

Bachelorthesis

Citizen participation in criminal investigation

Which factors have an influence on the intention of citizens to participate?

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Abstract

In the context of criminal investigations, information provided by citizen is crucial for the enlightenment of a crime. In recent decades, the benefits of cooperation between citizens and police are increasingly being exploited, and the nature of cooperation has also changed. In particular the digitalization has given rise to many new opportunities for citizens to become active to participate. To further promote the cooperation, the underlying factors of motivation are explored based on the Community Engagement Theory. Using an to the specific context adapted questionnaire, the psychological factors self-efficacy, response efficacy and empowerment were identified to exert an influence on the intention of citizen to participate in criminal investigation. In contrast to the CET, no significant influence of the factors affect, risk perception, trust and experience was found.

Introduction

The case of the two missing brothers Julian and Ruben in 2013 was close to many people, because a wave of helpful citizens tried to help the police in their search for the two little boys. For the first time, thousands of people helped during criminal investigation to find the two brothers (Van Duin & Wijkhuis, 2014). The active helper have used their time and skills via websites like Facebook and Twitter, but also with the help of certain apps. What was a sensation back then is no longer an isolated case today. The cooperation between police and citizens is becoming more and more frequent and intense. Although this collaboration has existed for centuries and is cultivated, a clear trend can be seen in recent years (Cornelissens & Ferwerda, 2010). Active citizenship is becoming an increasingly important topic in the police domain.

The cooperation between police and the citizen has so many benefits that the police is trying to involve more people in policing and to motivate them to actively help (Ayling, 2007). Above all, citizens offer capacity, time and scope, which gives the police more opportunities to utilize perceptual sources. With the help of many attentive citizens, it is far more likely that criminal activities will be perceived. Especially with the criminal investigation, citizens are the most important resource to solve a case effectively (Kop, 2016). The police is often dependent on the knowledge and ability of the citizens. The strongest advantage for the citizens regarding criminal investigation is probably the growing chances of an enlightenment of the crime (Cornelissens & Ferwerda, 2010). The various advantages show that the involvement of citizens in police investigations has great benefits for both sides. In order to benefit more from these benefits in the future, it is important to gain more insight on what motivates people to participate and help.

The fact that so many people were involved in the criminal investigation of Julian and Ruben and that citizens' initiatives have been increasing over the past few decades is primarily due to digitization (Van Duin & Wijkhuijs, 2013). The new technical possibilities offers so many new opportunities for people to collect or share important information regarding criminal cases (Van Land, Van Stokkom & Boutellier, 2014). Regarding criminal investigation, social media platforms as Facebook or Twitter offer for each individual citizen the possibility to carry out own research and to share information with the police. In turn, the digitalization also offers new opportunities for the police to cooperate with citizens. Social media offer the possibility to connect with large crowds and improve communication (Bertot, Jaeger & Hansen, 2011). It is possible to give information quickly and effectively to the

citizens and ask specific questions about a criminal case or to ask for help in general. Without digitization, intensive and effective cooperation between police and citizens would not be possible.

More and more citizens are involved in a variety of types of police work (Kerstholt & de Vries, 2018). The extent to which citizens are involved has changed in recent decades. The classic police work was pure top-down nature, without the active assistance of citizens (Kerstholt & de Vries, 2018). Arnstein (1969) first coined the term participation and developed a participation ladder (Kop, 2016). This ladder is a metaphor for the individual stages of citizens' involvement. The lowest level represents the classic top-down work. The higher the level, the higher the participation-level. The highest level of the ladder describes an equivalent co-operation between police and citizen. The citizens' growing initiative has increased the participation-level and allows the police to benefit from the assistance of the citizens. Citizens now also function as a fully fledged source of information and can help with advice and input. However, the top level of the ladder is still not reached and it is considered how to take even more advantage of the new possibilities (Kop, 2016).

In terms of criminal investigation, two dominant strategies have so far primarily been popular (Cornelissens & Ferwerda, 2010). On the one hand, the citizens are the eyes and ears of the police and thus in the position of an information provider. On the other hand, the police gives information about current or cold cases to the citizens, with the prospect of providing important information in order to be able to solve the cases. In order to make better use of citizen participation, there is the possibility to take another step on the participant ladder to involve the citizens more in the criminal investigation. For example, citizens can be coached to research and investigate on their own. The greater collaboration and, consequently, a higher level of participation will not only create new opportunities but also risks (Kerstholt & de Vries, 2018). Especially in the field of criminal investigation, there are various forms of risks. The inclusion of citizens during the detection process include risks such as falsifying or retaining of information, but also violating the privacy of others can be a problem. In order to take the advantages of cooperation while minimizing the risks as much as possible, it is necessary for the police to stimulate citizens' engagement, but also to manage the actions of citizens. To achieve this, it is important to understand what motivates citizens to help the police in criminal investigation. In order to reach an even higher level of citizenship participation during criminal investigation, the underlying factors that motivate people to take part in this initiative have to be investigated.

Psychological factors

In order to identify the underlying psychological factors, two behavioral models are consulted, that are focussed on the motivation of citizen to take action. The Protection Motivation Model (Rogers, 1983) or the Community Engagement theory (CET) (Paton, 2013) describe these factors. Paton formulates within the CET three different system levels: an individual, a social and an institutional level (Kerstholt, Duijnhoven & Paton, 2017). All three levels include various factors that affect human behavior. However, at present the CET has only been applied to natural hazards, whereas the present research focuses on individual citizen participation in crime, such as finding stolen goods. For that reason the community level is excluded, which places special emphasis on the sense of community. Thus, this research only concentrates on the individual and institutional level of the CET.

