge claims related to crime, victimisation, and reducing harm. Using low-quality data for these purposes leads to wrong decision-making (Aradau & Blanke, 2016; O'Connor et al., 2021).

When focusing on data collection of crisis negotiations, similar purposes are mentioned (see Grubb, 2020 about a British NDB). The collected data in a crisis negotiation database allows for in-depth analyses regarding crisis negotiations and can hereby change the police's way of handling such situations. The database provides a description of the socio-demographic characteristics of the subjects, the situational characteristics, and how crisis incidents are

resolved. In addition, in the NDB, influencing strategies that were applied will be collected. One can then analyse the data, for example, to test for the effectiveness of the strategies. Based on these analyses, advice can be given on when to use what strategy (Kamphuis et al., 2006). Therefore, high-quality data in a crisis negotiation database is a necessity, as using poor data can lead to wrong decision-making (O'Connor et al., 2021). For instance, if a crisis negotiator applies a strategy unsuitable for the context, such as using 'being equal' in a situation where 'being credible' would have been more effective, it could escalate the situation instead of resolving it.

### ***Reasons for Poor Data***

Given the problem of poor data input, it is relevant to investigate the underlying causes of data quality insufficiency. Aside from the fact that police officers are simply too busy to prioritise data collection, police officers may not grasp the impact data has on decision-making and crime statistics in general. O'Connor et al. (2021) mention: "if there is no connection to [officers'] work or why [data] entry is important, it will be difficult to improve [data quality]" (p.13). Police officers are currently unaware of the benefits of data quality for them and how such analyses can positively contribute to their daily work (O'Connor et al., 2021).

### ***Raising Awareness***

As mentioned by O'Connor et al. (2021), making police officers aware of why data entry is important is necessary to improve data quality. Expanding on this, Condelli et al. (2002) mention how to handle the "what good is this doing?" attitude that staff members in educational institutions have, which is present within police departments as well (O'Connor et al., 2021). It is stated that when staff knows the data are used for an important purpose, they are more likely to take care of the data collection process (Condelli et al., 2002).

However, contradictory research shows that raising awareness of data quality in web surveys had no effect, indicating that more radical solutions are needed to improve respondents' answers (Révilla, 2015). The concept of satisficing is explained, stating that participants will put in minimal effort to achieve their goal, which would be completing the survey. This research found that raising awareness of the importance of filling in the survey in a proper way had a small to no effect on the quality of the answers given.

Despite the findings from Révilla (2015) regarding web surveys, it should be noted that filling in a crisis negotiations database (NDB-NL) has not been empirically tested for police data. O'Connor et al. (2021) mention the problems regarding data quality and ways to improve it, but have not done any experiment to test for it. This creates a research gap that this study aims to fill by examining the effect raising awareness on the importance of data quality has on the data input.

### **Current Research**

The importance of using the correct influencing strategies in crisis negotiations is undeniable, as well as the need for high-quality data in police systems. Therefore, the quality of data input into the NDB-NL regarding relational influencing strategies will be researched on the four criteria mentioned earlier. The set thresholds will be explained in the methods. Furthermore, this study aims to raise awareness regarding the importance of data quality through an informative text, possibly contributing to higher data quality input. This is to eventually improve the data quality in databases at police stations, allowing the ability to execute proper analyses, leading to the right decision-making (O'Connor et al., 2021). Altogether, this leads to the following research question:

*RQ: To what extent do participants provide qualitative data on relational influencing*



*strategies after experiencing a simulated crisis negotiation scenario, and how does raising awareness about the importance of data quality impact the quality of the data input by participants?*

This research question leads to the following two hypotheses:

*H1: Participants will provide insufficiently qualitative data regarding relational influencing strategies after a simulated crisis negotiation scenario.*

*H2: Participants who receive information about the importance of data quality will provide higher-quality data input regarding relational influencing strategies compared to participants who did not receive such information.*

## **Method**

### **Study Design**

The study utilised a between-subject experimental design to investigate the impact of raising awareness about the importance of data quality on participants' ability to provide qualitative data regarding relational influencing strategies after a simulated crisis negotiation scenario. The study involved two groups: a control group and an intervention group (intervention on the importance of qualitative data through an informative text). In addition, the participant's ability to provide qualitative input regarding relational influencing strategies after a simulated crisis negotiation scenario in general was examined. It is important to note that another research (BSc), with separate goals, is combined with this research into one survey.

## Participants

The total sample size is 96 participants, from which data from 45 participants was used after several adjustments to the dataset have been made. Ethical approval by the ethical committee of the Behavioural, Management and Social Sciences (BMS) of the University of Twente was obtained (file 240323) before starting to recruit on March 19th and ending on May 20th. This study recruited lay people instead of police officers, expecting to provide insights into filling in a crisis negotiations database among a broader population. Participants were recruited through convenience sampling and via the SONA system. The SONA system is a test subject pool in which students gain credits by participating in research. On the SONA platform, this study was presented with a short description, after which participants can decide to participate for 0.25 credits.

Participation was voluntary. However, participants had to have a sufficient understanding of the English language and be at least 18 years old. Before participation, an informed consent had to be filled in. Participants were omitted for the following reasons: 42 participants did not complete the survey, 5 did not give consent, and 4 answered one or more of the control questions incorrectly. Omitting participants who have answered one of the control questions incorrectly is necessary to ensure conclusions are drawn from participants who have correctly understood the information and were motivated to fill in the survey. The context of the control questions will be explained later on.

With a sample size of 45 units, 18 (40%) of the participants identified themselves as male, and 26 (57.8%) participants identified themselves as female, 1 (2.2%) identified themselves as non-binary/third gender. The age ranges from 18 to 39,  $M(\text{age}) = 22.6$ ,  $SD(\text{age}) = 3.9$ . In terms of nationality, 23 (51.1%) of the participants were Dutch, 17 (37.8%) German, and

5 (11.1%) had another nationality, namely Irish, Peruvian, Polish, Russian, and Namibian.

Regarding education level, 33 (73.3%) of the participants mentioned they have completed high school as their highest level of education. In addition, 10 (22.2%) mentioned they have a bachelor's degree, and 2 (4.4%) were awarded another degree.

### **Materials**

The material used to conduct this research is an online survey, which was created with the survey software Qualtrics. Participants had to fill in the questionnaire with a technical device, such as a smartphone or laptop. In addition, an internet connection was needed.

The questionnaire consisted of an informed consent and several information texts. Information on crisis negotiations, a crisis negotiation database, and relational influencing strategies was given. In addition, a simulated crisis negotiation scenario, an intervention, and a debrief were part of the survey.

