MASTER THESIS

Citizen investigation: the role of emotions and need for cognition

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Abstract

Citizen participation is characterized by the cooperation between the police and citizen. Citizen participation rapidly grew in recent years and the next step would be to enable and encourage citizens to conduct their own criminal investigation, i.e., citizen investigation. It comes along with different benefits and risks and the police is responsible to provide appropriate guidance. To enhance the police's support, two factors underlying someone's engagement in a citizen investigation are explored; emotions and need for cognition. Participants were randomly assigned to an angry condition or happy condition and divided by their level of need for cognition. The experiment measured the influence of emotion and need for cognition on how participants chose guidelines to help them find and retrieve their stolen bike. The guidelines were divided into three different categories, i.e., useful links, information only and instructions. The effort someone has to put in using the types of guidelines increases from low to high. It was found that need for cognition influenced the number of guidelines selected, and both factors influenced the type of guidelines. Angry people more often selected a link, which provided them directly information about their stolen bike. Those high in need for cognition selected more guidelines in general and in particular more instructions. These people tend to acquire more information to fulfil their knowledge gap. To conclude, everyone processes information differently due to multiple influences and therefore risk-reducing guidelines might get missed by citizens. There is no one size fits all solution and ideally the police should provide personalized guidelines. However, with the tremendous number of stolen bicycles a day, this might be an impossible task. Thus, to provide proper guidance it is for the Dutch police important to determine the risks they want to raise awareness of and subsequently explore a compromise between personalized guidelines and the current guidelines (equally for everyone).

Introduction

Two recent missing person cases in the Netherlands showed an unprecedented involvement of people trying to help the police. During the search for the two missing brothers Julian and Ruben in 2013, hundreds of people came together to search and thousands of people spread information on the social media channels. This occurred again during the case of Anne Faber in 2017, where people also gathered to organize search parties in cooperation with the police. These circumstances during which the police cooperates with citizens can be described as citizen participation and is seen more and more in different domains (Kerstholt & de Vries, 2018). A citizen has always been an important link in the police domain, for example as a witness. However, over the past decades this involvement has been changed due to developments such as digitization, new means of communication, and individualization (Cornelissens & Ferwerda, 2010). To date, citizens have found their way and became an important link in a domain in which the government initially only had authority. This change is mainly due to the fact that citizens can easily access information. Besides, the flow of information has changed from one-sided (police to citizens) to two-sided, whereby the police approach citizens and ask them to provide any useful information (Kop, 2016).

The cooperation between police and citizens entails multiple benefits, such as an extended range of information and more manpower. This can result in a more efficient and quicker way of solving cases (Kop, 2016). One example is the story of a woman who, due to an Amber alert, spotted a little girl who was abducted (Sowers, 2016). Because of the benefits of the cooperation, the police is actively encouraging people to participate (Ayling, 2007). Examples are actions that don't need specialized training such as general surveillance, sharing concerns or thinking along in current cases (Kerstholt & de Vries, 2018). One step further in citizen participation is to enable and encourage citizens to conduct their own criminal investigation (hereafter: citizen investigation). When someone becomes a victim of a crime s/he can build a file and present this to the police. This file will entail the citizen's own findings on the crime from for instance an internet search or research in the neighbourhood.

Despite all positive consequences of citizen participation risks are involved as well. These risks may relate to citizens or the investigation (Kerstholt & de Vries, 2018). As mentioned above, citizen participation can result in an investigation in which people are going to collect the evidence themselves. When collecting evidence the citizen is not as tied to the law as the police, meaning that the chance on privacy violation is more substantial (Brinkhoff, 2018). On the other hand, the citizen could be harmed when asking questions and someone

does not want to answer (Kerstholt & de Vries, 2018). Kop (2013) describes that one of the biggest risks, related to the investigation, is the citizen's accidental destruction of tracks. A step further is the publication of the suspects' names or pictures on the internet which can lead to intimidation and threat. Brinkhoff (2018) states that in a citizen investigation truth finding may not be the central drive. The consequence of other motives is that someone could take the law in their own hands.

Another issue is that the information a citizen provides could not be right or unreliable. Kerstholt and de Vries (2018) argued that because a citizen is not trained, there could be a problem with interviewing, documenting information or being biased. An example of being biased is the problem of the confirmation bias. When the citizen is also the victim, s/he might be in a higher emotional state (such as angry or sad) than a police officer. Therefore, the citizen could already have some assumptions about the suspect and look for everything in the interview that confirms those thoughts (Nickerson, 1998). To conclude, on the one hand citizen investigation involves risks that the police has to manage by for example providing directives. On the other hand, citizen investigation has many benefits and the police should continue with motivating citizens to participate.