Individual level

The individual level involves three different factors. One of them is risk perception. This is about the perceived probability and consequences of a particular criminal event. Risk perception is not only affected by cognitions (perceived probability and consequences of the event) but also by affect (Slovic & Peters, 2006). Both dimensions have an influence on risk perception. Risk perception can predict the intention of the people to take action (Loewenstein, Weber, Hsee & Welch, 2001). In the context of participation in criminal investigations, this would mean that if people perceive the risk of becoming victims of criminal acts as high, they are more likely to participate. Another factor that is linked to risk perception is prior experience (Beckera, Paton, Johnstona, Ronand & McCluree, 2017). Direct experiences can have a strong influence on the decision of citizens to become active themselves.

The second factor at the individual level is self-efficacy. The term "self-efficacy" was introduced by Albert Bandura (1982) and describes the estimation of an individual, whether an action can be effectively performed by means of one's own abilities. Bandura defines the term as follows: "Perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations". With a high level of self-efficacy, individuals are convinced that they can initiate the required behavior by themselves. Self-efficacy a strong determinant for people regarding making the decision to take action (Bandura, 1977). If the level of self-efficacy of a citizen is low, the individual does not feel able to perform the required actions. This makes it therefore more likely that the

motivation is too low and the citizen makes no effort to perform the actions. Thus, self-efficacy seems to be a crucial factor in motivating people to work with the police.

The third factor is response efficacy. Response efficacy describes the assessment of an individual, whether a required action is useful and can lead to success (Kievik & Gutteling, 2011). If an individual is thinking that the action does not lead to the desired result, the response efficacy of the individual is low. This in turn seems to have an influence on the decision of the individual to take action. If individuals are not convinced that the action will lead to success, it is less likely that the citizen has the intention to participate.

Institutional level

The institutional level contains two different factors. The first factor is trust. When people are at risk or insecure, they turn to others for help and support (Paton, 2012). For example, the police is the first port of call when a citizen is robbed, but also when a worrying discovery is made in the neighbourhood, such as people inspecting and exploring conspicuous homes of strangers. In the context of criminal investigations, it is above all the police who can provide effective help. Trust is a cornerstone for citizen-police cooperation (Jackson & Bradford, 2010). The police are often asked for active help, but advice is also needed on how best to behave in certain situations. But if people have little trust in the police and in turn little trust in the advices, then there can be doubts about the police's competence and about the importance of the information and advices provided by the police (Paton, 2012). As a result, the police is no longer the first port of call. Consequently, the factor trust is of great importance in terms of how people can be motivated to take the provided information seriously and to follow advice. In order to build trust, the police not only has to show presence, also fairness and objectivity in action play a big role among the citizens (Hough, Jackson, Bradford, Myhill & Quinton, 2010). Only if the legitimacy of the police is recognized, people trust the police and are willing to help.

The second factor is empowerment. The term mainly deals with aspects such as power and control (Conger & Kanungo, 1988). In the context of participation in criminal investigations, empowerment means that citizens have a voice in the investigation and can influence the process of decision-making. It is up to the police to show citizens that they are taken seriously and that trust is based on reciprocity. According to the theory, it is much more likely that people are willing to participate if they regard the relationship with the police as fair and citizens get the feeling to contribute (Paton, 2013).

It becomes clear that there are several factors that may influence the motivation of citizens to cooperate with the police. In order to be able to use the many advantages effectively and thus to work on a more intensive cooperation between police and citizens, one has to understand what motivates the citizens and how this motivation can be further stimulated. In order to investigate this the research question is formulated as follows: Which factors have an influence on the intention of citizens to participate during criminal investigation?

Furthermore, several sub questions are formulated, to get even more insight. Consequently, the first sub question is: Which psychological factors influence the intention to participate?

The second sub question is: Does the experience of theft have an effect on the intention of the citizens to participate?

The third sub question is: Which motives are there that have a negative effect on citizens' intention to participate?

And the fourth and last sub question is: Which motives have an impact on citizens' intention to participate?

Method

Design

A quantitative measurement method was chosen because the aim of the study is to get more insight into various psychological factors that affect the intention of participants to participate in a crime investigation. A cross-sectional survey design is used. In doing so, the psychological factors affect, risk perception, self-efficacy, response efficacy, trust and empowerment, as well as the demographic factors age, nationality, gender and level of education are examined to investigate to what extent these have an influence on citizens' intention to assist in a criminal investigation.

Participants

Altogether 176 people participated in the study, of which 146 completed the questionnaire until the end. The number of men and women, who fully completed the questionnaire, are not evenly distributed. There are 70.6 ($SD=0.45$) percent of the participants female and only 29.4 percent are male. In general the participants have an average age of 21.58 ($SD=6.2$) years. The

youngest participant is 18 years old and the oldest one is 62 years old. Furthermore, 87.6 ($SD=0.36$) percent have a German nationality, while only 9.5 percent have a Dutch nationality. Four participants have another nationality. A non-representative convenience sampling is used, where the participants are chosen based on availability. The only criteria to take part in this study were a minimum age of 18 and good English language skills. 78.7 percent of the participants have English language level of upper intermediate and advanced. The participants were recruited via internet.