The questionnaire consisted of 43 items in total, of which 19 items were used for this research. Three open questions were asked for this research. The questionnaire took approximately 15-20 minutes to complete. The complete questionnaire, including the information that was shown, can be found in Appendix II.

### ***Information Texts***

To conduct the research, informative texts on crisis negotiations, a crisis negotiations database, filling in a database, and relational influencing strategies were shown to participants. This is to inform them adequately on their role as a crisis negotiator filling out a database, which is part of the survey. The text describes what a crisis negotiation is, the purpose of a database, and explains the use of influencing strategies. The text is made appealing to the audience, so participants feel motivated to read it. Instructions on providing data of a crisis negotiation are

presented, where four criteria are mentioned that the participant should take into account when writing down their data (clear, concise, complete, and correct; see *Writing a police report* for details).

Furthermore, a cover story was used to prevent influences on the results by explaining the true aim of the study. The cover story explained that the study aimed to examine the ability of the imagination as a crisis negotiator after experiencing a simulated crisis negotiation scenario. A debrief was presented at the end, explaining the true aim of the study.

### *Crisis Negotiation Scenario*

A simulated crisis negotiation scenario has been used in the survey, including an audio file of 6 minutes and its transcript. Participants will read about a perpetrator named Richard and a crisis negotiator named Jamie. A phone call takes place between the two persons. Richard has shot multiple police officers and is now sitting inside his house in need of medical attention. Jamie is trying to disarm Richard from a distance to be able to arrest him while prioritising preventing any more harm from happening. At the end of the transcript, participants are told that Richard has been arrested and that Jamie now needs to fill in a database regarding the crisis negotiation.

The complete audio file was retrieved from YouTube and has been transcribed with the use of the transcription programme called Descript. Slight adjustments have been made to the transcript, as it has been cut to 6 minutes, and the name of the crisis negotiator was changed to a gender-neutral name, allowing participants to imagine themselves as this person regardless of their gender. The source of the audio file can be found in Appendix II.

***Intervention***

The intervention with the purpose of raising awareness of the importance of data quality is included in the survey as an informative text. In the informational text, two purposes of data collection taken from research by Kamphuis et al. (2006) and O'Connor et al. (2021) were mentioned. Firstly, the purpose of predicting crisis negotiations in the future was explained by describing how the collected data is used to create an algorithm to predict three aspects: where crisis negotiations take place, potential victims, and risky individuals. It is then stated that a correct algorithm can prevent crisis negotiations from taking place, showing the importance of qualitative data input.

Secondly, the impact data collection has on the role of a crisis negotiator regarding decision-making, specified to influencing strategies, is explained. It is stated that the role of crisis negotiators can be improved by understanding the implementation of the strategies. Incorrect data can lead to a wrong understanding of the strategies, and wrong decisions could be made. An example was given to give more clearance. The example revealed that if a strategy was written down that was not used in the crisis negotiation, it could lead to a wrong understanding of what strategy is effective during several types of crisis negotiations. This could lead to the use of ineffective strategies during crisis negotiations in the future.

After the explanation of these two purposes, the reader is reminded of the four C's and asked to keep in mind the purposes of the database when filling in the next questions. The text was made appealing to the audience by avoiding jargon and keeping the text concise. Overall, this design ensures that the information is clear and easy to follow, increasing the likelihood of a successful intervention.

## **Measures**

In this study, the independent variable is the intervention aimed at raising awareness about the importance of data quality input in a crisis negotiations database. Participants were randomly assigned to either a control group or an intervention group. Randomization helped to minimise potential biases and confounding variables, enhancing the internal validity of the study. However, due to the randomization process, the distribution of participants was not perfectly equal between the two groups. Participants in the control group did not receive any specific information regarding the importance of data quality in a crisis negotiations database. They were instructed to proceed with the survey without getting any additional information. Participants in the intervention group received the targeted intervention aimed at increasing awareness regarding the importance of data quality in a crisis negotiations database. Furthermore, the reliability of two scale items by O'Connor et al. (2021), assessing the perceived importance of data quality, was evaluated with a Pearson's correlation.

## ***Data Quality***

The dependent variable is the ability to provide qualitative data regarding relational influencing strategies after a simulated crisis negotiation scenario, which is expected to be influenced by the independent variable, namely the intervention. This variable has been tested with three open questions and one closed question. The closed question that was asked is "What influencing strategy/strategies did you as Jamie, the crisis negotiator, use? Tick the strategy/strategies you believe was/were used (multiple answers possible)". The options were: being kind, being equal, and being credible. This question will be referred to as 'strategy' question in the results section. The three open questions relate to the three strategies that could be ticked on the closed question, one example being "Please complete the database by providing

an explanation on how you think the strategy 'being kind' was used. You can leave this open if you think 'being kind' was not used in the crisis negotiation.” These questions will each be named after the strategy the open question is about, thus ‘being kind’, ‘being equal’, and ‘being credible’.

Two of the three strategies were used in the scenario, namely being kind and being credible. The number of participants who got one, two, or no strategies right on the strategy question were counted. Three points were granted when the two correct answers were ticked, and one point when only one correct answer was ticked. A point has been deducted when the wrong strategy was ticked.

The data quality of the open questions was measured by a 5-point scale. Four criteria regarding writing a police report were defined, namely: clear, concise, complete, and correct ("Writing a police report," n.d.). One point could be granted for each criterion. If no points were granted, the input would rank at 1, indicating poor data. If all points were granted, the input would rank at 5, indicating high-quality data input. The mean of the quality has been calculated across the three open questions. If the wrong strategy was explained, it was noted, but no points were deducted. All responses were assessed by two researchers, and the mean between the two assessments was calculated.

Data quality overall (the score of the closed question + the mean of scores on open questions) is considered to be insufficient if it is below the threshold of 6 points. The minimum total score is 1 point and the maximum total score is 8 points. The threshold can be explained when looking at the open questions and closed questions separately. For the open questions only, a mean of 3 points and lower is considered insufficient. Since adhering to two criteria or less (e.g., clear and concise) would not sufficiently capture the data quality needed for it to be useful.

After all, the data input can still be incomplete and incorrect while also being clear and concise, which would not be a useful data entry. Furthermore, to not make it too difficult for the data input to be sufficient, it can still be considered sufficient if one criterion is not met. For the strategy question only, the threshold lies at 2 points, where 2 points are still considered sufficient. This threshold is comparable to the gradings of closed questions with a similar set-up.

