

# Witnessing a crime: reporting and intervening behavior

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## Samenvatting

Wanneer er een delict plaatsvindt, hebben burgers vandaag de dag meer mogelijkheden om in te grijpen of dit te melden bij de politie. Het doel van dit onderzoek was om te onderzoeken of morele waarden, morele emoties, self-efficacy en dreiging van sociale identiteit ten grondslag liggen aan het melden van en ingrijpen bij fraudegedrag. Dit is gedaan door middel van een experiment waarbij participanten getuige waren van een geënceneerde fraudesituatie. Het experiment bestond uit twee verschillende condities die verschillen in ernst van de in geënceneerde situatie.

De resultaten lieten zien dat burgers die negatieve morele emoties ervaren zich vaker in staat voelden om fraudegedrag te melden, maar dit betekent niet dat burgers die zich in staat voelen om in te grijpen dit ook automatisch doen. Dit onderzoek ondersteunt deze uitspraak doordat de resultaten lieten zien dat het in staat voelen negatief geassocieerd is met meldgedrag, wat betekent dat burgers die een sterk gevoel hebben dat zij in staat zijn fraudegedrag te melden minder snel zullen melden. Dit klinkt onwaarschijnlijk omdat het tegenovergestelde effect aangeduid wordt in eerder onderzoek (Gecas & Schwalbe, 1983; Maddux & Gosselin, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). Toch is het voor te stellen dat dit effect te wijten is aan het feit dat achteraf is gevraagd naar hoe erg de mensen zich in staat voelen te melden. Meldgedrag zou dus een effect kunnen hebben op de mate waarin iemand zich in staat voelt te melden.

Een sterkte van deze studie was dat het een van de eerste studies is die als doel heeft om de rol van morele emoties bij meld- en ingrijpgedrag te onderzoeken. Op basis van dit onderzoek kunnen andere onderzoekers nieuw onderzoek voortbouwen. Een limitatie van het onderzoek was dat de geënceneerde situatie niet als erg realistisch werd ervaren. Dit kan verbeterd worden door een meer toevallige situatie te gebruiken, zodat participanten minder oplettend en verwachtingsvol zijn. De grootste limitatie van het onderzoek was dat de resultaten betwijfeld kunnen worden door de 17.5% power en de te kleine steekproefgrootte.

Een implicatie voor dit onderzoek was dat de politie zich meer bewust moet zijn dat de keuze om al dan niet in te grijpen bij een fraudegedrag mogelijk gemaakt wordt op basis van psychologische drijfveren zoals morele emoties die ten grondslag liggen aan het intuïtieve systeem van de getuige.

### **Abstract**

If a criminal situation takes place, citizens nowadays have more opportunities to intervene or report this situation to the police. The aim of this research was to investigate to what extent moral values, moral emotions, self-efficacy and threat to social identity have an effect on reporting and intervening fraudulent behavior. This is done by an experiment whereby the participant witnesses fraudulent behavior. The experiment consist of two conditions which differed in severity of the scenes.

The results show that citizens who experience negative moral emotions are more likely to feel able to report fraudulent behavior, but this does not mean that citizens who feel able to report do this automatically. This research supports this statement because the results showed that feeling able to report is negatively correlated with reporting behavior, which means that citizens who have a strong sense of being able to report, will report less quickly. It sounds improbable, because the opposite effect is mentioned in previous research (Gecas & Schwalbe, 1983; Maddux & Gosselin, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). But, it is imaginable that this is due to the fact that people have indicated their self-efficacy after the behavior. So, reporting behavior could have had an effect on their self-efficacy.

A strength of this research was that it is one the first studies which aimed to investigate the role of moral emotions on reporting and intervening behavior which can encourage researchers to further investigate this. A limitation of the research was that the staged situation was not experienced as very realistic. This can be improved by using a more accidental situation causing that participants have less suspicions and alertness. A major limitation of this research is that the results can be questioned because of the 17.5% power and the sample size being too small.

An implication for this research is that police have to be aware that the choice whether or not to intervene in a fraudulent situation possibly can be made by psychological drives such as moral emotions in the intuitive system of the witnesses.

