**The effect of the amount of trust among colleagues in the communication between police officers in stressful situations**

**Dillen Benerink**

**7234910**

**Universiteit Utrecht**

**Supervisor: Joris Beijers**

**Second Assessor: Christof Nagel**

**Date: 24th of June**

**Table of content**

1. **Introduction………………………………………………….……………4**
2. **Theory………………………………………………………….………….7**
3. **Methods and data……………………………………………….……….11**
4. **Results…………………………………………………………….……...14**
5. **Discussion…………………………………………………………..….…17**
6. **Policy advice……………………………………………………….…….20**
7. **References………………………………………………………….…….21**
8. **Appendix…………………………………………………………….…...24**

**Abstract**

This study focused on the effect of trust between police officers on their communication in stressful situations. It was measured whether a higher level of trust results in a more effective communication. Next to this, it was measured whether a higher level of trust led to a higher amount of using non-verbal communication in comparison to verbal communication. This was measured by observing training situations of police officers. These participants were observed and were asked afterwards about the level of trust they had in each other and how well they thought that they collaborated. The study showed that a higher level of trust increases the effectiveness of communication, but that it does not increase the use of non-verbal communication. More non-verbal communication did also not mean that the communication was more effective. Future research is necessary to further investigate the communication between police officers in stressful situations due to the limitations of this study and the fact that there is not much known about in science.

*Keywords*: Police, trust, communication

**1. Introduction**

Imagine that two police officers come across a dangerous situation where a confused man with a knife is screaming and threatening people in the mall. The two police officers will have to arrest him, but they have to be careful as the man is holding a weapon. In this situation it is essential that the two police officers communicate efficiently with each other to de-escalate the situation without someone getting hurt. Stressful situations such as this one can be complex, life-threatening, dynamic and fast-paced which means that efficient communication is necessary to successfully handle these situations.

Police officers can find themselves regularly in stressful situations like the one described above as their jobs contain a frequent exposure to critical incidents (Anderson, Litzenberger & Plecas, 2002). When the police are being sent towards an incident they are the first to arrive at the scene most of the time. As a result of this, they sometimes have to be able to do a lot of different things where a variety of skills is needed for. They should for example be able to arrest, control the situation, protect people and tend to the wounded (Rojeck & Smith, 2007). In these moments, it is essential that the police are able to communicate crucial information with each other and that they discuss how they will act (Hine & Bragias, 2020). It is of importance that they are able to do this efficiently as it can sometimes even mean life or death. In order to collaborate effectively it is important that the police officers are clear in their communication towards each other (Awaya & Krishna, 2019).

Communication can be defined as the act in which an individual either receives or sends information or ideas to another (Phutela, 2015). This exchange of information can take place in the form of language, by speaking to another, which is referred to as verbal communication. Next to this, people can also communicate without the use of words and this is referred to as nonverbal communication. Both of these forms of communication are essential as the study of Lunenburg (2010) found out that people communicate as much verbally as that they use nonverbal communication.

The exchange of information to someone else can be of an even greater importance in stressful situations where collaboration is necessary (Power, 2018). Collaboration is essential for the effectiveness of a team as it has an influence on the motivation and the willingness to work together which affects the willingness of the team to take extreme risks which can be necessary in the situations that police officers find themselves in (Power, 2018). The communication between police officers can be influenced by the stress that they experience in such situations. It can for example increase the difficulty of communicating due to the complexity that such situations can have and it can speed up the communication process as these situations can be fast-paced.

Another factor that can have an influence on the communication is the level of trust that police officers have in each other. Trust can be defined as the willingness to make oneself vulnerable to another entity in the pursuit of some benefit (Bonnefon, Rahwan & Shariff, 2017). Trust is an important factor that has an influence on the efficiency of the communication between people that have to work together (Acedo-Carmona & Gomila, 2014). Next to this, it is stated that a higher level of trust results in the fact that people will be more willing to share more information and that they are faster in making decisions (Wilson, Salas, Priest & Andrews, 2007). The study of Wilson et al. (2007) focused on the effect of the level of trust on the communication in the military, which in certain aspects can be resembled with the dangerous situations police officers can find themselves in. In their study they also found that a higher level of trust reduces the chances of misunderstanding each other which can be of great risk in a dangerous situation.

It can be stated that according to previous research regarding trust that it is an essential part of efficient communication. This may be especially the case in the police context due to the stressful situations where they find themselves occasionally in, like the example at the beginning of the introduction. At the moment there is hardly any research that has studied the communication between officers in stressful situations and the effect that trust has on this. The trust that police officers have in people in general could be lower in comparison to the general trust that citizens have due to their negative experiences with people while performing their job (Kääriäinen & Sirén, 2012). On the other hand, it can be stated that the police force is a very cohesive organization. Police officers will probably have a strong bond with each other as a result of the “us vs. them” feeling in the job as was described by Crank (2004). This brings up the question whether this level of trust in each other has an effect on the communication between officers.

Effective communication between police officers in these dangerous situations can mean life or death and it is therefore an interesting aspect to study. This information can eventually help with gaining insight into the communication and trust of police officers and how this influences the collaboration. This study will then eventually help with understanding these processes better so that the training of police officers can be improved to ensure more efficient communication. To gain this information at all, the following research questions have been formulated:

Descriptive research questions

“What is the general level of trust that police officers have in each other and in people in general?”

“How do police officers communicate with each other in stressful situations?”