### *Control Variables*

To test whether raised awareness took place through the intervention, two items of a scale regarding the perceived importance of data quality by O'Connor et al. (2021) were used. One question was regarding the importance of data quality in policing in general, and one question was about the importance of data quality in their daily life as a police officer. 'Police officer' has been adjusted to 'crisis negotiator' to specify it for crisis negotiations. The two questions were answered on a 4-point Likert scale, ranging from 'not at all important' [1] to 'very important' [4]. These two control questions will be referred to as 'general importance' and 'daily life importance'.

Furthermore, to test whether participants correctly understood the relational influencing strategies and crisis negotiation, four other control questions were asked. Three questions related to the influencing strategies and one question related to the crisis negotiation. This is to make sure participants have read and understood the influencing strategies as well as the crisis negotiation. An example of a control question is "What is the crisis negotiation you just read about?", where participants had to choose between a sexual assault, a shooting, or a suicidal case.



Lastly, participant's ability to imagine themselves as a crisis negotiator was checked. This is to identify a potential limitation in the study. The question used a 5-point Likert scale, ranging from 'not at all' [1], to 'very well' [5].

### **Procedure**

Each respondent was informed that it would take approximately 15-20 minutes to complete the questionnaire, that participation was voluntary, and that they were allowed to withdraw at any time without having to provide a reason. To make participants aware of potential risks, they were informed that the survey includes a crisis negotiation with gun violence and strong language. Additionally, the cover story was presented here as well. The false aim was to examine an individual's ability to imagine themselves as a crisis negotiator filling out a crisis negotiation database.

After participants agreed to the informed consent, several questions regarding demographics appeared. Participants were asked to indicate their age, gender, nationality, highest finished level of education, and their knowledge regarding crisis negotiations beforehand. If participants did not consent, they were immediately directed to the end of the survey. Following the demographic questions, the information regarding the database, crisis negotiations, and influencing strategies were presented, after which participants had to fill in 23 questions regarding the database. Consequently, participants were informed on how to fill out a database, after which the simulated crisis negotiation was presented. Thereafter, participants were asked to provide context in three to five sentences to the crisis negotiation they had read about.

Following, participants were randomly split up in either the control group or the intervention group and were presented with either the intervention or asked to proceed with the survey. Throughout the survey, participants were reminded of their role as a crisis negotiator

filling out a database. The information on influencing strategies was presented again as a reminder, following up with the questions regarding influencing strategies, as well as the control questions. Afterward, the debrief was presented in which the true aim of the study was explained. Participants were given the option to withdraw from the study and thereby delete their data or send their data, and the contact details of the researchers were provided.

### **Data Analysis**

Descriptive statistics are analysed by calculating means, standard deviations, and percentages.

### ***Hypothesis Testing***

Before testing the hypothesis, the total scores have been calculated (score strategy question + mean of the score 'being kind', 'being equal', 'being credible' open questions) and collected in a new variable. Furthermore, the mean score of the three open questions is collected as well. For the first hypothesis, the full sample has been utilised to calculate the means of the scores for all three created variables. This is to analyse the ability of participants to provide qualitative data while looking at the earlier set threshold. The score on the strategy question indicates the level of correctness and completeness of the data in a quantitative way. The score on the open questions indicates the level of data quality of all four criteria in a qualitative way. The results are visualised with a boxplot.

To be able to reject or accept the second hypothesis, the effect of the intervention was tested for first. Since the data did not meet the assumptions for parametric tests, a Wilcoxon-rank sum test on the two-item scale, regarding control questions 'general importance' and 'daily life importance', has been conducted. This test aimed to measure any significant differences regarding the perceived importance of data quality between the control group and intervention

group. The mean scores have been calculated as well for both groups. However, since the intervention did not have any significant effect, no additional analyses were performed to measure possible differences between the intervention group and control group.

### ***Additional Analyses***

The interrater-reliability for the qualitative assessment of data quality in open-ended responses regarding influencing strategies (the questions ‘being kind’, ‘being equal’, and ‘being credible’) has been assessed with Cohen’s Kappa. A value above 0.40 is considered acceptable. Furthermore, reliability testing has been performed by calculating a Pearson correlation on the two control questions.

Overall, data is analysed using the statistical software RStudio version 4.1.2. The significance level has been set at  $p < 0.05$ .

## **Results**

### **Reliability Testing**

The reliability of the scale items ‘general importance’ and ‘daily life importance’ from O’Connor et al. (2021), assessing the perceived importance of data quality, was evaluated using a Pearson correlation, revealing a moderate level of reliability,  $r(43) = 0.41$ ,  $p < 0.05$ .

### **Descriptive Statistics**

Participant’s ability to imagine themselves as a crisis negotiator on average was ‘Somewhat’ to ‘Well’ when looking at the average score of the 5-point Likert scale ( $M = 3.6$ ,  $SD = 0.84$ ). On a 5-point Likert scale regarding previous knowledge, 42.2% of the participants rated their previous knowledge on crisis negotiations as ‘None at all’, and 40% had little previous knowledge. Furthermore, 17.8% knew a moderate amount about crisis negotiations beforehand ( $M = 1.76$ ,  $SD = 0.74$ ). Overall, participants rated data quality, on a 4-point Likert scale, as

being somewhat important to very important on the ‘general importance’ and ‘daily life importance’ questions ( $M = 3.64, SD = 0.53$ ;  $M = 3.84, SD = 0.37$ ). In addition, 66.7% rated data quality as very important in daily work as a crisis negotiator, and 84.4% rated data quality as very important in policing in general.

### **Control Questions**

To test whether the intervention had a significant effect on the perceived importance of data quality, a Wilcoxon-rank sum test was done. This test was done as the data failed to meet the assumptions of parametric tests on the two control questions. One question assesses the general perceived importance of data quality and one measures the perceived importance of data quality in the daily life of a crisis negotiator. Both items were taken from O’Connor et al. (2021), as mentioned earlier, and combined into one scale. The Wilcoxon-rank sum test showed no significant difference regarding perceived importance between the control group ( $M = 3.74$ ) and intervention group ( $M = 3.75$ ),  $W = 244, p = 0.89$ . This indicates that the intervention did not have the effect it was intended to have. Furthermore, a t-test would not show any meaningful results and is therefore not relevant. Therefore, the second hypothesis was rejected.