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## Introduction

In recent years there has been a growing shift in the responsibility for fighting criminal behavior. In the past, the police in particular were seen as responsible for the safety of society. Nowadays it is increasingly seen as a phenomenon in which the citizen can play an important role as well (Van der Land, 2012). It becomes more normal to address people about criminal or antisocial behavior (Peršak, 2017). Especially in the police domain intervening behavior of citizens is important, because the majority of the criminal activities stay unnoticed to the police. Often, witnesses do not intervene or report to the police (Rosenfeld, Jacobs & Wright, 2003). It is useful to know why these people do or do not intervene, because this information can be used by the design of intervention strategies which help decreasing crime.

There are many less frequently mentioned variables in the literature which have an effect on intervening and reporting behavior. Firstly, previous research by Schreurs, Kerstholt, de Vries and Giebels (n.d.) has already shown that intervening and reporting behavior can be explained by moral emotions. According to Harkness and Hitlin (2014) the decision whether or not to intervene is likely based on personal moral assessment of what is right and wrong. Thirdly, according to Asencio, Merrill and Steiner (2014) the decision whether to intervene/report or not can be explained by the degree of self-efficacy. Fourthly, theories about social identification with the offender can also explain reporting and intervening behavior (Kassin, Fein & Markus, 2014; Marques, Yzerbyt & Leyens, 1988).

In this research, intervening is defined as the direct act of addressing undesired behavior. Reporting behavior will be seen as informing authority (such as the police or a researcher) about someone's undesired behavior. Furthermore, this research investigates to what extent the factors moral emotions, moral values, threat to the social identity and self-efficacy influence the reporting and intervening behavior in a situation where someone witnesses criminal behavior.

### **Psychological drivers for intervening behavior**

In this section, the theoretical framework of the psychological factors will be further explained. Firstly, as shown by Schreurs et al. (n.d.) moral emotions are meaningful variables in reporting and intervening behavior. Because there is not enough time to consider all the advantages and disadvantages, individuals rely the decision about whether or not to intervene on the intuitive system (Zeelenberg, Nellissen, Breugelmans, & Pieters, 2008). This system is based on the imposition of decisions to action that serve the given situation the most adequately. According to Slovic and Västfjäll (2010) intuitive decisions are highly influenced by emotions. Individuals who experience avoidance emotions (e.g. fear) are less inclined to intervene, while approaching emotions (e.g. anger and gratitude) increased the intention to report or intervene (Schreurs et al., n.d.).

Additionally, according to Harkness and Hitlin (2014) witness's decision whether to intervene is based on personal moral assessment of what is right and wrong. Again, this decision is made by the intuitive system (Zeelenberg, Nellissen, Breugelmans, & Pieters, 2008). If a witness experiences a situation that conflicts with their own moral values, this can result in the experience of moral emotions such as anger or disgust, which will in turn influence the decision behavior of intervening or reporting (Haidt, 2003). For example, when someone witnesses a crime, feelings of anger may arise, which in turn lead to a greater tendency to intervene.

Thirdly, Asencio, Merrill and Steiner (2014) mentioned self-efficacy as an important influencer for intervening behavior. Self-efficacy refers to a sense of agency in terms of ability to affect change or otherwise have an impact on the surrounding social environment (Gecas & Schwalbe, 1983; Maddux & Gosselin, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). So, someone with a high self-efficacy is more likely to believe that he or she is able to make an individual action, such as intervening, than someone with low self-efficacy. Subsequently, people with high self-efficacy will be more likely to intervene when witnessing a crime, than people with low self-efficacy. This seems to mean that self-efficacy is an important influencer in reporting and intervening behavior. This could for example be the case when someone sees that a thief wants to steal a bike. The thief looks around to see if nobody is paying attention, while the witness notes that the thief has bad intentions. If the witness has a low self-efficacy, he or she probably will feel avoidance emotions. The low self-efficacy in combination with the avoidance emotions will result in a withdraw attitude. This means that the witness does not intervene in the situation. The reason

for this action is that he or she does not have the feeling of believe that he or she is able to stop the undesired behavior (Gecas & Schwalbe, 1983; Maddux & Gosseling, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). In contrast, if the witness has a high self-efficacy, this will result in a powerful and active attitude. This means that this person is ready to intervene in the criminal situation by stopping the thief of stealing the bike (Gecas & Schwalbe, 1983; Maddux & Gosseling, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). In this situation the person feels able to intervene in the situation.