The answer to the descriptive research questions will help with understanding how police officers communicate with each other and how much they trust each other. The level of trust will be measured with a questionnaire among police officers about how much trust they have in each other. For the communication will be measured how much communication that is observed is nonverbal in comparison to verbal behavior. To know whether the level of trust has an influence on the communication and how strong this effect is, an answer is needed for the following research question.

Explanatory research question

“To what extent does the amount of trust affect the communication between police officers in stressful situations?”.

The explanatory research question focuses on the effect of the level of trust that police officers have in each other on their way of communicating in stressful situations, which will be divided into either verbal or nonverbal. To test whether the communication is more efficient, this will be measured by a questionnaire about their view of the collaboration. The answer to this research question can provide useful information on how to improve the communication between police officers. Therefore, a policy question has been formulated:

Policy question

“How can the communication between police officers in stressful situations be improved?”

These questions will be measured by observing training simulations where officers have to work together and with a questionnaire that they have to fill in after each situation. Communication between the police officers will be observed and the entire communication, which means that communication against the suspect too, will be acknowledged as communication towards each other. More information about how the data was collected and analyzed will be given in the methods section, but first, the theoretical framework of the relationship between trust and communication will be discussed. After this, the methods will be presented in which is shown how the data is collected. This data will afterwards be presented in the results section and will then be discussed and concluded at the end of this paper.

**2. Theory**

**2.1 Communication**

Communication can be defined as the act where an individual either receives or sends information or ideas to another person (Phutela, 2015). People can communicate with each other either verbally or they can use nonverbal behavior. Verbal communication can be referred to as the ability to speak to others in order to exchange information and ideas (Devece, Ortiz, Merigó & Fuster, 2015). The reason that human communication is so precise and flexible is due to the ability of humans to use language to communicate with one another (Krauss, 2002).

Next to verbal communication, people can communicate as well without using words or using their bodily cues in order to influence the way that their words are interpreted. Non verbal communication can be referred to as sending messages, emotions and feelings by using actions and expressions (Hans & Hans, 2015). The most used form of nonverbal communication is physical communication according to Phutela (2015) and this can take place in a lot of different ways. That is why nonverbal communication can be a powerful tool to communicate with each other. People can convey messages to each other nonverbally by making use of facial expressions, eye contact, their proximity to another, hand gestures and the use of body language (Miller, 2005). In the article of Hans and Hans (2015) they argue that using nonverbal communication can sometimes even be better than communicating verbally. This is for example the case for showing emotions to another. Next to this, it is believed by Moore, Butt, Ellis-Clarke and Cartmill (2010) that non-verbal communication is of an even greater importance in stressful situations as the urgency in those situations can result in the fact that only using language can make it difficult to communicate effectively.

Effective communication is important in critical situations where police officers need to work together. This can be difficult for police officers as they have to control the situation at the same time. Next to this, it can even be the case that they have no previous experience with that specific situation or they have to work together with colleagues that they do not know (Hine & Bragias, 2020). These colleagues can be totally different from them and the difference in expertise and personalities can increase the difficulty of the situation (Haferkamp, Kraemer, Linehan & Schembri, 2011). Unfortunately, there is hardly any research on the use of verbal and non-verbal communication in the police context. Other studies have studied this in other stressful situations like in operating rooms. In this context, the role of communication is also essential for succeeding as is proven by the fact that the lack of efficient communication can result in errors in the operating room which can have enormous consequences (Wahr et al. 2013). Moore, Butt, Ellis-Clarke and Cartmill (2010) also studied communication in the operating room and they state that both the verbal and non-verbal forms of communication are important and that they can both be very precise in what is meant with it. Next to this, they perceived that the coworkers knew what was meant by the non-verbal communication and that this is a result of practicing. They state that individual teams will eventually learn the intentions that are behind the different forms of non-verbal communication. Another study that looked at the use of verbal and non-verbal communication in stressful situations was the study of Härgestam, Hultin, Brulin & Jacobsson (2016). Their research was about the use of verbal and non-verbal communication of trauma team members during their training. As this is also a job where time is critical and the level of stress is high, it can help with better understanding how these forms of communication occur in the police context. During their study, they noticed that both verbal and non-verbal communication were of importance for efficient communication. Another factor that is of importance for effective communication is the level of trust that people have in each other.

**2.2 Trust and communication**

Trust is an important element for efficient communication according to literature (Chatzi, Martin, Bates & Murray, 2019). Trust has a positive influence on group interactions and interpersonal relationships between colleagues and it has been proven to be of importance to cooperation according to Costa (2003) as trust increases cooperative behavior and commitment to the task and team. In a literature study of Wilson, Salas, Priest and Andrews (2007) they concluded that a higher level of trust increases the willingness to share information with each other, decreases the time that people make to take decisions and a higher level of trust results in a reduction of the chances that there will be a misunderstanding. Thus, it can be expected that the level of trust between police officers is important for their communication.

In dangerous situations, it can be said that trust is even more important as when someone from a team does not fulfill his or her task then this can have critical consequences. The level of trust that they have in each other has an influence on teamwork as it changes the way that they interpret each other's behavior (Simons & Peterson, 2000). When there is a low level of trust this means that this can lead to misinterpretation. When there is a high level of trust in a team then this leads to a greater dissemination of information and teamwork which increases the efficiency of communication and collaboration (Jones & George, 1998). The reason for this is that due to a higher level of trust it feels for the individuals of a team that the information they share will be valued and used (Bandow, 2001).

Trust is an important factor for efficient cooperation in the workplace (Savolainen, Lopez-Fresno & Ikonen, 2014). This is especially true for police officers as they frequently experience dangerous situations in which they have to strongly rely on each other. According to the literature, it can be stated that the level of trust that people have in each other is important for effective communication. To test whether this is also true in the police context, the following hypothesis has been formulated:

H1: “The higher the level of trust between police officers, the more they will communicate effectively.”