Material

All participants received the same introductory text (*see appendix 1*). It explained the topic and the purpose of the study. By means of various examples, it was explained what a participation in criminal investigation is and which facets it can have. It also reported that the questionnaire examines the various factors that influence the motivation of citizens to help. Furthermore, the course of the study was explained, for example how many questions the questionnaire contains and how these are structured. After reading the introductory text, the participants received an informed consent (*see appendix 2*) which informed about the nature and the aim of the study. Moreover, it was made clear that the participants could drop out of the study at any time without justification and that all collected data is treated anonymously. All participants filled out the same identical questionnaire (*see appendix 3*). The questionnaire is based on an already existing validated and reliable questionnaire about the topic of citizen participation, which was adapted to the specific context of criminal investigation and translated into English (Paton, 2013). Furthermore, questions were added because of the specific context and the goal of the study. It is based on the Community Engagement Theory, but the factors at the social level were taken out, as it is not relevant in this context. Accordingly, most questions are asked regarding the factors of the individual and institutional level. The statements in the questionnaire have the form of a Likert-scale with five response possibilities, ranging from totally disagree to totally agree. The following factors were included:

Intention

The factor intention asked for the kind of activities the participants would undertake if they became the victims of a theft. In total nine items were used, an example item is "Share information through social media" ($\alpha=.72$; $\lambda-2=.73$).

Affect

The factor affect focussed on the emotions of the participants. This scale consisted of three questions that examine the emotions, while the participants were thinking about the risk to become victim of theft. For example, one item states "I feel anxious". The other items asked about other emotions ($\alpha=.77$; $\lambda-2=.77$).

Risk perception

The factor risk perception measured the perceived risk. The participants should indicate how likely a described event is. To test this, three items were formulated, such as "That you will be the victim of criminal activities such as burglary or robbery?". For this scale α was .59 ($\lambda-2=.6$), which is quite low, but as removing one item did not increase the alpha-level, the mean of all items were taken as a measurement of risk perception.

Self-efficacy

This scale dealt with the factor self-efficacy. It included five items that asked the participants for the indication of the own ability to perform various activities regarding participation in criminal investigations ($\alpha=.56$; $\lambda-2=.59$). The alpha score is of .56 is lower than .7, the conventional standard for reliability. Also, deleting a item would not significantly increase the alfa value. Again, the mean values of the items were used for further analysis. An example statement of this scale is "I am able to gather information".

Response efficacy

The scale for response efficacy measured the extent to which the participants are convinced that the recommended actions actually help with the criminal investigation. Here are five statements that relate to the benefits of the own participation given to the participants, such as "I can make a good contribution to crime investigations" ($\alpha=.78$; $\lambda-2=.79$).

Trust

The fifth scale, that measured a psychological factor is titled "trust" and contains five statements. These address citizens' trust in the police and their competencies, such as "I trust that they have a lot of knowledge about criminal investigations" ($\alpha=.84$; $\lambda-2=.84$).

Empowerment

The last psychological factor is measured by the scale about empowerment. These statements focus on the perceived influence that participants can exert on criminal investigations. A statement reads "Perpetrators are caught sooner when I play an active role" ($\alpha=.75$; $\lambda-2=.76$).

The questionnaire consisted of 56 closed questions. In addition the participants were asked to assess nine different motives to cooperate with the police in a theft case, for example “I would participate because I can learn from a criminal investigation”. In addition, the participants were also asked to assess six more motives, that may have a negative effect on the intention to cooperate with the police. One example item is ” The time investment”. Lastly, there were four demographic questions, one question about language level and another one about experience with theft.

Procedure

The participants were recruited online. On the one hand, the questionnaire was distributed using the internet platform Sona, which gives only students at the university the opportunity to participate. On the other hand, the questionnaire was disseminated via an anonymous link, so that even people who are not students could participate in the study. First, the participant received the introductory text. After the participant was introduced, the informed consent was displayed. If the participant agreed, the questionnaire and thus the participation of the study began. Filling out the questionnaire took about 20 minutes. The questions and answer options were formulated in a clear way so that no ambiguity could arise. After the participant had answered all questions, a short final text followed, in which the participant was thanked. In addition, the possibility was shown that questions about the study could be asked to the researcher via mail. This procedure is very standardized, as all participants receive the same instructions and information, thus the researcher can not influence the participants and thereby falsify the results.

Data analysis

During the data screening, 30 participants were excluded from the analysis because the questionnaire was not fully completed. For each Likert-scale item, another participant only selected the middle answer option and was therefore excluded. Finally, the data set consisted of the data of 145 participants.

In order to be able to answer the research question including the associated sub questions, various statistical analyses were executed. First some descriptive analyses were done to get a general impression of the data collected. These include the calculated mean values for the individual factors in order to recognize how pronounced the psychological factors of the participants are on average. In order to gain more insight into which factors are correlated to

what extent, a bivariate correlation analysis was additionally performed. The Pearson correlation was calculated for each factor.

In order to answer the first sub question, it has to be examined which psychological factors have an influence on the intention of the people to participate in criminal investigations. A simple linear regression analysis was conducted to determine to what extent the mental factors predicted the intention of the participants to cooperate. The variable "intention" was defined as a dependent variable and the psychological factors as the independent variable.