Fourthly, identification can be seen as an important factor. The Social Identity theory explains details about group identification. Group identification always leads to a subdivision between the outgroup and ingroup (Kassin, Fein & Markus, 2014). People with whom is identified are called the ingroup and people with whom it is not identified is called the outgroup. According to Marques, Yzerbyt and Leyens (1988) the Black Sheep effect plays a role in criminal situations. The Black Sheep Effect causes judgements about the ingroup members to be more extreme than the judgements about the outgroup members (Marques, Yzerbyt & Leyens, 1988). This suggests that, when an ingroup member (e.g. someone who is enrolled in the same educational program) shows criminal behavior, a more extreme moral assessment takes place. Research showed that when someone does something that is completely against moral values, someone no longer wants to identify with this person (Scheepers & Ellemers, 2005; Ethier & Deaux, 1994). This then leads to ignoring this person, which makes it more likely that people do not report or intervene.

## **Present study**

The present study is set up to investigate in which extent moral emotions, moral values, self-efficacy and threat to the social identity mediate the relationship between witnessing fraudulent behavior and reporting/intervening behavior. The expectation is that approaching moral emotions (e.g. anger) cause intervening/reporting behavior and avoiding moral emotions (e.g. fear) provide less intervening/reporting behavior. Furthermore, the expectation is that people with strong moral values are more likely to intervene or report in a situation against their moral values. Additionally, the expectation is that a witness with a high self-efficacy will probably conduct intervening/reporting behavior. Eventually, it is expected that threats to social identity leads to stopping the identification with the ingroup, because the behavior of this person will be ignored. So, it is expected that there will not be intervened/reported.

## **Method**

### **Participants and design**

A total of 49 participants (26 women, 23 men,  $M_{age} = 20.65$  years, age range: 17-26 years) were recruited in the study. The study was a between-subjects design. Participants were recruited by the SONA-system of the University of Twente via convenience sampling. The participants were rewarded via the SONA-system with so-called SONA points, of which they have to collect a fixed number to be allowed to graduate (these points can also be earned by participating other studies). Furthermore, there is an action-camera raffled among the participants. The study was approved by the institutional ethical committee and all participants agreed via the informed consent.

### **Procedure**

The participant enters the control room (where the participant could see that the experiment room is being filmed). In this room, the participant received an explanation. The experimenter said:

*“Let me see, we have two experiments, you just have an appointment today right? Because in the other experiment the second part is tomorrow. But you will do two parts today. So you will receive an online ‘personality questionnaire’ which you can fill out on the computer. You can just click on the link which is on the computer screen. When you are finished, you should make this puzzle. The person who fills in the puzzle the best (across the two experiments are running at the same time) will win an underwater action camera. The use of a cellphone is forbidden, that would not be fair of course. When you are finished you can come back to this room, and put the puzzle with your e-mail on it in that box.”*

After this information the participant is led to the experimenter room. In this room, the participant had filled in the questionnaire and puzzle. When the participant is finished, he came back to the control room and puts the puzzle in the black box. At the same time, a confederate (as seen as the next participant) came in the control room and received a puzzle. The confederate received the following explanation:

*“You already have done the questionnaire, right? So you just have to make the puzzle. Please go with me to the other room, you can make it here. The person who fills in the puzzle the best (across the two experiments are running at the same time) will win an underwater action camera. The use of a cellphone is forbidden, that would not be fair of course. When you are finished you can come back to this room, and put the puzzle with your e-mail on it in that box.”*

While the confederate was starting the puzzle in the experimenter room, the experimenter explains that she has to explain the second part of the experiment, but first has to go to the bathroom really bad. The experimenter asked the participant if he/she could keep an eye on the monitor to see if the other participant (confederate) does not use a cellphone. After this, the experiment consists of two different conditions. In condition 1 the confederate was using her cellphone for half a minute. In condition 2 the confederate was using her cellphone for 3 minutes to complete the entire questionnaire. After this, the confederate returned to the control room and said something to the participant:

In condition 1 this was:

*“It was a really hard puzzle, so I used my phone to look up one word. Otherwise I was never going to win!” (confederate puts a half filled in puzzle in the box).*

In condition 2 this was:

*“It was a really hard puzzle, so I looked it all up on google. Otherwise I was never going to win!” (confederate puts a fully filled in puzzle in the box).*

After this, the confederate left the room and the experimenter came back one minute later and said to the participant:

*“Thanks for watching the monitor, did everything go well?”*

After the participant had the opportunity to answer, the researcher told that the situation was staged. After this the participant is presented with the last questionnaire regarding moral emotions, self-efficacy and threat to social identity during the situation. After this, the researcher gave the participant a debrief form with information about the actual goal of the experiment (included in appendix 1).