The effect of the level of trust on the communication in the police context has hardly been studied. In this study, communication will be separated into verbal and non-verbal communication which were both explained earlier in this chapter. In the stressful situations that police officers experience together it is important for them that they understand each other well which can be done through efficient communication. Non-verbal communication can be efficient due to the quickness of conveying messages, but it also has some disadvantages as it can be clear or imprecise (Hans & Hans, 2015). Verbal communication on the other hand is most of the time very precise and clear. In the study of Härgestam, Hultin, Brulin and Jacobsson (2016) they conclude that when people who were less familiar with each other worked together, there was a higher level of misunderstanding of non-verbal cues in comparison to people who were more experienced together. Next to this, Simons and Peterson (2000) state that a lower level of trust increases the chances of misinterpretation of behavioral communication. Although in part this may have to do with the fact that it can take time for people to be able to read each other, which can also be related to the concept of trust.

In the police context there is not always room for making mistakes in interpreting each other's behavior and that is why it would be expected that when people have a lower level of trust in each other they will use more verbal communication so that they know that their colleague completely understands what is meant. Therefore it would be expected that people who have a higher level of trust will use more non-verbal forms of communication in comparison to people with a lower level of trust in each other. The following hypothesis was formulated based on this:

H2: “A higher level of trust between colleagues results in a higher amount of non-verbal communication in comparison to verbal communication.”

After testing this hypothesis, there will also be a look at the fact whether a higher amount of non-verbal communication can be seen as more effective communicating. The reason for this is that Moore, Butt, Ellis-Clarke and Cartmill (2010) point out that non-verbal communication is important for effective communication in stressful situations. There will be measured whether this is also the case in the police context. Testing these hypotheses will be done by making observations of police officers that are training in stressful situations. The data that will be collected will provide the framework for understanding communication in the police context and the influence that the level of trust that they have in each other has. This will eventually be used for answering the research questions that were stated earlier in this paper. The methods that were used for gathering this data will be discussed below in detail.

**3. Methods and data**

**3.1 Participants and research methods**

In order to give an answer to the research questions and to test the hypotheses, observations were made of police officers in training situations. These observations were made as part of my internship at the Netherlands Institute for the Study of Crime and Law Enforcement (NSCR). Police officers in the Netherlands are obligated to follow Integrale Beroepsvaardigheids Training (IBT) which is a training that they have to follow four times a year where they have to show that they got the skills and knowledge to be a police officer.

The police officers were observed at multiple locations in the Netherlands where they had training in situations that they could experience during their work. Upon entering the location where the training is taking place, the police officers are required to fill in a short questionnaire and the informed consent. After this, their exercises could begin which were filmed by two cameras in order to get all of the useful information on tape. The participants received a piece of tape that was one of four colors: red, green, yellow and blue. We know for ourselves which colors meant that people gave consent and the other way around. In this way, participants were also unaware about which of their colleagues gave consent and who did not. After each exercise, the participants were asked to fill in a short questionnaire in which they had to state how well they thought that the cooperation went and what their level of trust was in their partner. The recorded situations were analyzed after this in order to get an overview of the verbal and nonverbal communication that was used by the police officers. Then the level of trust will be looked at to see whether the participant who had a lower level of trust used more verbal communication in comparison to nonverbal communication. Prior to the observations, a list was made based upon literature search of the types of communication, both verbal as non-verbal that were perceived. During the observations, these lists were extended and more complete. Next to observing the police officers in training, they were asked to fill in a questionnaire at the beginning of the day and one after each training situation. The variables of these questionnaires will be discussed later on. First, there will be a description of the police officers that participated in this study.

In total there were 97 participants in this study and they were all police officers with different backgrounds in the police. There are 48 training situations observed of which 47 situations were where 2 officers had to work together and 1 situation where this was 3. Regarding gender, 73 participants were male and 24 were female. The age ranged from 20 to 64 with an average of 42.58 (SD = 12.22).

**3.2 Variables and operationalization**

*Level of trust*

Police officers that worked together in a training situation were asked to fill in a form in which they had to state the level of trust that they had in their colleague during the exercise. This question was also to be answered on a scale that ranged from 1 ‘not at all’ to 10 ‘a lot’.

*Communication*

The observations were filmed and eventually analyzed by a program called BORIS which is a program to analyze observations. The list that can be seen below was used in order to assign all the behaviors (see Table 1.). The behaviors that can be seen on this list are general terms, the entire list can be found in the Appendix (see Appendix A). There is a clear distinction between verbal and non-verbal communication. Verbal communication is then divided into whether this is towards the suspect, a colleague or bystanders. As was stated before, the entire communication of the police officers was measured, even when this was not directly meant for their colleague. Next to this, there is also a category which states the voice control. This is used to observe when someone uses the loudness of his or her voice in order to communicate. Non-verbal communication is more complex and is divided into body language, changing position, weapon use and the use of restraint. The third column shows the code that the behavior was given and for verbal communication there was another distinction made between asking, commanding and conversational. As was mentioned before, the entire communication was measured, whether this was against the suspect or the colleague. With the program BORIS it was possible to analyze the footage and to assign the specific code to the observed behavior.

The amount of non-verbal behavior in comparison to the verbal behavior was measured and this variable was used for measuring the effect of trust on the use of non-verbal behavior. The variable shows the percentage of the amount of non-verbal behavior of the entire communication. The effectiveness of the communication is measured by how the police officers rated the collaboration. They were able to give it a number of the scale that ranged from 1 ‘not good’ to 10 ‘very good’.