In order to answer the second sub question, it was examined whether the experience of theft has an effect on the intention to participate in future. To answer this, an one-way ANOVA was conducted. For this purpose, the variable "intention" was specified as the dependent variable and the variable "experience" was the independent variable. All participants who had direct experience with theft build the first group, the participants who had indirect experience build the second and the participants who had no experience with theft build the third group. In addition, another one-way ANOVA was done with again the variable "intention" as dependent variable, but this time the independent variable was determined by whether the participant have ever reported a crime to the police or not.

To answer the third sub question, which other motives have a negative effect on the intention to participate, again a linear regression analysis was made. In order to identify the influencing factors, the individual items about the motives not to participate in criminal investigations are selected as the independent variables and the variable "intention" is selected as dependent variable.

In order to answer the fourth sub question, it was investigated which other motives have an effect on the motivation of humans. To investigate to what extent other motives influence the intention of the participants, again a linear regression analysis was done. The items regarding the motives to participate in criminal investigations were defined as independent variables and the variable "intention" was defined as dependent variable.

Results

In order to gain insight into the underlying factors of participants' motivation, various statistical analyses were done, the results of which are described below. A descriptive analysis was made to give a general impression of the results of the survey (see Table 1). If one

compares the means of each scale, it is noticeable that they are quite similar. The mean values for each scale are between $M = 2.11$ ($SD = 0.73$) and $M = 3.06$ ($SD = 0.77$). In order to take a closer look at the correlation among all factors a correlation analysis was done (see Table 1). Significant results were found. In the context of this study, above all, the significant correlations of the individual psychological factors and the variable “intention” are important. The variable “self-efficacy” $r = .27, p < .001$, “response efficacy” $r = .34, p < .001$, “trust” $r = .18, p < .05$ and “empowerment” $r = .33, p < .001$ have a significant correlation with “intention”. Unexpectedly, it is noticeable that the variables “affect” and “risk perception” have no significant correlation. In addition, some of the psychological variables are also significantly correlated with each other, notably the variable “affect” have a positive correlation with the factors “risk perception” $r = .21, p < .05$ and “empowerment” $r = .23, p < .01$. In addition, positive correlations regarding the factor “self-efficacy” were found, with the two factors “response efficacy” $r = .27, p < .01$ and “trust” $r = .17, p < .05$. With respect to the variable “empowerment” two more correlations were found, with the factor “response efficacy” $r = .5, p < .01$ and “trust” $r = .4, p < .01$.

Table 1

Pearson’s correlation, mean and standard deviation per scale

	<i>M</i>	<i>SD</i>	<i>I</i>	<i>A</i>	<i>RP</i>	<i>S</i>	<i>RE</i>	<i>T</i>	<i>E</i>
Intention (<i>I</i>)	2.57	0.62	-						
Affect (<i>A</i>)	2.67	0.97	.09	-					
Riskperception (<i>RP</i>)	2.75	0.8	.11	.21*	-				
Self-efficacy (<i>S</i>)	2.28	0.55	.27**	.15	.1	-			
Response efficacy (<i>RE</i>)	2.76	0.6	.34**	.14	.04	.27**	-		
Trust (<i>T</i>)	2.11	0.73	.18*	.12	.1	.17*	.1	-	
Empowerment (<i>E</i>)	3.06	0.77	.33***	.23**	.01	.13	.5**	.4**	-

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; *M*=mean; *SD*=standard deviation

In order to answer the sub-questions and thus the research question, different analyses were carried out per sub-question. To answer the first sub-question, a regression analysis was done (see Table 2). Altogether, the psychological factors explained 19.1 % of the variance in the intention scores ($F(6, 144) = 5.48, p < .001$). It was found that only two variables predicted the variable "intention", "self-efficacy" ($\beta = 0.18, p < .05$) and "empowerment" ($\beta = 0.21, p < .05$) and self. This means that participants with higher self-efficacy and who felt more empowered had a higher intention to participate in a crime investigation. Thus, people who are convinced that they can handle the required actions and who think that they can exert an influence on the course of investigation and are convinced that the own opinions are taken seriously, are more inclined to participate than people who doubt it. In addition, the variable "response efficacy" is marginally significant ($\beta = 0.18, p = .052$), which means that if the participant perceives a participation as useful and effective, it will have a positive effect on the intention to participate.

Table 2

Beta-weights and p-value per scale

	Affect	Risk perception	Self-efficacy	Response efficacy	Trust	Empowerment
β -weights	-0.03	0.09	0.18	0.18	0.04	0.21
p -value	.683	.268	.028	.052	.660	.031

To answer the second sub question, two ANOVA were conducted. Unexpectedly, no significant results were found. People with direct or indirect experience and people without experience do not differ significantly on the levels of intention, $F(2, 143) = 1.88, p = .156$ (see Figure 1). Similarly, people who reported a crime had a mean value, that is not significantly different from those without experience, in terms of the intention to participate, $F(1, 144) = 0.02, p = .891$ (see Figure 2).

Figure 1.