To optimize the police's efforts to enhance and manage citizen participation it is necessary to understand what motivates someone to engage in a citizen investigation and how a specific investigation is being conducted. There have been multiple studies about the citizen's motivation to engage (Fischer & Poland, 1998; Pattavina, Byrne, Garcia, 2006; Tyler & Fagan, 2008; Hinds, 2009; Choi & Lee, 2016; Leroux & McShane, 2017; Schreurs, Kerstholt, de Vries, & Giebels, 2018), whereas studies on the citizen's motivation during an investigation are underexposed. Therefore, this study's focal point will be on the strategies citizens use when executing a citizen investigation with the help of the pilot 'Geef mijn fiets terug!' ('Give my bike back!') started by the Dutch police. This can be seen as a directive provided by the police to manage risks as mentioned above. The pilot can be accessed via a website and entails guidelines for doing a criminal investigation yourself and possibly find the bike back. The risk management is incorporated in different ways across several guidelines. For example, through the guideline finding witnesses via social media, the risk awareness is embedded under the heading *beware*. Where it is described that it is a criminal offense to distribute images of the suspect. Based on this, the following research question is formulated: Which factors have an influence on the citizen's execution of a criminal investigation using these guidelines?

Theoretical framework

As mentioned above, this study will use guidelines provided by the Dutch police and therefore the concepts of seeking and processing information will be addressed first. Seeking information is a process that starts when a citizen acknowledges that s/he needs more information (Kuhltau, 1991). The guidelines provide a lot of information which the citizen has to navigate through and use for their citizen investigation. In this information-seeking process the citizen will analyse the available information and make an assessment. This assessment provides them with a feeling of confidence in an uncertain situation (Scacco & Muddiman, 2019). Information processing can be explained by two broadly similar models: the Heuristic-Systematic Model (Chaiken, 1980) and the Elaboration Likelihood Model (Petty & Cacioppo, 1981). The essence of both models is that people process information in two ways: a slow but high in effort systematic/central way or a fast but low in effort heuristic/peripherical way (Smith & DeCoster, 2000). According to Bohner, Chaiken, and Hunyadi (1994) the crucial difference between the two is the assumption of how the routes are related to each other. The HSM assumes that both ways of processing can coexist and complement each other. In contrast, the ELM assumes that if the presence of factors for choosing one route increases, the factors for choosing the other route decreases. Because this study examines multiple factors at the same time, the Heuristic-Systematic model will be further elaborated.

The systematic way involves an approach in which someone is attempting to understand information as complete as possible through diligent attention, serious thinking, and reasoning. The conclusion of this will be used to guide ensuing actions. It is a process that needs a high level of mental effort. Therefore someone should have the opportunity to devote the attention needed for processing and be motivated to devote that attention (Chaiken & Ledgerwood, 2011). The heuristic way costs less mental effort and is not as dependent as the systematic route, i.e., being able and motivated. It is a process that occurs almost completely automatically because the person relies on heuristics. A heuristic can be seen as a mental shortcut that helps with decision making using minimal effort. Heuristic processing starts when someone is noticing cues when the information is provided (for example the provider is an expert). The cues are connected to heuristics which in turn guide the ensuing actions (Chaiken & Ledgerwood, 2011).

Multiple factors influence the way of processing information. One factor is the need for cognition. It can be defined as a person's tendency to participate in and appreciate activities that demand thinking (Cacioppo & Petty, 1982). According to Williams-Piehota,

Schneider, Pizarro, Mowad, and Salovey (2003) people with different levels of need for cognition process information differently. Those high in need for cognition tend to follow the systematic way when processing information, whereas someone low in need for cognition tends to rely more on heuristics. Another factor that influences information processing is the presence of emotions. Bodenhausen (1993) describes that anxiety and anger cause people to rely on the heuristic way of processing information. These emotions are accompanied by an increase in physiological responses, such as blood pressure and arousal. The responses may reduce someone's cognitive capacity, leading to choose a less demanding strategy of information-processing, such as the heuristic route. In contrast, sadness leads people to adopt a more systematic way of processing information. Because sadness does not elevate physiological manifestations, there is an opportunity for following the more cognitive demanding way, i.e., the systematic route. The following question is how emotions and need for cognition influence the process of a citizen investigation.

Emotions

Harkness and Hitlin (2014) have shown that when someone's sense of morality is negatively affected, emotions can influence further decision making. Morality can be seen as a societal belief of behavior or actions as either good or wrong. A situation by which someone's property, such as a bicycle, is stolen can evoke a feeling of moral wrongdoing (Haidt, 2012). According to Haidt (2012), when moral values are breached certain emotions are instigated, for instance anger. The function of these emotions is twofold (Harkess & Hitlin, 2014). First, it appears when there is moral wrongdoing and someone needs an indicator whether the action is acceptable or not. Second, the overt emotions may let others realize their violating behavior and alter it in the future. According to Rozin, Lowery, Imada, and Haidt (1999) feeling anger is most common when the ethics of autonomy are breached, which includes actions like stealing.