**Table 1**

*List of observed behavior*

| **Verbal** | **To suspect** | **VSA** | **Asking** |
| --- | --- | --- | --- |
|  |  | **VSC** | **Commanding** |
| **VSC2** | **Conversational** |
| **To colleague** | **VCA** | **Asking** |
|  | **VCC** | **Commanding** |
| **VCC2** | **Conversational** |
| **To bystanders** | **VBA** | **Asking** |
|  | **VBC** | **Commanding** |
|  | **Voice control** | **VVL** | **Lowering** |
|  |  | **VVR** | **Raising** |
| **Nonverbal** | **Body Language** | **NB1** | **Gestures** |
|  |  | **NB2** | **Eyecontact** |
|  | **Changing position** | **NC1** | **Movements** |
|  | **NC2** | **Pursuit** |
| **Use of weapons** | **NU1** | **General** |
| **Use of restraint** | **NU2** | **Handgun** |
| **NU3** | **Baton** |
| **NU4** | **Taser** |
| **NU5** | **Pepperspray** |
| **NUR1** | **Handcuff** |
|  | **NPS** | **With suspect** |
|  | **NPC** | **With colleague** |

*Control variables*

The effect of the level of trust that police officers have in each other can be influenced by other factors. One of these factors is age as in the study of Sutter and Kocher (2007) it is stated that age is positively correlated with how trustworthy people are rated by someone. Police officers that participated in the study were asked in the first questionnaire that was prior to the training what their age was in order that this variable can be controlled for. Another factor that influences the level of trust that the police officers have in each other is their general level of trust. It can be stated that the level of trust that people have in others is also based on their tendency to trust people in general (Acedo-Carmona & Gomila, 2014). Therefore, participants were also asked to state how much trust they tend to have in people in general. Participants were able to rate this on a scale that ranged from 1 ‘not at all’ to 10 ‘very much’.

**3.3 Plan of analysis**

First, the descriptive values in which the means, standard deviations and the correlations between variables can be seen will be given. Next to this, three simple linear regression will be performed with IBM SPSS software version 28. The first simple regression model measured the effect of trust on the percentage of non-verbal communication. The second model analyzed the effect of trust on the efficiency of the communication, which was measured by the variable collaboration. A third and final model looked into whether a higher percentage of non-verbal communication is linked with efficient communication.

**4. Results**

**Table 2**

*Means, standard deviations and correlations*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

N M SD Min Max 1. 2. 3. 4. 5.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Age 97 42.58 12.22 20 64 -

2. Trust in general 97 6.88 1.15 3 9 38\*\* -

3. Trust in coworker 97 8.59 1.01 6 10 -.32\*\* -.03 -

4. Collaboration 97 8.4 1 5 10 -.36\*\* -.08 .73\*\* -

5. Percentage non-verbal 97 .44 .18 .06 1 -.12 .02 .05 .07 -

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*\*\*Correlation is significant at the 0.01 level (2-tailed).*

*\*Correlation is significant at the 0.05 level (2-tailed).*

Table 2 shows the mean values, standard deviations and the correlations of the variables within the questionnaire for all the participants. In total there were 97 participants and there was a good variance of the age of the participants. They were aged between 20 and 64 and the average was approximately 43 years old. For other variables, like the trust that they have in each other and the collaboration, it can be said that there is little variance and the average is high. For the rating of the collaboration the average was 8.4 and the variance was between 5 and 10. For the level of trust in each other, the average was 8.59 and the variance was between 6 and 10. The percentage of non-verbal communication had a proper variance as the average percentage non-verbal communication was 44% and these values lay between 6% and 100%. Next to this, it can be seen that there are multiple significant correlations between the variables in the questionnaire. First of all, it can be found that age is highly correlated with all the other variables. The higher the age, the more trust police officers will have in people in general, but lower in coworkers during a training situation. Collaboration is also negatively correlated with age. Next to the correlations regarding age, there is a strong positive correlation between the trust in their coworker during a training situation and how they rated their collaboration.

**Table 3**

*Regression analyses*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Model 1 Model 2 Model 3

(Percentage non-verbal) (Collaboration) (Collaboration)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

B SE B SE B SE

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Constant .459\* .211 3.109\*\*\* .802 9.289\*\*\* .647 Age -.002 .002 -.011 .007 -.031\*\*\* .009

Trust in general .011 .017 -.007 .066 .057 .091

Trust colleague .000 .019 .679\*\*\* .074 - -

Percentage non-verbal .105 .544

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

R² .019 .547 .133

F .615 37.381\*\*\* 4.743\*\*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*\*\*\*Correlation is significant at the 0.001 level (2-tailed).*

*\*\*Correlation is significant at the 0.01 level (2-tailed).*

*\*Correlation is significant at the 0.05 level (2-tailed).*

Table 3 shows three regression models. The first model shows the effect of the level of trust (IV) in each other on the use of non-verbal behavior (DV). This regression model is not significant (R² = .019, F (3, 93) = .615, p = .607). Age and the level of trust in general were the control variables. Age had no effect on the use of non-verbal behavior (B = -.002, p = .205) as was the case for the level of trust in general (B = .011, p = .517). The level of trust in each other had also not an effect on the use of non-verbal communication (B = .000, p = .996). Therefore, the second hypothesis, which states that a higher level of trust in each other will result in a higher amount of non-verbal communication, can be rejected.