### **Analysing Data Quality**

To test the first hypothesis ‘Participants will provide insufficiently clear, concise, complete and correct data regarding relational influencing strategies after a simulated crisis negotiation scenario.’, a descriptive analysis has been executed on the full sample. The mean score on the strategy question was considered insufficient ( $M = 1.82, SD = 1.21$ ).

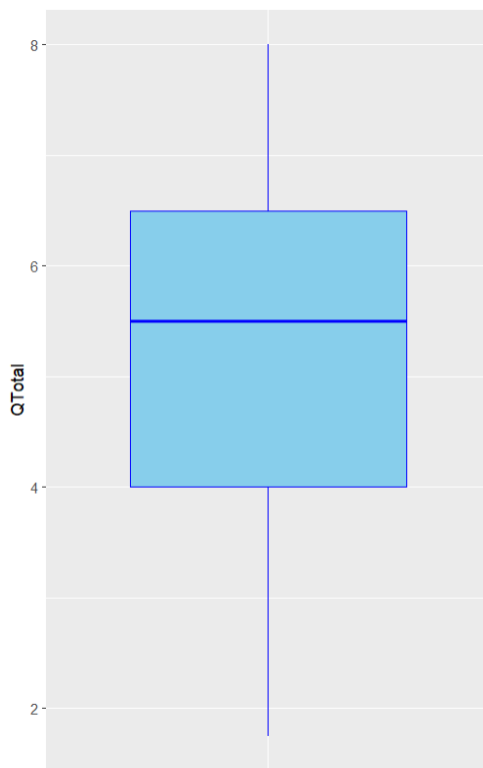
The interrater-reliability of the coding of the three open questions (being kind, being equal, and being credible) has been assessed by calculating Cohen’s Kappa coefficient of 0.67. This indicates a substantial agreement between the two coders. The scores on the open question

regarding ‘being kind’ and ‘being credible’ are sufficient ( $M_{kind} = 3.63$ ,  $M_{credible} = 3.30$ ). The score on the open question regarding ‘being equal’ is considered insufficient ( $M_{equal} = 2.70$ ). The overall mean score of the open questions is considered sufficient ( $M = 3.21$ ).

When adding up the points of the strategy question with the points of the open questions, the results were considered insufficient ( $M = 5.29$ ,  $SD = 1.57$ ). The results have been visualised with a boxplot in Figure 1. The first hypothesis was accepted.

### Figure 1

*Boxplot of Total Scores*



*Note.* This figure portrays a boxplot of the spread of the total scores of data quality of the participants. When the results would be considered sufficient, the boxplot would be placed further upwards, with a mean laying between 6 and 8.

### Discussion

The research aimed to gain insights into data quality regarding influencing strategies in a crisis negotiations database after experiencing a simulated crisis negotiation scenario by looking at four criteria (clear, concise, correct, and complete). Additionally, raising awareness about the importance of data quality was researched as a possible factor in improving data quality. This led to the following research question: *“To what extent do participants provide qualitative data on relational influencing strategies after experiencing a simulated crisis negotiation scenario, and how does raising awareness about the importance of data quality impact the quality of the data input by participants?”*.

The descriptive statistics show a lower perceived importance of data quality than the results by O’Connor et al. (2021), where 96% rated data quality as very important in their daily work as police officers, and 91% rated data quality as very important in policing generally. This could be due to the distinct focus both research have, as lay people were researched while the other study focused on police officers. However, the perceived importance is still considered high in this research. This could be due to a large size of the sample being university students, who usually have more knowledge of data and statistics than lay people.

The findings regarding the first hypothesis confirmed the expectation of participants providing insufficient qualitative data regarding influencing strategies after a simulated crisis negotiation scenario. This indicates that participants are not sufficiently able to provide clear, concise, complete, and correct data regarding influencing strategies used in a crisis negotiation. The findings are in line with research from O’Connor et al. (2021), who found that data quality is an issue at police departments due to a lack of training and experience, among other factors. Furthermore, Hickman and Poore (2015) mentioned the lack of reliability and validity of data at

police departments. This research extends these findings, suggesting that the issue of low data quality extends beyond police officers, including lay people.

The results did not confirm the expectation of the second hypothesis, which was that raising awareness about the importance of data quality would promote higher data quality input regarding relational influencing strategies. The results indicate that the intervention did not have any significant effect on participant's perceived importance of data quality, making it irrelevant to test for any differences between the two groups.

### **Implications**

The results show that the informative text did not have any effect on the participant's perceived importance. This indicates that raising awareness of the perceived importance of data quality does not succeed merely by providing an informative text to the participants. When considering previous research from Révilla (2015), it could be that the text was not convincing enough. In addition, participants may not have been motivated to read the text thoroughly and thereby not allowed their attitude to change. Therefore, data quality should be improved differently. Such an alternative method should be more intense, perhaps with several training sessions, possibly allowing for participants to improve their data input.

Although, the perceived importance is, despite an unsuccessful intervention, considered to be high. This could suggest that raising awareness about the importance of data quality is not needed after all. However, data quality is found to be insufficient, indicating that other ways to improve data quality should be found. Nevertheless, research by O'Connor et al. (2021) mention a high perceived importance as well, and at the same time indicate that more training related to the importance of data input is needed. Therefore, one can conclude from both research that future interventions should focus on other factors, such as how to input qualitative data, while

also not overlooking the perceived importance of data quality.

### **Limitations**

Several limitations in this study should be acknowledged and explained. Firstly, the study did not control for the effect the survey overall may have on people's attitudes regarding the importance of data quality. Perhaps, the survey itself raised awareness of this factor, particularly after participants had read about the crisis negotiation database that was put at the start of the survey. The unintended effect of the survey could have minimised the impact of the intervention, leading to non-significant differences between the control group and intervention group regarding the perceived importance of data quality.

Secondly, there are no set criteria for input regarding influencing strategies. In this study, the four Cs were used (clear, complete, concise, and correct). However, these are not specifically related to influencing strategies, but to a police report in general. By relying on generic criteria, the study may have overlooked important aspects of data quality relevant to influencing strategies in crisis negotiations. Overall, this limits the reliability of the assessment, as specified criteria may have led to different scores.

A third limitation is that the survey is not the crisis negotiation database system (NDB-NL), which could have affected the input of data quality. While the aim was to make the survey look like the actual database, limited options were available with the use of the software Qualtrics. In addition, participants knew beforehand they were not filling in an actual crisis negotiation database. Perhaps, because they were aware of the fact they were 'just' filling in a survey, minimal effort was put in. This is the satisficing effect explained earlier that could have led to a low(er) data quality input (Révilla, 2015).