### **Measures**

Moral values were measured by using a part of the questionnaire of Steg, Perlaviciute, van der Werff and Lurvink (2014) as can be seen in appendix 2. This questionnaire consists of hedonic values, egoistic values, altruistic values and biospheric values, but only the egoistic and altruistic values are measured because these are relevant to this research. The questionnaire is designed to demonstrate that values are important for understanding environmental actions. This questionnaire was measured by asking participants to rate the likelihood of nine concepts about moral values on a seven-point Likert-scale from ‘Totally NOT important to me’ to ‘Really important to me’. This is measured in the pretest because moral values are constant over time. A factor analysis shows that moral values have two underlying variables. The first factor consist of equality, peace, social justice and helpful and is labeled as social equality ( $EV = 2.84$ ,  $\alpha = .78$ ,  $\lambda^2 = .78$ ). The second factor consists of social power and authority ( $EV = 1.44$ ,  $\alpha = .67$ ,  $\lambda^2 = .00$ ) and is labeled as social authority.

In the posttest social emotions were measured by using the questionnaire of Haidt (2003) which can be found in appendix 3. Moral emotions consist of anger, disgust, contempt, shame, embarrassment, guilt, compassion, gratitude, elevation, fear, pride and schadenfreude.

Participants had to rate to what extent they felt these emotions during the experiment on a seven-point Likert-scale from 'Not at all during the experiment' to 'All the time during the experiment'. A factor analysis shows that moral emotions consists two factors. The first factor is labeled as negative moral emotions and consists of anger, disgust, shame, embarrassment, guilt and fair ( $EV = 4.79$ ,  $\alpha = .88$ ,  $\lambda^2 = .89$ ). The second factor is labeled as positive moral emotions and consists of compassion, gratitude, awe and pride ( $EV = 1.81$ ,  $\alpha = .79$ ,  $\lambda^2 = .79$ ).

Furthermore, self-efficacy was measured in the posttest by using a self-constructed questionnaire as can be seen in appendix 4. This questionnaire consisted of five questions about feeling able to do something about the situation. This is scored on a seven-point Likert-scale from 'Totally disagree' to 'Totally agree'. A factor analysis shows that self-efficacy consists of two factors labeled as self-efficacy intervening ( $EV = 2.50$ ,  $\alpha = .76$ ,  $\lambda^2 = .76$ ) and self-efficacy reporting ( $EV = 1.29$ ,  $\alpha = .82$ ,  $\lambda^2 = .82$ ).

Finally, threat to social identity was also measured by a self-constructed questionnaire which can be seen in appendix 5. This questionnaire consisted of four questions rated by a seven-point Likert-scale from 'Totally disagree' to 'totally agree. A factor analysis showed that threat to social identity consists of one overall factor ( $EV = 2.34$ ,  $\alpha = .74$ ,  $\lambda^2 = .76$ ), but if item one is deleted the reliability rises ( $\alpha = .82$ ). However, this item is not deleted because the reliability was high enough.

Additionally, some 'general information questions' are asked to the participant. These consists of age, gender, nationality, reading skills and highest level of education. Furthermore, participants were asked if they had seen the mobile phone use and for how long. It was also asked whether the participant said something to the confederate about using a cellphone and/or report to the experimenter about the use of cellphone and how good or wrong the participant found the behavior of the confederate.

Some other questionnaires were also included with the aim to cover up the actual goal of the research. This includes the social identity questionnaire, the honestly-humanity part of the HEXACO and the effort questionnaire. Both the pretest and posttest questionnaires have been taken and administered in Qualtrics.

## Results

### Descriptive statistics

The age of the participants is between 17 and 26 years, of which 79.6% is between 18 and 22. 46.9% of them are men and 53.1% are female. Almost half (48.9%) of the participants have a Dutch nationality and 22.4% is German. The majority of the participants (65.3%) assessed his or her reading skills as good, whereas 26.5% scored themselves as average and 8.2% as poor. The participants with poor reading skills are not removed out of the study because they were allowed to use translation tools (e.g. Google Translate).