In Model 2, the regression parameters can be found for the effect of the trust that police officers had in each other in a training situation on how they rated the collaboration. The effect of variables like age and their level of trust in general were accounted for by using them as control variables. The model is significant and it explains 54.7% of the variance in the rated collaboration (R² = .547, F (3, 93) = 37.381, p < .001). In the results it can be seen that there is a significant positive effect of trust in colleagues on the collaboration which is used to measure the effectiveness of the communication (B = .679, p < .001). The first hypothesis, which states that a higher level of trust in each other will result in a more effective communication, can be accepted. Second, for the variable age there is no significant effect on the rated collaboration (B = -.011, p = .086) and this was also not the case for the level of trust in general (B = -.007, p = .910).

In the third and final model, the effect of the use of non-verbal behavior on collaboration was analyzed. This regression model was also significant and it explained 13.3% of the variance in collaboration (R² = .133, F (3, 93) = 4.743, p < .01). There was no significant effect of the use of non-verbal behavior on the rated collaboration (B = .105, p = .847). The variables age and the level of trust in general were again the control variables. The variable age has a significant effect on the rated collaboration (B = -.031, p < .001). This was not the case for the variable trust in general (B = .057, p = .529). Thus, this means that a higher amount of non-verbal communication does not mean that the communication is more effective.

To conclude, it can be stated that the first hypothesis which states that a higher level of trust results in a higher rating of the collaboration can be accepted. which states that a higher level of trust will result in an increased use of non-verbal behavior in the communication, can be rejected. The second hypothesis which states that a higher level of trust will result in an increased use of non-verbal behavior in the communication, can be rejected. Finally, a higher amount of non-verbal communication does not mean that it is more effective.

**Discussion**

The aim of this study was to gain insights into the effect of trust between police officers on the communication between them. First of all, it was expected that a higher level of trust would increase the effectiveness of the communication. This was measured by letting the participants rate their collaboration and their level of trust in each other. The results of this study show that a higher level of trust in each other increases the effectiveness of the communication as was measured by the collaboration. This was in line with the study of Jones and George (1998) in which they stated that a higher level of trust within a team can lead to a better dissemination of information and it increases the efficiency of the communication and collaboration. Bandow (2001) also expresses that people are willing to share more information with each other as people feel that the information that they share will be properly valued and used by the other members of a team.

Next to this, it was measured whether a higher level of trust increases the use of non-verbal communication in comparison to verbal communication. This was also expected due to the fact that it is stated that a lower level of trust increases the chances of misinterpreting non-verbal communication (Simons & Peterson, 2000). Next to this, Hans and Hans (2001) state that non-verbal communication is quick, but can be very imprecise and unclear. When people do have a lower level of trust in each other it was thus expected that people would use less non-verbal communication in comparison to verbal communication. The results of this study do not show evidence for this. Besides, it was measured whether an increase in non-verbal communication in comparison to verbal communication would also mean that the communication was more efficient. This was expected due to the fact that in the article of Moore, Butt, Ellis-Clarke and Cartmill (2010) it was stated that non-verbal communication is especially important in stressful situations due to its urgency, but for this there was also no evidence found. The hypotheses that were tested give answers to the research questions that were mentioned in the beginning of this study. The descriptive questions were about the level of trust in each other, their general level of trust in people and how police officers communicate with each other. The average level of trust in each other during the training situations is 8.59 with answers that lie between 6 and 10. The level of trust in people in general is 6.88 and these answers lie between 3 and 9. The average use of communication between the situations that were observed was that in a situation on average 44% of the communication non-verbal is. These percentages lie between 6% and 100%. The explanatory question was about the effect of trust on the communication between police officers. As was stated before, the level of trust did increase the effectiveness of the communication, but it did not increase the use of non-verbal communication in comparison to verbal communication. There were however a few limitations to this study, which will be addressed below.

The first limitation has to do with how comparable the behavior of the police in the training situation is to police in general. The police officers that were filmed were aware of this and this could lead to different behavior than what they would normally show. Next to this, police officers were entirely aware of the realness of the situation. They know that they are never really in life danger during these practice sessions and this can also have an impact on how they behave. This limitation could be solved by observing footage from actual police performance during their work. Secondly, another limitation of this study is that the way in which the behavior of the police officers was being analyzed leaves room for subjectivity as it was analyzed by only one person. It could be the case that when someone else analyzes the behavior by the same list that there are differences between the results. Thus, what is meant by this is that the list with all the kinds of communication leaves room for interpretation. An advice to overcome this issue would be to let multiple researchers observe the same situations and to take the average. Thirdly, when police officers were asked to fill out the questionnaires about their level of trust in each other and how they rated their collaboration there were a few variables that could have possibly interfered with how they answered the questions. Police officers that were asked to fill in the questionnaire about their level of trust in each other stood in most of the situations near each other. This could result in the fact that these officers will rate their level of trust in the other higher than that it is actually. Next to this, feedback was most of the time given to the police officers about how they handled the situation. This can have an influence on how they rated the collaboration between each other. It can be concluded that there were several limitations to this study, but nevertheless it helps with gaining insight into the communication between police officers as there is hardly any research that studies the communication between police officers at this moment. Future research should try to observe real situations where officers are working and the footage should be analyzed by a number of people so that the average can be taken. Finally, police officers should be asked about their level of trust in each other and the collaboration in right after the situation when this is possible and they have to do this properly separated from each other so that this will not influence their opinion. With this study, insights have been gained into the communication between police officers and based upon this an advice can be given that will be discussed below.