Despite these limitations, the study has several strengths. Participants were well able to



imagine themselves as a crisis negotiator, allowing for valid research. Furthermore, the interrater-reliability was considered substantial, contributing to the reliability of the gradings of the open questions.

### **Future Research**

Future research requires a different research set-up than the current research to avoid the described limitations. When setting up another intervention, there should be a third group that neither receives information on the crisis negotiation database nor the intervention. This is to control for the influence the given information could have on a participant's perceived importance of data quality. In addition, more research should be done on what defines a good or bad way of explaining the use of an influencing strategy, and these criteria should be used when assessing participant's data input. These criteria could allow for a more accurate assessment of the data input.

Furthermore, the actual layout of the crisis negotiation database (NDB-NL) should be used when asking participants to fill in the database to allow for a more realistic environment. This would make the results more accurate and applicable to the actual database. On top of that, a bigger sample size should be used to be able to divide into three groups, and the population could be more diverse and not consist of merely university students as is the case with the current research. This would allow for generalizability and makes the results applicable to a wide range of people.

### **Conclusion**

In conclusion, this study investigated the quality of data input regarding relational influencing strategies after a simulated crisis negotiation scenario, as well as the impact of raising awareness about data quality on participants' input. The findings revealed that

participants generally provided insufficient qualitative data on influencing strategies. In addition, the intervention failed to have any significant effect on participant's perceived importance of data quality. This shows the difficulty of changing one's attitude merely with an informative text.

Moving forward, future research should find an alternative way to improve data quality, while also considering the limitations identified in this study. This includes pointing out clear assessment criteria for assessing data quality regarding influencing strategies, adding a third group of participants, having a set-up similar to the actual crisis negotiation database, and a diverse sample.

Overall, this study partly addresses the research gap mentioned earlier, as an experiment was done to find a way to improve data quality, which has not been done before in this context. However, the experiment failed to reach any significant results. Nonetheless, the study contributes to understanding the difficulty of qualitative data input regarding influencing strategies after experiencing a crisis negotiation scenario, as well as improving data quality through an informative text. To conclude, the study stresses the need for alternative methods to enhance data quality while taking into consideration the identified limitations.

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## Appendix I

*Table 1: The Table of Ten Influencing Strategies (Giebels, 2002)*

<b>Strategy</b>	<i>Underlying principle</i>	Description of behavior
<b>Being kind</b>	<i>Sympathy</i>	All friendly, helpful behavior
<b>Being equal</b>	<i>Similarity</i>	Statements aimed at something the parties have in common
<b>Being credible</b>	<i>Authority</i>	Behavior showing expertise or proving you are reliable
<b>Emotional appeal</b>	<i>Self-image</i>	Playing upon the emotions of the other
<b>Intimidation</b>	<i>Deterrence / fear</i>	Threatening with punishment or accusing the other personally
<b>Imposing a restriction</b>	<i>Scarcity</i>	Delay behavior or making something available in a limited way
<b>Direct pressure</b>	<i>Power of repetition</i>	Exerting pressure on the other in a neutral manner by being firm
<b>Legitimizing</b>	<i>Legitimacy</i>	Referring to what has been agreed upon in society or with others
<b>Exchanging</b>	<i>Reciprocity</i>	Give-and-take behavior
<b>Rational persuasion</b>	<i>Consistency</i>	Use persuasive arguments and logic

## Appendix II

### *Questionnaire*

*Link to audio file crisis negotiation scenario:*

<https://www.youtube.com/watch?v=Wcji7rBzKIU&t=1s>

Crisis Negotiation - Bachelor Thesis

Start of Block: Informed consent

Thank you for participating in our research for our bachelor thesis!

The purpose of this research is to examine individual's ability to engage in the role of a crisis negotiator during a simulated crisis scenario, such as hostages, kidnappings, or suicidal cases. In such negotiations, the crisis negotiator communicates with either a perpetrator or a person in crisis (e.g., through a phone call) with the aim to lead the situation to a peaceful resolution and hereby preventing a fatal outcome.

As a participant of this survey, you will be asked to immerse yourself in the role of a crisis negotiator and fill out a database based on your experience, allowing us as researchers to assess the ability of imagining the role of a crisis negotiator during a crisis scenario and filling out a database afterwards.

This survey includes the following steps:

First, you will be asked to fill in the informed consent and answer several questions regarding

your demographics. Afterwards, you will be asked to step into the role of a crisis negotiator and imagine you are part of an actual crisis negotiation. Eventually, you are asked to fill out a database by answering both closed and open questions regarding the crisis negotiation.

We would like to point out that all questions should be answered in the **English** language. If you have an insufficient understanding of the English language, we would like to ask you to withdraw from this research.

In total, the questionnaire will take approximately **15** minutes.

The data you provide to the researchers is completely anonymous and confidential, and will only be used for the purpose of this educational research project. The participation is entirely voluntary. After the research project is completed, all data will be safely stored for a certain amount of time if it is needed for the replication of the research. The survey has gained ethical approval by the Ethics Committee BMS at the University of Twente. There are no known risks involved with participating. However, be aware that the crisis negotiation you will read includes gun violence and strong language.

You can decide to withdraw from this study at any time without giving a reason and without any consequences.

If you have any questions or are in need of support, you can contact one of the researchers.

Contact:

b.s.heukerofhoek@student.utwente.nl

f.tulk@student.utwente.nl

Q1 I consent that I have read the information above and agree that my answers will be used for research aims solely. That I understood that I can withdraw at any moment and that my participation is completely voluntary.

I consent (and have read and understood the information above) (1)

I do not consent (2)

Skip To: End of Survey If I consent that I have read the information above and agree that my answers will be used for resea... = I do not consent

End of Block: Informed consent

Start of Block: Demographics

Q2 Please indicate your age (in years)

---



Q3 Please indicate your gender

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Q4 Please indicate your nationality

- Dutch (1)
- German (2)
- Other, please specify (3) \_\_\_\_\_

Q5 Please indicate your highest finished level of education

Highschool diploma (e.g., HAVO, VWO, Abitur) (1)

Associate Degree (2)

Bachelor's Degree (3)

Master's Degree (4)

Professional Degree (5)

Doctorate Degree (6)

No schooling completed (7)

Other (8)

Q6 How much do you know about crisis negotiations already?