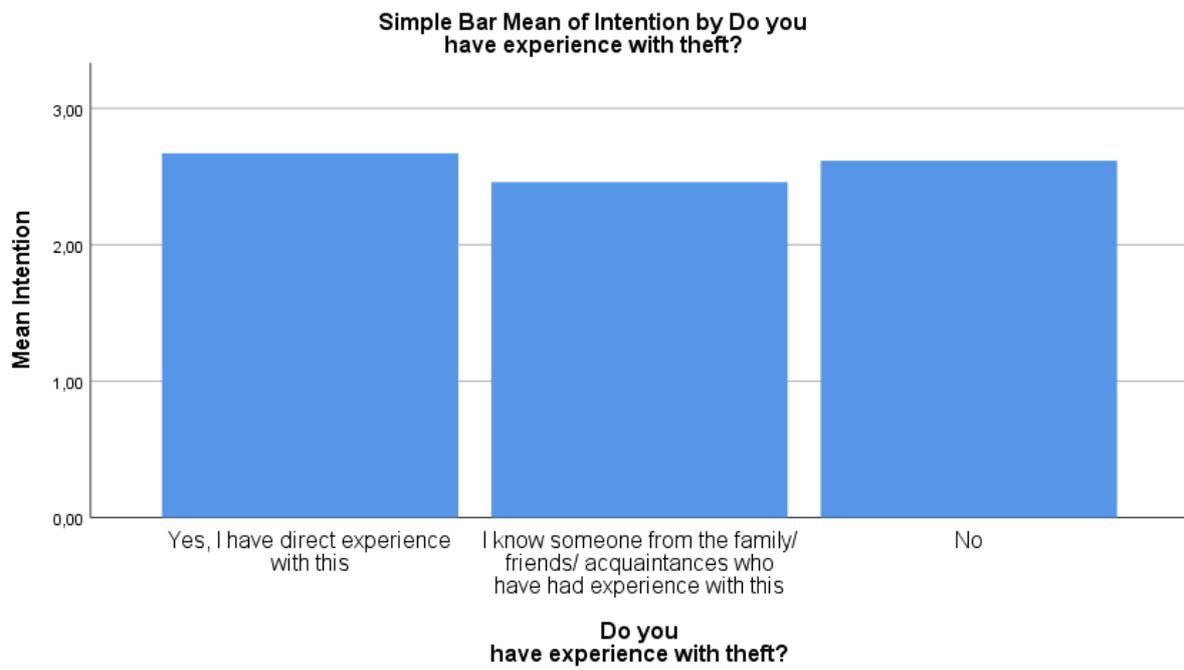
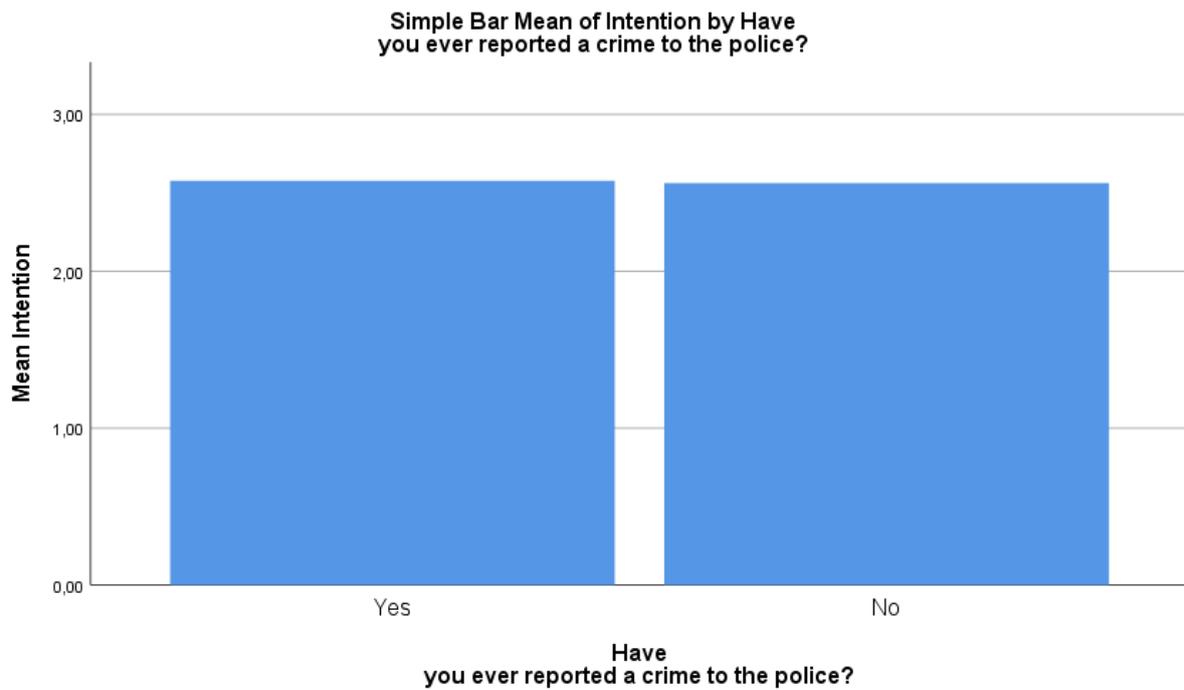


Figure 2.