**Policy advice**

The policy question that was stated at the beginning of this paper was about how the communication between police officers can be improved. This study has shown that communication becomes more effective when police officers have a higher level of trust in each other. This means that the communication between police officers can be improved by increasing the level of trust that they have in each other. In the article of Young and Daniel (2003) in which they look at how trust between coworkers can be increased they state that one factor that is important for this is personal relationships. These personal relationships can be gained in a lot of ways. It can thus be important for the police to make sure that the police officers know each other well and that this may even be improved by doing activities together with colleagues as this will enhance the personal relationships that exist between police officers. This will then increase the level of trust that police officers have in each other and the effectiveness of the communication between each other will then also be improved as a result of this.

**References**

Acedo-Carmona, C., & Gomila, A. (2014). Personal trust increases cooperation beyond general trust. *PLoS One*, *9*(8).

Anderson, G. S., Litzenberger, R., & Plecas, D. (2002). Physical evidence of police officer stress. *Policing: an international journal of police strategies & management*.

Awaya, Y., & Krishna, V. (2019). Communication and cooperation in repeated games. *Theoretical Economics*, *14*(2), 513-553.

Bandow, D. (2001). Time to create sound teamwork. *The Journal for quality and participation*, *24*(2), 41.

Chatzi, A. V., Martin, W., Bates, P., & Murray, P. (2019). The unexplored link between communication and trust in aviation maintenance practice. *Aerospace*, *6*(6), 66.

Costa, A. C. (2003). Work team trust and effectiveness. *Personnel review*.

Crank, J. P. (2014). *Understanding police culture*. Routledge.

Devece, C., Peris-Ortiz, M., Merigó, J. M., & Fuster, V. (2015). Linking the development of teamwork and communication skills in higher education. *Sustainable Learning in Higher Education*, 63-73.

Dinçer, Ö., Karakas, F., Kucuk, H., & Bayram, L. (2014). An evaluation of the communication skills and empathic tendencies of students attending police vocational school of higher education. *International Journal of Sport Culture and Science*, *2*(1), 11-21.

Haferkamp, N., Kraemer, N. C., Linehan, C., & Schembri, M. (2011). Training disaster communication by means of serious games in virtual environments. *Entertainment Computing*, *2*(2), 81-88.

Hans, A., & Hans, E. (2015). Kinesics, haptics and proxemics: Aspects of non-verbal communication. *IOSR Journal of Humanities and Social Science*, *20*(2), 47-52.

Härgestam, M., Hultin, M., Brulin, C., & Jacobsson, M. (2016). Trauma team leaders’ non-verbal communication: video registration during trauma team training. *Scandinavian journal of trauma, resuscitation and emergency medicine*, *24*(1), 1-10.

Hine, K. A., & Bragias, A. (2021). Effective communication during major crises: a systematic literature review to identify best practices for police. *Police Practice and Research*, *22*(5), 1492-1507.

Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of management review*, *23*(3), 531-546.

Kääriäinen, J., & Sirén, R. (2012). Do the police trust in citizens? European comparisons. *European Journal of Criminology*, *9*(3), 276-289.

Krauss, R. M. (2002). The psychology of verbal communication. *International Encyclopedia of the Social and Behavioral Sciences*, 16161-16165.

Lunenburg, F. C. (2010). Louder than words: The hidden power of nonverbal communication in the workplace. *International Journal of Scholarly Academic Intellectual Diversity, 12*(1), 1-5.

Miller, P. W. (2005). Body Language in the Classroom. *Techniques: Connecting education and careers*, *80*(8), 28-30.

Moore, A., Butt, D., Ellis-Clarke, J., & Cartmill, J. (2010). Linguistic analysis of verbal and non-verbal communication in the operating room. *ANZ journal of surgery*, *80*(12), 925-929.

Phutela, D. (2015). The importance of non-verbal communication. *IUP Journal of Soft Skills*, *9*(4), 43.

Power, N. (2018). Extreme teams: Toward a greater understanding of multiagency teamwork during major emergencies and disasters. *American Psychologist*, *73*(4), 478.

Rojek, J., & Smith, M. R. (2007). Law enforcement lessons learned from Hurricane Katrina. *Review of Policy Research*, 24(6), 589–608.

Savolainen, T., Lopez-Fresno, P., & Ikonen, M. (2014). Trust‑Communication Dyad in Inter‑Personal Workplace Relationships Dynamics of Trust Deterioration and Breach. *Electronic Journal of Knowledge Management*, *12*(4), 232-240.

Shariff, A., Bonnefon, J. F., & Rahwan, I. (2017). Psychological roadblocks to the adoption of self-driving vehicles. *Nature Human Behaviour*, *1*(10), 694-696.

Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust. *Journal of applied psychology*, *85*(1), 102.

Sutter, M., & Kocher, M. G. (2007). Trust and trustworthiness across different age groups. *Games and Economic behavior, 59*(2), 364-382.

Wahr, J. A., Prager, R. L., Abernathy Iii, J. H., Martinez, E. A., Salas, E., Seifert, P. C., ... & Nussmeier, N. A. (2013). Patient safety in the cardiac operating room: human factors and teamwork: a scientific statement from the American Heart Association. *Circulation*, *128*(10), 1139-1169.

Wilson, K.A., Salas, E., Priest, H.A., & Andrews, D. (2007). Errors in the heat of battle: Taking a closer look at shared cognition breakdowns through teamwork. *Human Factors, 49*(2), 243-256.

Young, L., & Daniel, K. (2003). Affectual trust in the workplace. *International Journal of Human Resource Management*, *14*(1), 139-155.