For this reason, the influence of the emotional state of anger will be investigated in this study. According to Loewenstein and Lerner (2003), the consequences of feeling angry can be seen in the way citizens act in a given situation. For example, anger enhances a person's perception of new circumstances as predictable and entirely controlled. This can result in a feeling of invulnerability which relates to underestimating the risk of a new situation (Lerner & Keltner, 2000). This is in line with Yang et al. (2017), who also have shown that anger causes an underestimation of risks. Therefore when someone experiences anger s/he will pursue goals without a second thought. This feeling of control might derive

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from the sense of certainty associated with anger (Lazarus 1991a). The person's feeling of being certain refers to what happened, the cause of the angriness, that the blame is on someone else, and that s/he can do something about the situation. Thus, when using guidelines (characterized by providing advice) anger might lead to selecting less than usual. Because a citizen is convinced by the anger s/he has everything under control and therefore does not need any advice in the situation. In turn, this can result in that the guidelines might feel unnecessary and are not used to their fullest extent.

Another effect of anger on decision making is that someone is more willing to undertake action-oriented measurements (Litvak, Lerner, Tiedens, & Shonk, 2010). Related are the statements of Lambert, Eadeh, and Hanson (2019), stating that when there is moral wrongdoing anger causes us to undertake action because justice has to be restored. Other research found that because angry people rely on heuristics, they do not think seriously about other possibilities (Lerner, Goldberg, & Tetlock, 1998; Tiedens & Linton, 2001) and they are eager to undertake action without deliberately analysing (Harmon-Jones, Sigelman, Bohlig & Harmon-Jones, 2003; Mackie, Devos, & Smith, 2000). Thus, it is more likely that an angry citizen chooses guidelines that, while relying on heuristics, come across as action-oriented.

Need for cognition

As mentioned above need for cognition can be defined as a person's tendency to participate in and appreciate activities that demand thinking (Cacioppo & Petty, 1982). These activities can take place across a variety of daily situations. A person high in need for cognition is more likely to acquire information to make sense of the situation in a logical way, whereas one low in need for cognition lacks this motivation to put mental effort in filling a knowledge gap (de Holanda Coelho, Hanel, & Wolf, 2018). Therefore, in a citizen investigation it is likely that one high in need for cognition chooses more guidelines to understand the situation than one low in need for cognition. Additionally, someone high in need for cognition will specifically select guidelines that require more cognitive demanding thinking.

Current research

At the present day, there is a gap in knowledge concerning citizen's motivations when conducting a criminal investigation themselves. The importance of acquiring this knowledge finds its way in the many benefits accompanied by different risks of citizen investigation. Because the police is responsible for guiding citizens in this process, it is valuable to know

how citizens execute such an investigation and the effect of different factors. By providing directives to guide citizens and minimize the risks, the police can use information from research to make these as efficient as possible. Thus, the aim of this study is to examine the influence of two different factors on executing a citizen investigation using the police's guidelines. The expectation is that the factors angriness and need for cognition will influence how citizens use the guidelines during a criminal investigation. The following research question is formulated: Do angriness and need for cognition have an influence on the citizen's execution of a criminal investigation using guidelines? For more insight the next hypotheses have been formed:

Hypothesis 1: an angry citizen will select fewer guidelines in general during a citizen investigation than a happy citizen.

Hypothesis 2: an angry citizen will select more action-oriented guidelines during a citizen investigation than a happy citizen

Hypothesis 3: a citizen high in need for cognition will select more guidelines in general during a citizen investigation compared to a citizen low in need for cognition

Hypothesis 4: a citizen high in need for cognition will select more guidelines that require a higher mental effort during a citizen investigation compared to a citizen low in need for cognition.

Method

Design

The study used a 2-factor design with one between-participants factor that has been manipulated, i.e., anger and one between-participants factor that has been measured by performing a median split, i.e., need for cognition. A survey is used for measuring the psychological factors emotion, self-efficacy, response efficacy, as well as demographic data such as gender, age, and level of education.

Participants

In total there were 71 people that participated in the study. 33 did not complete the questionnaire to a level that can be used. The thirty-eight adults (15 women, 23 men) who did accomplish the questionnaire until the end had the age between 21 and 63 years. They were

randomly assigned to the two different experimental conditions: 19 in the angry approach and 19 in the happy approach. The participants were recruited by asking the author's acquaintances and online using the Sona System of the University of Twente.