In order to give an answer to the third sub-question, the mean values per motive were calculated. It becomes clear that possible financial costs $M=2.95$ ($SD=1.14$) as well as the opinion that a participation is not their responsibility $M=3.05$ ($SD=1.12$) are the motives that would most deter the participants from a cooperation. The time investment $M=2.25$ ($SD=1.01$) and that perceived absence of the necessary skills and knowledge $M=2.45$ ($SD=1.05$) seem of less important to the participants. Overall, however, it remains to say that the mean values are generally quite close to each other (see table 3). Furthermore another regression analysis was done (see table 3). It was found that only one variable of the five variables of the motives significantly predict the variable “intention”. Thus, the possible financial costs ($\beta=0.11$, $p<.05$) associated with a participation, is a reason not to cooperate with the police. The other four motives are not significant predictors of the intention of the participants. The regression model in general does not have statistical significance to predict the factor “intention” ($F(6, 144) = 1.53$, $p = .173$).

Table 3

Mean, standard deviation, β -weights and p-values per motive to not participate

	Costs	Time	Negative consequences	Other	Skills	Responsibility
<i>M</i>	2.95	2.25	2.80	2.70	2.45	3.05
<i>SD</i>	1.14	1.01	1.18	0.96	1.05	1.18
<i>β-weight</i>	0.11	0.01	0.03	-0.05	-0.02	-0.07
<i>p-value</i>	.021	.874	.569	.369	.755	.153

Notes: *M*=mean; *SD*= standard deviation

To answer the fourth sub-question another regression analysis was executed (table 5). In terms of the means, it is striking that especially the conviction that the police cannot do it alone, as well as the opinion that everyone is responsible for finding their own stolen goods back, are motives to cooperate. Getting the stolen items back as soon as possible $M=1.68$ ($SD=0.94$) and finding the offender $M=2.11$ ($SD=1.08$) are less relevant to the participants. Regarding the regression analysis none of the nine motives significantly predicts the intention of the participant. Furthermore the used regression model had no statistical significance to predict the factor “intention” ($F(9, 144) = 1.81$, $p = .073$).

Table 4*Mean, standard deviation, β -weights and p-values per motive to participate*

	Learning	Stuff back	Fun	Responsibility	Police	Justice	Find Perpetrator	Punish Perpetrator	Curious
<i>M</i>	2.54	1.68	2.79	2.98	3.16	2.15	2.11	2.44	2.26
<i>SD</i>	1.11	0.94	1.25	1.14	1.21	1.11	1.08	1.11	1.03
β -weight	.10	-.02	.09	-.03	-.01	.07	.05	.01	-.06
<i>p</i> -value	.057	.716	.073	.501	.858	.293	.481	.884	.345

Notes: *M*=mean; *SD*= standard deviation

Discussion

Based on the conducted results, the research questions can now be answered. The quantitative analysis indicates that the psychological factors self-efficacy, response efficacy and empowerment predict the intention to help with criminal investigations. Regarding self-efficacy it means that the more people have a feeling of having the necessary abilities, the higher the intention of the person to participate in criminal investigations. The marginally influence of response efficacy shows the more people have a feeling that the participation has many benefits, is useful and effective, the higher is the level of intention. The factor empowerment describes the feeling of having influence on the investigations and that they are taken seriously by the police, which promotes the intention to cooperate. Furthermore, it has been found that these psychological factors only explain a small part of the variance of people's intention.

Additionally, the results imply that the factor of experience has no significant effect on motivation. As a result, it does not matter if a person has already become a victim of theft, knows someone in the social environment who has been robbed or has never gained experience in this area, because this does not affect the motivation to participate in the criminal investigation. Likewise, the fact that one has already made a report of a crime, had no effect on the intention. As explained in more detail later, this can be due to the different context in this study. The Community Engagement Theory (Paton, 2013) deals with the topic of self-protection measures regarding natural hazards. Maybe the factor of experience is less relevant in terms of criminal actions, especially theft.

In comparison with the existing literature, both matches and differences can be seen. Most of the influences of the psychological factors described by the CET are partly supported by the findings of this study. The factors self-efficacy, response efficacy and empowerment predict the intention of the citizen to participate in criminal investigations. In contrast to previous research, the results do not show a predicting connection between affect, risk perception and trust and the intention of people to cooperate. Similarly, the factor experience has no effect on the intention of the people, as explained in existing literature (Paton, 2008). The results also imply that there are many factors that affect motivation but were not or not correct addressed in this study. As a result, there are more factors that influence the motivation of people that are not studied in this research. In addition, attempts were made to find other motives that have an impact on intention, but there were no significant findings, what implies that the psychological factors can better predict the intention of the citizen to participate than other motives.

In order to be able to evaluate the correctness of the results, first the positive and negative aspects of the research are collected. The standardized method of research is a strong point of the study. This makes the study easily reproducible and also avoids errors due to the influence of the researcher. Another strong point are the mainly high Cronbach's alpha and Guttman's Lambda-2 scores. This supports the assumption that the results are found to be reliable and thus one can draw correct conclusions on it.

In addition to the positive aspect, there are limitations of the study. A negative point is the poor distribution of gender, nationality, educational level and age. Mainly females and German people who have an age between 18 and 22 years participated in this study. As a consequence, the results are not representative for the general population. Another weak point is the translation and adaptation of the questionnaire. Due to the specific context of criminal investigations, the questionnaire had to be adapted to a large extent. Not only items have been reformulated, items also have been deleted and new ones have been added. Furthermore, the entire community level of the CET was omitted. This and also the fact that the questionnaire has been translated from Dutch into English can lead to errors in content. These adjustments could explain why only a small proportion of the factors actually affecting citizens' intention have been identified.