None at all (1)

- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

End of Block: Demographics

Start of Block: Info on CN, Database & Strategies

**Please read the following information in order to understand your role as a crisis negotiator filling in a database.**

### **Crisis Negotiations**

The goal of a crisis negotiation is always to find a peaceful resolution. As a crisis negotiator you often work in teams and use active listening skills and empathy to build rapport with the person in crisis. Rapport is a combination of mutual attention, positivity (liking and respecting

the other person), and coordination (both people share a mental model and are "on the same page"). When rapport is built, the negotiator can start to influence the person to make a peaceful solution possible. Negotiators are deployed when someone threatens suicide or barricades themselves, but also in hostage situations, kidnappings or extortions.

### **Influencing Strategies**

Crisis negotiators can use several influencing strategies to influence the outcome of the crisis negotiation. Three of those strategies aim to focus on the relationship between the perpetrator and the crisis negotiator. These strategies are necessary to establish a good relationship to get to a climate where influencing the perpetrator is possible. Below is a short explanation of the relational strategies. Keep in mind that you might use influencing strategies in the crisis negotiation you are about to read.

1. **Being kind:** the crisis negotiator is friendly and tries to help the perpetrator (e.g., "I am listening, I want to help you").
2. **Being equal:** the crisis negotiator states something both parties have in common (e.g., "I also have children")
3. **Being credible:** the crisis negotiator shows expertise to handle the situation or proves they are reliable (e.g., "As promised, we went to the bank today").

### **Database**

To make crisis negotiations more effective, the Dutch police force is working on a database for crisis negotiation incidents in which every deployment will be reported. Using the database to

log deployments will be mandatory, however, only one of the negotiators present for each deployment has to write a report. The database will feature (text) fields to log information about the negotiator and his role (e.g. primary crisis negotiator, logger), the time the negotiator was called, the location type, disruptive factors, partners and their helpfulness, involvement of advisors or mediators (e.g. psychologists or friends of the person in crisis) and their helpfulness, threats made, the reason for the crisis, general information on the subject, information about the communication with the subject, the outcome and the evaluation of the deployment. This data could be used to find empirically sound procedures to deal with crisis situations in the future, for instance what kind of behavioral technique works best for which type of situation or which type of advisor is most useful. With such knowledge, crisis negotiators could prepare for a deployment more effectively upon hearing what the situation looks like.

### **Scenario**

Please imagine the following: You are Jamie, a crisis negotiator in the Dutch police force. You have been doing this job for a few years now because you always wanted to help people and solve conflict without violence. In the near future, the Dutch police will implement the above-mentioned database for crisis negotiations. To get a better picture of how people in each police station feel about the database, a questionnaire is given out to all crisis negotiators in the country to fill out.

End of Block: Info on CN, Database & Strategies

Start of Block: Technology Acceptance Model

Q7 The following questionnaire will measure your opinions and attitudes towards the previously mentioned crisis negotiation database. Please indicate your agreement to the following statements on a 5-point scale from "Strongly disagree" to "Strongly agree".

Q8 It is useful to keep track of crisis negotiation incidents in the database

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)

Strongly agree (5)

Q9 I think that valuable insights could be derived from the database

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q10 The database will provide me with the exact information I need

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q11 The database will provide up-to-date information

- Strongly disagree (1)



- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q12 The database will provide accurate information

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q13 The database will improve my job performance

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q14 The database could make it easier to prepare for deployments

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q15 I find the database useful

- Strongly disagree (1)

- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q16 I feel capable to fill in the database

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q17 I expect obstacles while filling in the database

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q18 I will find the database entries easy to write

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q19 Learning how to properly write database entries is easy for me

- Strongly disagree (1)

- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q20 It is easy to become skillful in writing database entries

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q21 What kind of information I have to provide in my database entries is clear to me

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)



Q22 It will be easy for me to find information through the database

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q23 As a crisis negotiator, usage of the database is important

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q24 As a crisis negotiator, usage of the database is relevant

- Strongly disagree (1)
- Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q25 The quality of information I get from the database is high

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q26 I will have no problem with the quality of the database's information

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q27 I have no difficulty telling others about the results of using the database

Strongly disagree (1)

Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

Q28 I believe I could communicate to others the consequences of using the database

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q29 The results of using the database are apparent to me

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q30 I would have difficulty explaining why using the database may or may not be beneficial

- Strongly disagree (1)
- Somewhat disagree (2)

Neither agree nor disagree (3)

Somewhat agree (4)

Strongly agree (5)

End of Block: Technology Acceptance Model

Start of Block: Information on writing a police report

**Please read the following information on providing data regarding crisis negotiations carefully. You will be asked to provide data as a crisis negotiator later on in this survey.**

### **Writing about crisis negotiations**

Writing about crisis negotiations is different from writing traditional essays. This specific style of writing requires its own rules and conventions. While some expectations for providing contexts may differ depending on the police department, certain basic guidelines universally apply. When providing context to a crisis negotiation, you should write in **first person, past**



**tense, and organized in chronological order.**

Furthermore, when writing about crisis negotiations, you want to abide by the **4 C's**:

**Clear:** Try to be as specific as possible. Avoid any vague statements or phrases.

**Concise:** Avoid overly wordy language. Keep statements simple and direct.

**Complete:** Include all relevant information.

**Correct:** Make sure that the information you include is accurate and unbiased.

Furthermore, you should explain what happened at the scene by answering the **5W's and H**:

**Who, What, When, Where, Why, and How.** When providing context, one should write about 3-5 sentences.

Good Example: When I came to the scene around **21:00**, **Julius Watson** was **barricaded in his room in New Street 501 with a weapon**. After talking to him for a minute, he told me that he barricaded himself in his room with a **weapon** because he was **afraid** his **roommates would try to harm him** for calling the police on one of them. I **listened** to his concerns, **calmed him down** and **reassured him** that he would not be in danger if he came out of the room. He soon **opened the door** and the situation was solved without him firing shots.

Bad Example: When I came to the scene, I talked to the suspect and tried to get him to come out of his room. After a few minutes, the problem was resolved.

End of Block: Information on writing a police report

Start of Block: Crisis Negotiation

Remember, you are Jamie, an experienced crisis negotiator. Half an hour before you were deployed this afternoon, a concerned mother had called the police because of a domestic dispute. When police arrived at Town Street 33, two police officers were shot by the subject, Richard, a 25-year-old male. Thus, you and two colleagues were deployed to respond to the crisis situation with the mission to resolve the situation without any more violence. When you arrive at the scene, you see a house typical for the suburban area, except for a broken window. Richard is sitting inside the house, still armed, but claiming he is done taking lives and needs medical attention. You decide it is best to engage communication with him outside of the house, by calling his phone. Below is the conversation you have with Richard.