Material

The introductory text included information such as an explanation about citizen participation in the police domain and the goal of the current study. Additionally, an informed consent is used which made it clear that participation is voluntary and that someone could stop the study at any time without negative consequences. Besides, it was emphasized that all answers are treated anonymously and that only the group's averages are analysed (see Appendix A). In the angry condition a video was used which showed a small fragment (74s) of the movie *My Bodyguard* (20th Century Fox, 1980) and has been selected because it induces a high intensity of anger (Hewig, et al., 2005). In the happy condition a video was used which showed a small fragment (64s) of the 'Happiness starts with a smile campaign' (Coca-Cola, 2015) and has been selected because it relies on the concept that happiness is contagious (Fowler & Christakis, 2008). The case of the stolen bike includes a story about moving to a new city (see Appendix B). Because of the convenient location of the participant's new home, s/he decides to buy a new bike to cycle more. Unfortunately, a couple of weeks later the bike had been stolen in front of the participant's home.

Other materials used are guidelines set up by the police which were accessible by the link https://start.me/p/ek0PgP/pilot-geef-mijn-fiets-terug. The website included instructions and useful links such as an instruction to hear a witness or a link with prevention tips. These guidelines were designed to help the participant to do a citizen investigation and find their bike back. The guidelines were divided into three categories based on the effort someone has to put in to retrieve information on their bike increases from low to high, respectively: useful link, information only, and instructions. Guidelines with the characteristic *useful link* allow the participant to directly obtain information on his or her bike. For example, the advertisement seeker where someone instantly can see if their bike is offered online. Guidelines with the characteristic *information only* provide information on bike theft in general and tips for prevention in the future. These guidelines provide the participant with no specific information on his or her bike. The participant has to read and understand the information and then decide how to act further. Guidelines with the characteristic *instructions* are designed to give the participant directives on how to obtain and document information on their stolen bike. After reading an instruction someone has to undertake further action to

obtain any information on their stolen bike. For example, an instruction that gives directives on how to conduct a witness hearing. These take the most effort because the participant has to read, understand, and apply the instructions whereas the other guidelines do not require this much cognitive thinking.

Finally, a questionnaire was used which was the same for both conditions except for one question (see Appendix C). This question was related to the manipulation check which was conducted to examine if the video elicits the purposed emotion with the corresponding condition, i.e., anger in the angry condition and happiness in the happy condition. The scale ranged from 1 (strongly disagree) to 5 (strongly agree). The rest of the items used in the questionnaire are based on already existing validated and reliable scales concerning psychological concepts. The need for cognition scale included five questions such as "*I prefer to think about small, daily projects to long-term ones*", all rated on a 5-point Likert scale (1 strongly disagree to 5 strongly agree), α=.78 (Pieters, Verplanken, & Modde, 1987). The scale self-efficacy and response efficacy included three questions respectively such as "*I am able to gather information*" and "*The information I provide is useful*", all rated on 5-point Likert scales; α=. 75 and α=.76 (Schwarzer & Jerusalem, 1995). Finally, the system usability scale included four questions such as "*I thought the website was easy to use*", all rated on 5-point Likert scales, α=.90 (Brooke, 1986). The questionnaire ended with three questions regarding the participant's demographic data.

Procedure

All the participants were provided with a link to the study on Qualtrics. On the one hand, participants were recruited by using SONA which allows students from the University of Twente to earn credits after participating. On the other hand, participants were recruited by distributing the study's anonymous link accessible for anyone who speaks the Dutch language. When opening the study, the participants received the same introductory text and informed consent in both conditions. After agreeing with the informed consent, the participant had to watch one of the two short movies, depending on the condition. The participants were randomly assigned to one of the two conditions; the angry condition or the happy condition. After watching the video, the participant read the case about a stolen bike, asking them to imagine that their new bike has been stolen. After reading the case the participant is asked to open the guidelines with the provided link and start navigating through it. The participant was instructed to think out loud, give an explanation of which instruction/link s/he is choosing and the reason behind the choice (an example of such an explanation is provided in the study).

After navigating through the guidelines and explaining the steps that were undertaken the participant filled in a questionnaire. Before filling in the questionnaire it was made clear that the participant should answer the questions as honest as possible. After the experiment, the participant was fully debriefed.

Results

Descriptives

A correlation analysis demonstrates two significant correlations (see Table 1). The concept of "response-efficacy" has a significant correlation with "self-efficacy" ($r = .46$, $p < .05$). In line with the expectations, the concept "need for cognition" has a positive correlation, $r = .62$, $p > .001$, with the number of guidelines selected by the participants.