Due to the positive and negative aspects of the study, below are suggestions for a future study. A first improvement could be a pilot test, since the results imply, that there are more influencing factors than identified and the fact that the questionnaire was so heavily modified. A pilot test will ensure that the questionnaire is pre-tested so that errors can be

corrected and improvements can be made. Furthermore, a cross-check of the translation should take place in order to protect against content errors and may solve the problem with the significance of the regression analysis. Another improvement should be a sample, which has a better distribution of gender, age, educational level, and nationality. This will have a positive effect on the representativeness of the results. One last but essential improvement could be the addition of qualitative data. For example, standardized interviews could be used to gain even more insight into the underlying factors of motivation that were not identified in this study, in terms of the specific context. Thus, other factors and other motives could be identified which can subsequently be included in questionnaires.

In terms of its importance to science, it can be concluded that the results demonstrate only partly support for existing theories, such as the CET and does not identify any significant new findings. Since the results of this study deviate in some respects from the results of existing literature, more studies should be carried out in the specific context of participation in criminal investigations, in order to be able to assess the correctness of the results. The differences between the results and existing research raise the question of whether it is due to the new specific context or due to the quality of the questionnaire. While the results may convey a global impressions of the factors that motivate people to participate with criminal investigations, more research should be done in this area to provide representational results and conclusions. In terms of its importance to the society, this study offers some relevant information. Due to the fact that the three important predictors of intention self-efficacy, response efficacy and empowerment have been identified and that the police wants to support the cooperation between police and citizen (Ayling, 2007), relevant recommendations can be made. Accordingly, the police should make clear to citizens, how important the help of the citizen is and how it contributes to criminal investigations. In addition, possible activities of participation should be brought closer to the citizens and, at the same time, citizens should be supported in the correct execution of these actions by the police. In order not to sacrifice the time of the police with this, for example, an app or a brochure can help the citizen in properly performing the actions. Furthermore, the police should convey the feeling that every single citizen's assistance is taken seriously and that it is important for the course of the investigation. This could be achieved, for example, by keeping citizens up to date via social media and asking for citizens' opinions.

References

- Ayling, J. (2007). Force multiplier: People as a policing resource. *International Journal of Comparative and Applied Criminal Justice*, 31(1), 73-100.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological review*, 84(2), 191-215, doi: 10.1037/0033-295X.84.2.191
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, 37(2), 122-147, doi: 10.1037/0003-066X.37.2.122
- Becker, J. S., Paton, D., Johnston, D. M., Ronan, K. R., & McClure, J. (2017). The role of prior experience in informing and motivating earthquake preparedness. *International journal of disaster risk reduction*, 22, 179-193, doi: 10.1016/j.ijdr.2017.03.006
- Bertot, J. C., Jaeger, P. T., & Hansen, D. (2012). The impact of polices on government social media usage: Issues, challenges, and recommendations. *Government information quarterly*, 29(1), 30-40, doi: 10.1016/j.giq.2011.04.004
- Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating theory and practice. *Academy of management review*, 13(3), 471-482, doi:10.5465/amr.1988.4306983
- Cornelissens, A., & Ferwerda, H. (2010). Burgerparticipatie in de opsporing. *Politie & Wetenschap*. 30
- Hough, M., Jackson, J., Bradford, B., Myhill, A., & Quinton, P. (2010). Procedural justice, trust, and institutional legitimacy. *Policing: a journal of policy and practice*, 4(3), 203-210, doi: 10.1093/police/paq027
- Jackson, J., & Bradford, B. (2010). What is Trust and Confidence in the Police?. *Policing: A journal of policy and practice*, 4(3), 241-248, doi: 10.1093/police/paq020
- Kerstholt, J. H., & Vries, A. D. (2018). Agent in burger.
- Kerstholt, J., Duijnhoven, H., & Paton, D. (2017). Flooding in The Netherlands: How people's

interpretation of personal, social and institutional resources influence flooding preparedness. *International journal of disaster risk reduction*, 24, 52-57, doi: 10.1016/j.ijdrr.2017.05.013

Kievik, M., & Gutteling, J. M. (2011). Yes, we can: motivate Dutch citizens to engage in self-protective behavior with regard to flood risks. *Natural hazards*, 59(3), doi: 10.1007/s11069-011-9845-1

Kop, N. (2016). Burgerparticipatie in de opsporing: kunnen we een treetje hoger?. *Tijdschrift voor de Politie*, 78(7), 27-30.

Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological bulletin*, 127(2), 267-286.

Paton, D. (2013). Disaster resilient communities: developing and testing an all-hazards theory. *IDRiM Journal*, 3(1), 1-17.

Slovic, P., & Peters, E. (2006). Risk perception and affect. *Current directions in psychological science*, 15(6), 322-325, doi: 10.1111/j.1467-8721.2006.00461.x

Van Duin, M., & Wijkhuijs, V. (2014). *Lessen uit crises en mini-crisis 2013*. Den Haag: Boom Lemma.

Van der Land, M., Van Stokkom, B., & Boutellier, H. (2014). *Burgers in veiligheid: een inventarisatie van burgerparticipatie op het domein van de sociale veiligheid*. Vrije Universiteit-Faculteit der Sociale Wetenschappen.

Appendix

1) Introduction questionnaire

Dear Participant!