Please read the following transcript carefully and listen to the audio above, you will be asked about it later on. Be aware that this conversation includes gun violence and strong language.

**Phone call between Jamie and Richard:**

**Jamie (You):** Is there any way that you can come to the window and put both hands out the

window so that they know you're not going to shoot them and get you medical help?

**Richard (Perpetrator):** Well, here's what I think I could do. I'm going to crawl to the, to the, to the doorway. When you come in the doorway, I don't know if that officer is still laying there or not. You'll be able to look to your right, and I'll have my hand sliding out past, and then they can come in.

**Jamie:** Well, I don't know, is there any way you can get to the window so we know that you're not going to hurt anybody? Because I would bet I can get people right in there. Trust me, nobody's going to hurt you. I'm going to tell them what you're doing, and all you've got to do is stick both hands up so they can see them out the window, and peek from there, and I'll get somebody in to help you.

**Richard:** Ah, that's what's the f-king major problem, man. I mean, you know, I'm telling you, I'm not going to shoot anybody else and you're telling me f-king [inaudible]. I can't move. I'm shot and I'm dizzy.

**Jamie:** Okay, you can't move your ass?

**Richard:** I mean, I can maybe move, but it's like I'm extremely in pain. I'm dizzy. I'm like, I'm seriously, and I'm dizzy. That is why I think I'm going to lose consciousness.

**Jamie:** Okay, where are you shot?

**Richard:** I think I'm shot in the leg two times, maybe one time. My blood, my veins are bloodied with socks, and I can't, there's blood pools of blood, and I'm f-ing [inaudible].

**Jamie:** Do me a favor. Whichever leg is shot, press your hand down on your thigh right in front of it and slide your butt over towards the window and put your hand up and I'll get, I'll get EMS right in there. Can you do that for me?

**Richard:** Oh. I'm gonna try, are you talking about the window, the room that I'm in?

**Jamie:** Alright, which window? Facing the front of the house, which way are you facing?

**Richard:** The one that has been shot into a bunch of times.

**Jamie:** Yeah, but I, I don't know which one was shot, buddy. I just got here. Which window? Is it facing the front of the house?

**Richard:** The farthest right one.

**Jamie:** The farthest right window in the front of the house?

**Richard:** Yeah, it's completely shot out.

**Jamie:** Okay, do me a favor. Slowly, slide over on your butt. I'll make sure nobody does anything. When you get to that window, you let me know. Then you put both hands up, and I'll have them come in and help you and help everybody in there, alright?

**Richard:** Yeah, let me get these guys in there. I told you I'd give up.

**Jamie:** Okay, do me a favor, buddy. Slide over that window. I'll get them in there right now.

**Richard:** Don't beat my ass when you take me into custody.

**Jamie:** I will stay on the phone with you the whole time, nobody's gonna beat your ass, and nobody's gonna shoot. You slide over that window and you let me know you're there, I'll tell you to put your hands up, and I'll get him in there right away.

**Richard:** Alright, we're on speakerphone. I'm gonna slide, uh, over here. This is really a misunderstanding. Unfortunate occurrence here, sir.

**Jamie:** Well, that's what I want to straighten out. You know what I mean? Nobody knows what happened until we talk to you and talk to everybody. I need you to know that I'm here to help you. You understand that, right? I will help you any way I can.

**Richard:** Uh, are you here to help me? Let's be honest. When you're a cop, I'm not some of your comrades. I'm not so glad about it. Can you please get in here and get me some medical

attention?

**Jamie:** Alright, are you near the window?

**Richard:** I'm back, like, I'm back near the window.

**Jamie:** Alright, let me know when you get over near the window.

**Richard:** I'm extremely close.

**Jamie:** Okay.

**[Few seconds later]**

**Jamie:** How you doing pal, you near the window yet?

**Richard:** Yeah, I'm there, I'm trying to sit my ass up.

**Jamie:** Alright, put both hands up so they can see both hands, and then they will come in and help you.

**Richard:** Alright, I got one hand. I can't, I can't reach the f-ing window, man.

**Jamie:** Alright, is there anything you can hold up that they'll be able to see?

**Richard:** Uh, yeah, I got a lamp here.

**Jamie:** Alright, you are gonna hold up that lamp if you can't reach the window.

**Richard:** I also got a slipper.

**Jamie:** Hold it up so they can see it and hold it there and I'll let him know. You stay on the phone with me and you keep that there.

**Richard:** Ah, look, see there's a slipper. I can't show you my hands. I can't f-king do it.

**Jamie:** Alright, stay right there by the window and stay on the phone with me.

**Jamie:** Alright, you have a weapon on you?

**Richard:** I shot with that AK and it's completely f-cked.

**Jamie:** Okay, so you don't have any weapon in your hands, nothing near you?

**Richard:** I'm gonna throw that revolver towards the door so that they see that before they see me.

**Jamie:** Okay, go ahead and do that.

**Richard:** Alright, I'm gonna take one last shot for good measure, but not at anybody.

**Jamie:** Don't shoot! Don't shoot! Don't shoot anything. I can't help you if you start shooting, alright? Listen to me. Richard, you thought you could hear me? Don't shoot that revolver, buddy.

**Richard:** I'm gonna shoot it one last time and I'm gonna throw it into the, uh, into the hallway.

**Jamie:** Just throw it. Don't shoot it one last time. Throw it. If you shoot, that's gonna put things back a little bit. It's gonna take them longer to get to you.

**Richard:** I will try to throw it out the window. How about that?

**Jamie:** Throw it out the window. That'll work.

**Richard:** Yeah. I just, why are you guys making it such a project? I said I'm f-ing done. Just come get me.

**Jamie:** I understand that, pal, but you also still have a gun. I don't want you to get hurt or anyone get hurt. Too many people got hurt already today.

**Richard:** Listen, I don't want to f-ing hurt anybody else.

**Jamie:** I understand that. Is there any way you can throw that revolver out the window? Throw that revolver out the window or over towards the door, and I'll get people in there to help you.

**Richard:** I am not going to shoot anybody else, I just need help.

**Jamie:** I understand that. Throw that revolver out the window or over towards the door, and I'll get people in there to help you. I'll stay on the line with you, and make sure everybody knows what's going on, alright? But don't, don't crack any shots off.

**End of transcript.**

Eventually, Richard surrenders to the crisis negotiator and the police was able to arrest him a short time after this dialogue took place.

As Jamie, the crisis negotiator, you are asked to fill in the database to collect information on this case. Please go to the next question to fill out the database.