Table 1

Pearson's correlation, mean and standard deviation per scale

	M	SD	GL	NfC	SE	RE	SU	EM
Number of guidelines chosen (*GL*)	2.03	0.82	-					
Need for cognition (*NfC*)	3.26	0.92	**.62***	-				
Self-efficacy (*SE*)	4.05	0.62	-.22	-.27	-			
Response-efficacy *(RE)*	3.68	0.63	.03	-.16	**.46****	-		
System usability (*SU*)	3.57	0.76	-.04	.07	.05	-.11	-	
Emotion (*EM*)	1.50	0.51	.03	-.19	.06	.01	-.27	-

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

Manipulation checks

In order to analyse if the two movies evoked the proposed emotion, angriness in the angry condition and happiness in the happy condition, the means and standard deviations have been calculated. The results showed that participants in the angry condition did feel angry after seeing the movie ($M = 4.21$, $SD = 1.03$) and participants in the happy condition felt happy after seeing their movie ($M = 4.00$, $SD = 1.11$). Participants in both conditions could empathize with the case of the stolen bike ($M = 3.84$, $SD = 0.86$); rated on a 5-point Likert scale. There were no differences found between the happy and angry condition, $t(36) = 0.75$,

$p = .46$. Participants were also asked about the usability of the guidelines' website and results show that the website was neither easy nor difficult to use ($M = 3.57$, $SD = 0.75$).

Emotion and Need for cognition

To find an answer to the four hypotheses one mixed ANOVA analysis is conducted. With the two emotion conditions and two need for cognition groups as the between-participants factor and the three different categories of guidelines (i.e., information, link, & instruction) as the within-participants factor. The results showed that there was no difference in the number of guidelines chosen between participants in the angry condition and participants in the happy condition ($M = 2.00$ versus $M = 2.05$, $F(1, 34) = 0.53$, $p = .47$). In contrast, concerning the need of cognition a significant difference was found. Those high in need for cognition selected more guidelines than participants low in need for cognition ($M = 2.53$ versus $M = 1.62$, $F(1, 34) = 17.08$, $p < .05$).

Next, the effect of the different categories of guidelines as the within-participants factor was analysed. The assumption of sphericity was violated, $\chi(2) = 8.09$, $p = .02$, hence the degrees of freedom Greenhouse-Geisser ($\varepsilon = .82$) has been adjusted. The results show that there is significant difference between the three types of guidelines selected by the participants, $F(1.64, 55.86) = 28.64$, $p < .05$, i.e., category information ($M = 0.32$, $SD = 0.53$), category link ($M = 0.32$, $SD = 0.57$), and category instructions ($M = 1.39$, $SD = 0.92$). First, there is a difference between the amount of information and the number of instructions selected by participants, $F(1, 34) = 32.93$, $p < .05$. Second, there is a difference in the selection of links and instructions, $F(1, 34) = 37.30$, $p < .05$. Participants selected in both cases significantly more guidelines from the category instructions. Finally, there is no difference found between the amount of information and links selected.

Subsequently, the interactions between the guidelines and the experimental conditions were analysed. The results demonstrated that there was an interaction between emotions and the type of guidelines, $F(1.64, 55.86) = 5.36$, $p = 0.01$. This means that the difference between the selected sort of guidelines, i.e., information, links and instructions depended on the emotion condition (see figure 1). The interaction was analysed further. It showed that there was no difference between the two conditions concerning the category information ($M = 0.26$, $SD = 0.45$ versus $M = 0.37$, $SD = 0.60$, $F(1, 36) = 0.38$, $p = .54$) and no difference regarding the category instruction ($M = 1.16$, $SD = 0.96$ versus $M = 1.63$, $SD = 0.83$, $F(1, 36) = 2.65$, $p = .11$). Participants in the angry condition did select a higher amount of links than participants

in the happy condition, ($M = 0.58$, $SD = 0.69$ versus $M = 0.05$, $SD = 0.23$, $F(1, 36) = 9.89$, $p < .05$).
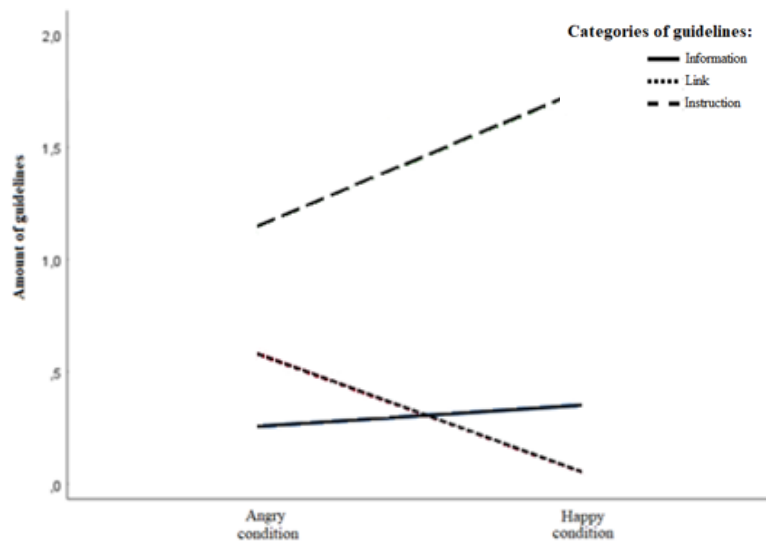

Figure 1. Number and type of guidelines chosen for the two emotion groups.