I'm a student at the University of Twente and conduct a research as part of my Bachelor's thesis. This is about citizen participation during criminal investigations. Citizens are increasingly deployed to support the police in solving criminal cases. This may involve reporting criminal activities, but citizens can also take the initiative themselves, for example, citizens can look for a missing person or goods via internet and social media. There are many different ways to work with the police during criminal investigations. The police would like to link up as closely as possible with such citizens' initiatives. To be able to do this well, insight is needed into the motives that citizens have to take action. In this questionnaire, the main focus is on getting active themselves after a theft. There are mainly questions about the motivation of citizens to participate. In addition, some demographic questions are asked to gain more insight. Completing the questionnaire will take no more than 20 minutes. You will often be asked to indicate to what extent you agree with a statement. This questionnaire is not intended to test you personally, the focus is on gaining more insight into the motivation of citizens and then drawing conclusions about how cooperation between police and citizens can be promoted. After reading the introduction, you will be asked to carefully read and sign the informed consent before you can complete the questionnaire.

2) Informed Consent

Informed consent

Title research: Citizen participation in criminal investigation

Responsible researcher: Janka Langhorst and José H. Kerstholt

I declare that I have been informed in a clear manner about the nature, method and purpose of the research. I know that my data and results of the research will only be stored anonymously and confidentially processed and made known to third parties. I am aware that I have the opportunity to ask questions about the research via e-mail and that I can get a summary of the research findings on request.

I voluntarily agree to participate in this study. I hereby reserve the right to stop my participation in this research at any time without giving any reason. This has no negative consequences for me.

3) Questionnaire

Can you indicate how you feel if you currently think of the risk that someone might steal something from you?

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I feel anxious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel restless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel worried	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you have experience with theft?

- Yes, I have direct experience with this
- I know someone from the family/ friends/ acquaintances who have had experience with this
- No

Have you ever reported a crime to the police?

- Yes
- No

If people become victim of theft, they can have various reasons to participate in the criminal investigation themselves. Could you indicate to what extent you agree with the following statements

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I would participate because I can learn from a criminal investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate because I want to have my stuff back as soon as possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it would be fun to participate in criminal investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think you are also responsible yourself for finding your stuff back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police cannot do it alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate because I want justice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate because I want to find the perpetrator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate because I want the perpetrator to be punished	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate because I am curious what had happened	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely do you think it is,...

	Extremely likely	Somewhat likely	Neither likely nor unlikely	Somewhat unlikely	Extremely unlikely
That you will be the victim of criminal activities such as burglary or robbery?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That your bike will be stolen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That someone will break into your house?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

There are various possibilities to help the police during criminal investigations and to carry out investigative actions yourself. To what extent do you agree with the following statements regarding these activities?

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I am able to gather information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to give the information to the police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to search the internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to gather information in the neighborhood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to do research at the crime scene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

People can have different opinions about the usefulness of investigative actions. To what extent do you agree with the following statements?

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I can make a good contribution to crime investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The information I provide is useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The research I do will speed up the investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My input will enhance the criminal investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My actions will lead to a better outcome of the investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Cooperation with the police is of great importance in the investigation of perpetrators and goods.
 Can you indicate to what extent you agree with the following statements?

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I trust that the police will take my needs into account	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust that the police has a lot of knowledge about criminal investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust that the police will take adequate measures if I report a crime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust that the police will inform me in time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust that the police will give me the right advice on what I can do myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

People can do more or less in a criminal investigation on their own. Can you indicate to what extent you agree or disagree with the following statements?

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I can influence what happens in a criminal investigation case	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perpetrators will be caught earlier when I play an active role	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police takes my opinion seriously	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The police likes to work with me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You could do the following activities with the assistance of the police within a criminal investigation. Can you indicate for each of the activities to what extent you intend to do it if you were a victim of theft?

	Definitely will	Probably will	Might or might not	Probably will not	Definitely will not
Research at the crime scene	<input type="radio"/>				
Research in the neighborhood	<input type="radio"/>				
Gather witness statements	<input type="radio"/>				
Share information through social media	<input type="radio"/>				
Create a composition drawing	<input type="radio"/>				
Research on the internet	<input type="radio"/>				
Reconstruct place and time	<input type="radio"/>				
Take photos/videos	<input type="radio"/>				
Keep a logbook	<input type="radio"/>				

There may be several reasons why people do not participate in a criminal investigation. Can you indicate to what extent the following factors prevent you from participating

	Very much	To a large extent	Reasonably	Barely	Not at all
The financial costs	<input type="radio"/>				
The knowledge or skills that are required	<input type="radio"/>				
The time investment	<input type="radio"/>				
It is not my responsibility	<input type="radio"/>				
Fear of negative consequences/ reprisals	<input type="radio"/>				
Other things that occupy me	<input type="radio"/>				

What is your gender?

- Male
- Female

What is your level of education?

- None
- MBO
- HBO
- Abitur
- Realschulabschluss
- Hauptschulabschluss
- Scientific
- Other

What is your nationality?

- Dutch
- German
- Other

What are your English skills?

- Elementary (A1, A2)
- Intermediate (B1)
- Upper intermediate (B2)
- Advanced (C1)
- Proficient (C2)

Thank you for your participation in the study! The research focuses on the motivation of citizens to cooperate with the police in investigations. It tries to identify citizens' considerations in order to promote cooperation. If you have any questions about the research, you can ask them by sending an e-mail to j.langhorst@student.utwente.nl.