Furthermore, as can be seen in table 1, 14 participants of condition 1 have seen the mobile phone use for half a minute. In condition 1 there were 3 participants who noticed the mobile phone use for a longer than half a minute. In condition 2 were 5 participants who have seen the mobile phone use for three minutes, 8 participants have seen it for less than three minutes (e.g. a few seconds or half a minute) and have seen it for more than three minutes (e.g. five minutes or ten minutes).

Table 1

*Noticed mobile phone use in numbers per condition*

	Condition 1	Condition 2
Few seconds	5	4
Half a minute	<b>14</b>	4
Three minutes	2	<b>5</b>
Five minutes	1	8
Ten minutes	0	1

*Note.* In condition 1 the confederate had used the mobile phone for half a minute and in condition 2 for three minutes. This is made bold. Participants who intervened are included in this table, so these people probably have seen the mobile phone use shorter than expected in the condition (e.g. shorter than half a minute in condition 1 and shorter than three minutes in condition 2).

Men and women were equally divided on how realistic the experiment was experienced. 69.4% rejects the behavior of the confederate and 22.4% has a neutral opinion about the behavior. 36.7% of the participants said that this staged experiment was not realistic (scored not at all or not on very realistic the five-point Likert-scale), 22.4% is neutral about this and 38.8% was of the opinion that it was a realistic situation (scored realistic or very realistic). In total, 38.8% of the participants has reported the situation and 12.2% has intervened. Further analytic details mostly are about the reporting behavior because intervening did not happen frequently.

By using G\*power there is calculated a power of 17.5% due to insufficient participants comprised with the number of measured constructs (which are moral emotions, self-efficacy and threat to social identity). The desired number of participants for this study is 170.

### Correlations

Table 2 presents a correlation table. The correlation table shows that positive moral emotions is positively correlated with negative moral emotions ( $r = .43, p < .01$ ) and self-efficacy intervening ( $r = .32, p < .05$ ). Negative moral emotions is positively correlated with self-efficacy reporting ( $r = .29, p < .05$ ). Self-efficacy intervening is positively correlated with self-efficacy reporting ( $r = .33, p < .05$ ) and negatively with intervening ( $r = -.57, p < .01$ ). Self-efficacy intervening is negatively correlated with reporting ( $r = -.42, p < .01$ ).

Table 2

*Correlation table (Pearson correlation)*

	1	2	3	4	5	6	7
1. Positive moral emotions	1						
2. Negative moral emotions	.43**	1					
3. Self-efficacy intervening	.32*	.25	1				
4. Self-efficacy reporting	.11	.29*	.33*	1			
5. Threat to social identity	.17	-.03	.03	-.01	1		
6. Reporting	.02	.05	-.09	-.42**	.18	1	
7. Intervening	-.22	.01	-.57**	.00	.23	.21	1

*Note.*  $N = 49$ . \*  $p < .05$ . \*\*  $p < .01$ .

### Regression analysis

A logistic regression has been performed because there is a dichotomous outcome variable, namely reporting. In this analysis intervening was omitted because only six people intervened. The logistic regression is conducted with reporting as dependent variable and positive moral emotions, negative moral emotions, self-efficacy intervening, self-efficacy reporting and threat to social identity as independent variables.

As can be seen in Table 3, positive moral emotions ( $\beta = -.04, p > .05$ ), negative moral emotions ( $\beta = .08, p > .05$ ), self-efficacy intervening ( $\beta = .02, p > .05$ ) and threat to social identity ( $\beta = .07, p > .05$ ) were not significant related to reporting behavior. Only self-efficacy reporting ( $\beta = -.29, p < .01$ ) showed a significant relation with reporting behavior. This means that participants who have a high self-efficacy reporting are more likely to report.

Table 3

*Logistic regression analysis with all participants*

	B	S.E.	Wald	Sig. (2-tailed)	Exp(B)
Positive moral emotions	-.04	.09	.17	.68	.96
Negative moral emotions	.08	.06	1.93	.17	1.08
Self-efficacy intervening	.02	.07	.05	.82	1.02
Self-efficacy reporting	-.29	.10	8.43	.00*	.75
Threat to social identity	.07	.05	2.10	.15	1.08

*Note.*  $N = 49$ . \*  $p < .01$ .