There was a marginally significant interaction between the need for cognition groups and the three categories of guidelines ($F(1.64, 55.86) = 2.60$, $p = .09$). This shows that the difference between the selected sort of guidelines, i.e., information, links, and instructions did depend on the need for cognition groups (see figure 2). An one-way ANOVA shows that participants in the high need for cognition group ($M = 1.76$, $SD = 0.75$) selected more instructions than participants in the low need for cognition group ($M = 1.10$, $SD = 0.94$), $F(1,36) = 5.64$, $p = .023$.

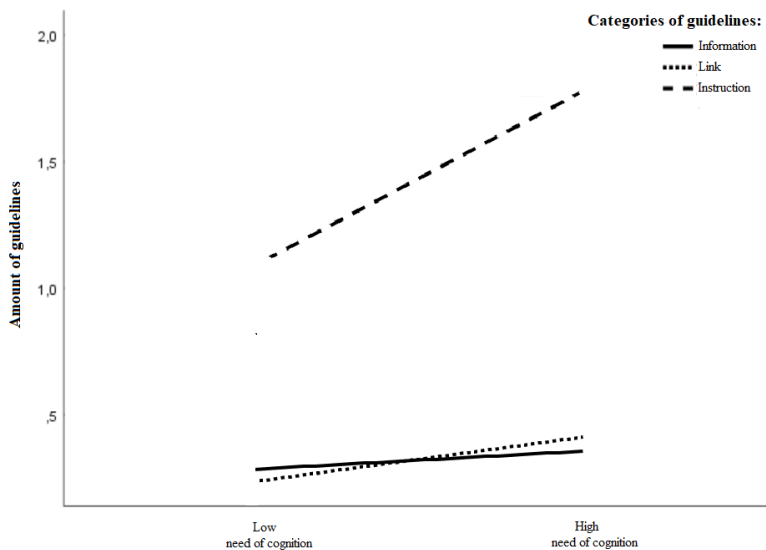

Figure 2. Interaction effect for the number of guidelines chosen per category within and between the two need for cognition groups.

Discussion

The results showed that participants who felt angry did not choose more guidelines in general during the investigation than those who felt happy. It was predicted that when someone experienced anger they would select fewer guidelines compared to those who experienced happiness. Feeling angry can enhance someone's perception that a situation is under control (Lerner & Keltner, 2000). Because of this perception an angry citizen can feel that the guidelines are unnecessary. However, in this study there was no difference between the two conditions. One possible reason for this outcome could be that even though the participants indicated they felt angry or happy, the emotional state may have been flattened during the investigation. Perhaps through the fictitious situation the emotion did not hold on as long or intensively as in real life when someone's bike is stolen. Because the emotion's intensity may be lower, the participant's certainty associated with the anger may also be lower (Lazarus, 1991a). Resulting in that the angry participant selects more guidelines than expected because s/he is missing being certain regarding what to do in this situation.

Concerning the different categories of guidelines, the results showed that emotions did affect the selection of the type of guidelines, i.e., links, information, or instruction. Specifically, participants who experienced anger significantly chose more links than participants who experienced happiness. This is in line with research indicating that angriness increases the tendency to choose an action-oriented measurement (Litvak, Lerner, Tiedens, & Shonk, 2009). In this experiment choosing a useful link was the most action-oriented. Through the link the participant would obtain direct information on his or her bike, such as an advertisement seeker where someone can see if their bike is offered online. The participant could rely on heuristics by noticing cues in the guidelines' name, for example the useful link: bicycle theft register within domain www.politie.nl. A participant's explanation for selecting this link is: *"the link refers to the police, I immediately associate this with reporting a crime"*. The information guidelines only provide information on bike theft in general, without any specifics about the stolen bike. Therefore, if the participant wants information on their bike, they have to undertake another action such as selecting a useful link. The instruction guidelines are directives for different categories of a citizen investigation, such as how to conduct a witness hearing. After reading an instruction the participant still has to carry out the corresponding action.

As predicted participants high in need for cognition chose more guidelines in general than participants low in need for cognition. Someone high in need for cognition has a higher tendency to acquire information to understand a new situation, such as in a citizen investigation, and they therefore selected more guidelines (de Holanda Coelho, Hanel, & Wolf, 2018). Concerning the influence of the different categories of guidelines, the results demonstrated a marginal effect of need for cognition. Specifically, participants with a high level of need for cognition selected significantly more instructions than participants with a low level of need for cognition. This result is in line with our predictions. Someone high in need for cognition has a higher tendency to acquire information to understand a new situation such as a specific case under investigation (Cacioppo & Petty, 1982). The instructions provide the knowledge for understanding a new situation in terms of an elaborated explanation on how to conduct a citizen investigation. Future research should focus on the effect of these factors when the situation is not new, but the citizen is already familiar with the process. In this study the assumption was that the situation is novel to the participants.