End of Block: Crisis Negotiation

Start of Block: Fill in data

Q31 Please provide some context to the situation in a few sentences (3-5 sentences).

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End of Block: Fill in data

Start of Block: Manipulation

**!!IMPORTANT!!**

### **Impact of data quality**

You just experienced a tense conversation with a perpetrator named Richard, after which you already filled in a part of the database. However, it is important to become aware of the impact your data can have on the outcome of future crisis negotiations. The details you provide are crucial for several purposes, two of those are mentioned below. Please read them carefully:

#### **1. Predict crisis negotiations occurring in the future:**

The data you will provide is used for an algorithm to predict the following:

- Where crisis negotiations will take place



- Identify potential perpetrators
- Predict potential victims

When low-quality data is put in, this can lead to an incorrect algorithm (e.g., identifying the wrong individuals while overlooking the actual risky individuals).

However, when the data you provide is correct, the right prediction can help to prevent crisis negotiations by identifying potential perpetrators and victims, and the place of crime. Police can then correctly act on these predictions.

## **2. The role of crisis negotiators:**

The data you provide will be used by other crisis negotiators to learn from and improve. In this case, you as Jamie wanted to keep everybody safe. Therefore, the data you will provide later on should show properly how you were able to establish this. E.g., What influencing strategie(s) did you use? How did you implement this?

The role of crisis negotiators can be improved by understanding the implementation of the strategie(s) that led to a peaceful resolution.

If you provide incorrect data, this can have severe causes. E.g., if you would write down influencing strategies that were not actually used during the conversation, it leads to a wrong understanding of when what strategy is effective. This can lead to ineffective crisis negotiations in the future, which can have fatal outcomes.

Overall, high data quality is essential at the police station, as data of a crisis negotiation influences factors such as decision-making (e.g., regarding the use of influencing strategies) and predictive policing techniques.

Therefore, for the rest of the survey, we would like to ask you to imagine that your data will be used for these purposes mentioned above. It is therefore of high importance to write down useful data. Keep in mind the 4 C's (clear, concise, complete, and correct) and the purposes of your data when completing the database as Jamie, the crisis negotiator. Please answer the last questions of this survey to complete the database.

End of Block: Manipulation

Start of Block: This is shown when manipulation is not

You just experienced a tense conversation with a perpetrator named Richard, after which you already filled in a part of the database. Please answer the last questions of this survey to complete the database.

End of Block: This is shown when manipulation is not

Start of Block: Influencing strategies

**Influencing Strategies (reminder):**

Crisis negotiators can use several influencing strategies to influence the outcome of the crisis negotiation. Three of those strategies aim to focus on the relationship between the perpetrator and the crisis negotiator. These strategies are necessary to establish a good relationship to get to a climate where influencing the perpetrator is possible. Below is a short explanation of the relational strategies:

1. **Being kind:** the crisis negotiator is friendly and tries to help the perpetrator (e.g., "I am listening, I want to help you").
2. **Being equal:** the crisis negotiator states something both parties have in common (e.g., "I also have children")
3. **Being credible:** the crisis negotiator shows expertise to handle the situation or proves they are reliable (e.g., "As promised, we went to the bank today").

**End of reminder.**

You as a crisis negotiator named Jamie have possibly used one or multiple of these three strategies during your conversation with Richard. Please answer the following questions regarding the relational influencing strategies.

Q32 What influencing strategy/strategies did you as Jamie, the crisis negotiator, use? Tick the strategy/strategies you believe was/were used (multiple answers possible)

- Being kind (1)
  
- Being equal (2)
  
- Being credible (3)

Q33 Please complete the database by providing an explanation on how you think the strategy 'being kind' was used. You can leave this open if you think 'being kind' was not used in the crisis negotiation.

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Q34 Please complete the database by providing an explanation on how you think the strategy 'being equal' was used. You can leave this open if you think 'being equal' was not used in the crisis negotiation.

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Q35 Please complete the database by providing an explanation on how you think the strategy 'being credible' was used. You can leave this open if you think 'being credible' was not used in the crisis negotiation.

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End of Block: Influencing strategies

Start of Block: Control question

Please answer the following general questions regarding the crisis negotiation and influencing strategies

Q36 What is the crisis negotiation you just read about?

Sexual assault (1)

Shooting (2)

Suicidal case (3)

Q37 Which influencing strategy is used in the following example: "I also have children" ?

Being kind (1)

Being equal (2)

Being credible (3)

Q38 Which influencing strategy is used in the following example: "As promised, we went to the bank today" ?

Being kind (1)

Being equal (2)

Being credible (3)



Q39 Which influencing strategy is used in the following example: "I am listening, I want to help you" ?

- Being kind (1)
- Being equal (2)
- Being credible (3)

Q40 How important is data quality to you in your daily work as a crisis negotiator?

- Not at all important (1)
- Not very important (2)
- Somewhat important (3)

Very important (4)

Q41 How important is data quality in policing generally?

Not at all important (1)

Not very important (2)

Somewhat important (3)

Very important (4)

End of Block: Control question

Start of Block: How well were you able to imagine the scenario?

Q42 How well were you able to imagine you were a crisis negotiator named Jamie in the scenario on a scale from 1 (not at all) to 5 (very well)?

Not at all (1)

Not really (2)

Somewhat (3)

Well (4)

Very well (5)

End of Block: How well were you able to imagine the scenario?

Start of Block: True aim of study

**Debrief**

For the purpose of collecting higher-quality data, we added a deception to this questionnaire. Our aim was not to see how well someone can engage in the role of a crisis negotiator during a simulated crisis scenario. Instead, we wanted to measure the quality of filling in a database and its dependence on factors like knowledge of the importance of good writing and perception of the database, like perceived usefulness and use efficacy. We included this deception to avoid the risk of people paying more attention to the quality of their report if they knew that it would be the measured variable.

If you know someone who will also partake in this study, please do not inform them of this deception ahead of time. Thank you for your discretion and understanding.

Q43 Please tick the appropriate box

I agree with the data that I provided to be archived so it can be used for future research

and learning (1)

I would like to withdraw from participation and delete my data (2)

Q54 Thank you for participating!

Your collected data will be used for our research to investigate data quality regarding crisis negotiations and potential influencing factors.

You can contact one of the researchers if you have any questions regarding your participation:

Contact:

b.s.heukerofhoek@student.utwente.nl

f.tulk@student.utwente.nl

**Please click the next button to complete the survey and submit your data.**

End of Block: True aim of study