**Appendix**

| **Communication** | **Subcategory** |  | **Code** | **Specification** | **Behavior** | **Reference** |
| --- | --- | --- | --- | --- | --- | --- |
| **Verbal** | **To suspect** | **BORIS CODE** | **XX** | **Asking** |  |  |
|  |  | **AA** | VSA1 |  | Officer asks to increase space between officer and suspect | Internet video |
| **AB** | VSA2 | Officer asks to come closer | Through own observation |
| **AC** | VSA3 | Officer asks to stand still | Through own observation |
| **AD** | VSA4 | Officer asks to get out of the car | Through own observation |
| **AE** | VSA5 | Officer asks to show ID | Through own observation |
| **AF** | VSA6 | Officer asks for name | Silverstone et al., 2013 |
| **AG** | VSA7 | Officer asks for address | Through own observation |
| **AH** | VSA8 | Officer asks what suspect is doing | Through own observation |
| **AI** | VSA9 | Officer asks what is going on | Through own observation |
| **AJ** | VSA10 | Officer asks to place hands on the car | Through own observation |
| **AK** | VSA11 | Officer asks to spread legs | Through own observation |
| **AL** | VSA12 | Officer asks to have a peaceful conversation | Through own observation |
| **AM** | VSA13 | Officer asks suspect about wellbeing | Through own observation |
| **Commanding** | | | | |
| **BA** | VSB1 |  | Officer commands to get on the ground | Longridge et al., 2020 |
| **BB** | VSB2 | Officer commands to show hands | Longridge et al., 2020 |
| **BC** | VSB3 | Officer commands to stop | Longridge et al., 2020 |
| **BD** | VSB4 | Officer commands to drop weapon | Longridge et al., 2020 |
| **BE** | VSB5 | Officer commands to get on knees | Internet video |
| **BF** | VSB6 | Officer states that suspect is arrested | Through own observation |
| **BG** | VSB7 | Officer commands suspect to step back | Through own observation |
| **BH** | VSB8 | Officer commands suspect to step forward | Through own observation |
| **BI** | VSB9 | Officer commands suspect to cooperate | Through own observation |
| **BJ** | VSB10 | Officer commands suspect to obey orders | Through own observation |
| **Conversational** | | | | |
| **CA** | VSC1 |  | Officer greets the suspect | James et al., 2018 |
| **CB** | VSC2 | Officer introduces oneself | James et al., 2018 |
| **CC** | VSC3 | Officer states the aim of the intervention | Solomon., 2019 |
| **CD** | VSC4 | Officer warns for consequences of disobeying | Through own observation |
| **CE** | VSC5 | Officer thanks the target for compliance | James et al., 2018 |
| **CF** | VSC6 | Officer reassures the target | James et al., 2018 |
| **CG** | VSC7 | Officer apologizing for the inconvenience | James et al., 2018 |
| **CH** | VSC8 | Officer warns for consequences of using weapon | Through own observation |
| **CI** | VSC9 | Officer procedes a peaceful conversation | Through own observation |
| **To colleague** | **Asking** | | | | |
|  | **DA** | VCA1 |  | Officer asks for help | Internet video |
| **DB** | VCA2 | Officer asks to make space | Through own observation |
| **DC** | VCA3 | Officer asks to handcuff the suspect | Through own observation |
| **DD** | VCA4 | Officer asks for information | Through own observation |
| **DE** | VCA5 | Officer asks colleague about the next step | Keesman, 2022 |
| **DF** | VCA6 | Officer requests assistance | Lavelle et al., 2020 |
| **Commanding** | | | | |
| **EA** | VCB1 |  | Officer commands for help | Through own observation |
| **EB** | VCB2 | Officer warns a colleague | Through own observation |
| **Conversational** | | | | |
| **FA** | VCC1 |  | Officer speaks into radio | Longridge et al., 2020 |
| **FB** | VCC2 | Officer calls the name of another officer | Longridge et al., 2020 |
| **FC** | VCC3 | Officer discusses plan of action | Through own observation |
| **FD** | VCC4 | Officer points out that the suspect has a weapon | Through own observation |
| **FE** | VCC5 | Officer discusses 'taakverdeling' | Through own observation |
| **To bystanders** | **Asking** | | | | |
|  | **GA** | VBA1 |  | Officer asks for information | Through own observation |
| **GB** | VBA2 | Officer asks to step away | Through own observation |
| **GC** | VBA3 | Officer asks to leave the scene | Through own observation |
| **GD** | VBA4 | Officer asks to stop intervening | Through own observation |
| **GE** | **Commanding** | | | |
| **GF** | VBB1 |  | Officer commands to step away | Through own observation |
| **GH** | VBB2 | Officer commands to leave the scene | Through own observation |
| **GI** | VBB3 | Officer commands to stop intervening | Through own observation |
| **Nonverbal** | **Bodylanguage** | **General** | | | | |
|  |  | **HA** | NBA1 |  | Officer crosses the arms | Through own observation |
| **HB** | NBA2 | Officer stands with hands on hips | Johnson., 2017 |
| **HC** | NBA3 | Officer points at the target | Through own observation |
| **HD** | NBA4 | Officer puts hands pockets | Johnson., 2019 |
| **HE** | NBA5 | Officer nods | Keesman, 2021 |
| **HF** | NBA6 | Officer shakes head | Through own observation |
| **HG** | NBA7 | Officer wrings the hands | Payton et al., 2018 |
| **HH** | NBA8 | Officer pats shoulder | Ranjan et al., 2015 |