Limitations

The first limitation of this study is that the presence of the emotions (anger or happiness) was measured by one question, which was different in both conditions. In the angry condition we only measured angriness and in the happy condition we only measured happiness. We should have asked both emotions in both conditions in order to ensure that there was a difference between the two conditions.

The second limitation concerns the way the emotions angriness or happiness are induced. In the current study it is induced by showing a video, whereas in other studies (Gross & Levenson, 1995) the emotion is elicited by a combination of methods such as a writing task and a video. Besides, the length of the video in the angry condition may have been too short compared to the study of Gross and Levenson (1995). Both studies used the same video whereas Gross and Levenson showed 246 seconds of the film, the participants in this study only saw 74 seconds of the film. This could have caused a reduced duration of the elicited emotion.

The third limitation is the study's sample size ($N = 38$) which can affect the statistical power. In addition, performing a median split for measuring need for cognition as a between-participants factor also reduces the statistical power. The consequence is an increase in the possibility of Type II errors, i.e., the failure of rejecting the null hypothesis when its incorrect (McClelland, Lynch, Jr., Irwin, Spiller, & Fitzsimons, 2015).

Conclusion

The objective of this study was to investigate the influence of two different factors (i.e., emotion and need for cognition) on a citizen investigation, where guidelines provided by the Dutch police were used. The results provide a better insight into the citizen's motivation during such an investigation and can be used in optimizing the police's efforts in enhancing and managing citizen participation. The most important conclusion of this research is that someone's emotional state and level of need for cognition both influence a person's information processing in a citizen investigation. It can eventually lead to choosing fewer guidelines whereby the awareness of risks might get lost. For example, people low in need for cognition selected fewer guidelines than those high in need for cognition. Therefore they could miss risk-reducing information that was incorporated by the Dutch police. Everyone processes information differently and in this case there is no one size fits all solution. To limit the risks associated with citizen investigation, ideally the police should provide personalized guidelines. However, this might be a bit too much given the 1500 stolen bicycles a day (Stichting Aanpak Fiets- en E-bikediefstal, 2020). In conclusion, to limit risks associated with doing a citizen investigation it is important for the Dutch police to determine what risk-reducing information is crucial and needs to be addressed and subsequently explore a compromise between personalized guidelines and the current guidelines (equally for everyone).

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Appendices

Appendix A – Introductory text

Welkom!

Burgers worden steeds vaker ingezet om de politie te ondersteunen bij onderzoek naar criminaliteit. Dit omvat het melden van criminele activiteiten, maar burgers kunnen ook het eigen initiatief nemen zoals het zoeken naar een vermist persoon of goederen via internet. Als participant in deze studie moet je je voorstellen dat je fiets wordt gestolen en dat jij zelf gaat deelnemen aan het strafrechtelijk onderzoek.

Het doel van deze studie is om te onderzoeken hoe iemand te werk gaat in een dergelijk onderzoek en hoe richtlijnen (opgesteld door de politie) hierbij worden gebruikt.

Deelname is vrijwillig, je kunt er voor kiezen om niet deel te nemen aan het onderzoek of om op elk moment en om welke reden dan ook te stoppen zonder negatieve gevolgen. Om jouw vertrouwelijkheid te garanderen worden de antwoorden anoniem verwerkt en alleen de groepsgemiddelden geanalyseerd. Na afloop van het experiment word je volledig geïnformeerd en worden eventuele vragen beantwoord.

Voor meer informatie over deze studie kun je contact opnemen met s.r.poppinghaus@student.utwente.nl.

Bedankt voor je deelname!

Sanouk Poppinghaus

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Appendix B – Case of the stolen bike

Stel voor dat je net verhuist bent naar een andere stad, omdat je een nieuwe baan hebt gekregen. Gelukkig woon je dichtbij het centrum, je nieuwe werk, de supermarkt enzovoort. Vanwege de gunstige ligging heb je jezelf voorgenomen om meer te gaan fietsen. Omdat je de afgelopen jaren bijna nooit hebt gefietst, nam je altijd genoegen met je oude versleten fietsje. Maar vanwege je nieuwe voornemen heb je een nieuwe fiets (t.w.v. €599,-) gekocht!

Een paar weken later ben je onderweg naar de huis op je nieuwe fiets die aan al je wensen voldoet. Je zet hem zoals altijd in het fietsenrek voor het appartementenblok en doet hem op slot. Als je tien minuten later weer buiten komt om boodschappen te gaan doen, zie je tot je grote schrik dat je fiets gestolen is.

Appendix C – Questionnaire

Ten slotte willen we je nog wat vragen stellen over je ervaring. Het is belangrijk dat je de vragen zo eerlijk en correct mogelijk beantwoord. In hoeverre ben je het eens met de onderstaande stellingen?

1) "Het filmpje over de verlegen jongen maakte me boos" of "Het filmpje over het sociaal experiment maakte me blij" (afhankelijk van de conditie)

- o Helemaal oneens
- o Oneens
- o Neutraal
- o Eens
- o Helemaal eens

2) "Ik kon me goed inleven in het verhaal van de fietsendiefstal"

- o Helemaal oneens
- o Oneens
- o Neutraal
- o Eens
- o Helemaal eens

3) In hoeverre ben je het eens met de onderstaande stellingen?

	Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
Ik doe liever iets waarbij weinig nagedacht hoeft te worden dan iets waarbij mijn denkvermogen op de proef wordt gesteld.	○	○	○	○	○
Ik denk liever na over kleine, dagelijkse projecten dan over langer termijn projecten.	○	○	○	○	○
Ik ben graag verantwoordelijk voor een situatie waarin veel nagedacht moet worden.	○	○	○	○	○
Ik geniet echt van een taak waarin men met nieuwe oplossingen voor problemen moet komen.	○	○	○	○	○
Ik hou van taken waarbij weinig nagedacht hoeft te worden wanneer ik ze eenmaal geleerd heb.	○	○	○	○	○

4) Er zijn meerdere mogelijkheden om de politie te helpen bij misdaadonderzoek en om zelf te participeren in burgeronderzoek. In hoeverre ben je het eens met de onderstaande stellingen met betrekking tot deze activiteiten?

	Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
Ik ben in staat om informatie te verzamelen tijdens een burgeronderzoek.	○	○	○	○	○
Ik ben in staat om het internet te doorzoeken tijdens een burgeronderzoek.	○	○	○	○	○
Ik ben in staat om informatie te verzamelen in de buurt tijdens een burgeronderzoek.	○	○	○	○	○

5) Mensen denken verschillend over de bruikbaarheid van eigen inbreng bij misdaadonderzoek. In hoeverre ben je het eens met de onderstaande stellingen?

	Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens
Ik kan een goede bijdrage leveren aan misdaadonderzoek.	○	○	○	○	○
De informatie die ik verstrek is nuttig.	○	○	○	○	○
Mijn bijdrage zal het misdaadonderzoek verbeteren.	○	○	○	○	○

6) De volgende vragen hebben betrekking op je relatie met de politie.

	Nee	Ja
Ben je ooit het slachtoffer geworden van diefstal?	○	○
Heb je ooit een misdaad gemeld bij de politie?	○	○

7) Geef aan in hoeverre je het eens bent met de onderstaande stellingen die betrekking hebben op het gebruik van de richtlijnen.

	Helemaal oneen	Oneens	Neutraal	Eens	Helemaal eens
Ik vond de website makkelijk te gebruiken.	○	○	○	○	○
Ik kan me voorstellen dat de meeste mensen snel door hebben hoe ze deze website moeten gebruiken.	○	○	○	○	○
Ik vind de website onnodig complex.	○	○	○	○	○
Ik vind dat er te veel inconsistentie in de website zit.	○	○	○	○	○

8) Opmerkingen met betrekking tot de richtlijnen?

9) Demografische vragen

- ○ Wat is je geslacht?
- ○ Wat is je leeftijd?
- ○ Wat is je hoogst afgeronde of huidige opleiding?

10) Sona nummer: (voor studenten van Universiteit Twente)

_____

Je hebt het einde van deze studie bereikt. Heel erg bedankt voor je deelname!

Het doel van deze studie is om te onderzoeken op welke manier burgers door de richtlijnen van de politie navigeren, welke kunnen helpen bij het doen van burgeronderzoek. Er waren twee verschillende condities waaraan deelnemers zijn toegewezen. Dit wil zeggen dat aan de ene kant de emotie blijdschap werd uitgelokt en aan de andere kant werd geprobeerd de emotie boosheid uit te lokken. Dit werd gedaan door het laten zien van twee verschillende filmpjes. Emoties kunnen mensen verschillend beïnvloeden (ook bij het ervaren van misstanden zoals een gestolen fiets) en daarom is de verwachting dat er verschillende navigatiepatronen zijn tussen de twee condities. Bijvoorbeeld dat de mensen die boosheid ervaren eerder de links gebruiken dan instructies; in andere woorden eerder actief zoeken dan eerst iets leren.

Indien u nog vragen of opmerkingen heeft, kunt u een mail sturen aan s.r.poppinghaus@student.utwente.nl of het hieronder plaatsen.

Opmerking/vragen?

_____