| **HI** | NBA9 | Officer holds hands | Ranjan et al., 2015 |
| **HJ** | NBA10 | Officer snaps fingers | Ranjan et al., 2015 |
| **HK** | NBA11 | Officer raises hand in traffic towards a vehicle | Otu., 2016 |
| **HL** | NBA12 | Officer looks for colleague | Through own observation |
| **HM** | NBA13 | Officer makes eye contact with colleague | Through own observation |
| **HN** | NBA14 | Officer makes a hand gesture | Through own observation |
| **HO** | NBA15 | Officer puts hands on vest | Through own observation |
| **HP** | NBA16 | Officer points out a person | Through own observation |
| **HQ** | **Being attentive** | | | |
| **HR** | NBB1 |  | Officer listening actively to suspect | Through own observation |
| **HS** | NBB2 | Officer listening actively to bystander | Through own observation |
| **HT** | NBB3 | Officer listening actively to colleague | Through own observation |
| **Changing position** | **Movements** | | | | |
|  | **IA** | NCA1 |  | Officer moves towards suspect | Longridge et al., 2020 |
| **IB** | NCA2 | Officer moves away from suspect | Longridge et al., 2020 |
| **IC** | NCA3 | Officer takes position to shield suspect | Internet video |
| **ID** | NCA4 | Officer takes position to shield colleagues | Through own observation |
| **IE** | NCA5 | Officer creates space for colleague | Through own observation |
| **IF** | NCA6 | Officer walks in line with evading one's firing line | Through own observation |
| **IG** | NCA7 |  | Officer seeks shelter behind a object | Through own observation |
| **IH** | NCA8 |  | Officer dodge suspect | Through own observation |
| **II** | NCA9 |  | Officers stay in 'v' formation | Through own observation |
| **IJ** |  | **Pursuit** |  |  |
| **IK** | NCB1 |  | Officer pursues suspect by foot | Garner et al., 1995 |
| **IL** | NCB2 | Officer pursues suspect by car | Garner et al., 1995 |
| **IM** | NCB3 | Officer pursues suspect by bike | Garner et al., 1995 |
| **Use of weapons** | **General** | | | | |
|  | **JA** | NUA1 |  | Officer places hand on belt | Internet video |
| **Handgun** | | | | |
| **KA** | NUB1 |  | Officer draws handgun | Longridge et al., 2020 |
| **KB** | NUB2 | Officer points handgun | Longridge et al., 2020 |
| **KC** | NUB3 | Officer shoots warning shot | Internet video |
| **KD** | NUB4 | Officer shoots at suspect | Internet video |
| **KE** | NUB5 | Officer discharges firearm | Longridge et al., 2020 |
| **KF** | NUB6 | Officer puts away handgun | Through own observation |
| **Baton** | | | | |
| **LA** | NUC1 |  | Officer draws baton | Internet video |
| **LB** | NUC2 | Officer threats with baton to suspect | Internet video |
| **LC** | NUC3 | Officer threats with baton to bystanders | Through own observation |
| **LD** | NUC4 | Officer hits with baton | Internet video |
| **LE** | NUC5 | Officer hits with baton to bystanders | Through own observation |
| **LF** | NUC6 | Officer puts away baton | Through own observation |
| **Teaser** | | | | |
| **MA** | NUD1 |  | Officer draws taser | Internet video |
| **MB** | NUD2 | Officer spark tests taser | Through own observation |
| **MC** | NUD3 | Officer hold taser out of working area | Through own observation |
| **MD** | NUD4 | Officer fires taser | Internet video |
| **ME** | NUD5 | Officer fires taser for the second time | Through own observation |
| **MF** | NUD6 | Officer points taser at suspect | Through own observation |
| **MG** | NUD7 | Officer takes away taser line | Through own observation |
| **MH** | NUD8 | Officer puts away taser | Through own observation |
| **Pepper spray** | | | | |
| **NA** | NUE1 |  | Officer grabs pepper spray | Internet video |
| **NB** | NUE2 | Officer uses pepper spray | Internet video |
| **NC** | NUE3 | Officer puts away teaser | Through own observation |
| **Handcuff** | | | | |
| **OA** | NUF1 |  | Officer grabs hand cuffs | Internet video |
| **OB** | NUF2 | Officer handcuffs suspect | Longridge et al., 2020 |
| **OC** | NUF3 | Officer puts away handcuffs | Through own observation |
| **Physical contact** | **With suspect** | | | | |
|  | **PA** | NPA1 |  | Officer holds free arm of suspect | Garner et al., 1995 |
| **PB** | NPA2 | Officer holds cuffed arms of suspect | Through own observation |
| **PC** | NPA3 | Officer grabs suspect | Maxwell et al., 2004 |
| **PD** | NPA4 | Officer pushes suspect | Garner et al., 1995 |
| **PE** | NPA5 | Officer wrestles with suspect | Garner et al., 1995 |
| **PF** | NPA6 | Officer places suspect against a wall | Internet video |
| **PG** | NPA7 | Officer performs control hold on the ground | Maxwell et al., 2004 |
| **PH** | NPA8 | Officer performs control hold to the wall | Through own observation |
| **PI** | NPA9 | Officer searches the suspect in sitting position | Through own observation |
| **PJ** | NPA10 | Officer searches the suspect while standing | Through own observation |
| **PK** | NPA11 | Officer pushes suspect to the ground | Through own observation |
| **With colleague** | | | | |
| **QA** | NPB1 |  | Officer taps colleague | Through own observation |
| **QB** | NPB2 | Officer hold shoulder of colleague | Through own observation |