To ensure that the results are not dominated by inaccurate data, a second logistic regression is conducted. All data is checked for one-sided answers (e.g. participants who only scored completely low and/or high in the questionnaires). These participants and the participants who thought the experiment was unrealistic were excluded in the next analysis. This logistic regression was ultimately carried out with  $N = 39$  participants and resulted in comparable results. This is showed in Table 4.

Table 4

*Logistic regression analysis exclusive inaccurate data*

	B	S.E.	Wald	Sig. (2-tailed)	Exp(B)
Positive moral emotions	-.08	.11	.52	.47	.93
Negative moral emotions	.12	.07	3.06	.08	1.13
Self-efficacy intervening	-.06	.08	.48	.59	.94
Self-efficacy reporting	-.42	.15	8.16	.00*	.66
Threat to social identity	.07	.07	1.14	2.29	1.07

*Note.*  $N = 39$ . \*  $p < .01$ .

As can be seen in Table 4, still only self-efficacy reporting ( $\beta = -.42, p < .01$ ) was significantly related to reporting behavior. Positive moral emotions ( $\beta = -.08, p > .05$ ), negative moral emotions ( $\beta = .12, p > .05$ ), self-efficacy intervening ( $\beta = -.06, p > .05$ ) and threat to social identity ( $\beta = .07, p > .05$ ) were still not significant related to reporting.

## Discussion and conclusion

This research aimed to investigate to what extent moral values, moral emotions, self-efficacy and threat to social identity influence reporting and intervening behavior in a situation where someone witnesses criminal or fraudulent behavior. Contrary to expectations, there is no significant evidence to assume that moral values, moral emotions, self-efficacy and threat to social identity leads to intervening or reporting behavior. The results show that there is a relation between the two factors of self-efficacy (e.g. self-efficacy reporting and self-efficacy intervening) and between the two factors of moral emotions (e.g. positive moral emotions and negative moral emotions).

Furthermore, the results show that people who experience negative moral emotions are more likely to feel able to report fraudulent behavior and reverse. According to Slovic and Västfjäll (2010) people who experience avoidance emotions have a decreased intention to report (Schreurs et al., n.d.). But, in this study, avoidance emotions consist of anger, disgust, shame, embarrassment, guilt and fear. Anger is categorized as part of negative moral emotions in this study, while in the study of Slovic and Västfjäll (2010) it is part of approaching or positive moral emotions. The findings of both studies contradict each other, although it sounds plausible to categorize anger to approaching emotions or positive moral emotions, because anger often generates the feeling of the ability to take action (Halmburger, Baumert & Schmitt, 2015). Performing further research will be useful to lift these uncertainties.

However, it does not have to mean that people who feel able to report automatically exhibit the behavior. This research supports this statement, because the results show that self-efficacy reporting is associated negatively with reporting behavior, which makes that participants who have a high self-efficacy reporting are less likely to report fraudulent behavior. This sounds improbable, because previous research has shown contradictory results (Gecas & Schwalbe, 1983; Maddux & Gosselin, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). But, it is imaginable that this is due to the fact that people have indicated their self-efficacy after the behavior. So, reporting behavior could have had an effect on their self-efficacy.

Overall, the results consist of a positive correlation between negative moral emotions and reporting behavior and a negative correlation between self-efficacy and reporting behavior. It could be speculated that this may be explained by the thought that the experience

of negative moral emotions causes a feeling of disability to report despite this behavior has already taken place.

It seems that the 17.5% power of this research is the reason for a distinctive power that is too low, which creates a type 2 error (Chow, Shao & Wang 2003). This means that there are effects, but these are not found in this research. There were too few participants, a sample size of minimum 170 participants is recommended. As a result of which the variables could not be measured properly.

Also, the participants were not varied, they were all students of the University of Twente. This can be an important limitation, because this means that there was included a group that doesn't reflect the general population. So, things like age, cultural diversity and level of education might cause differences in the intervening and reporting behavior of the participant. The data is not corrected for these differences. Furthermore, we experimented with one specific situation, which means that it can be questioned if this situation is correlated with reporting and intervening behavior in real fraudulent behavior situations.

Another limitation of this research is the unsuccessfulness of the realism of the study design. People frequently noticed that the situation was staged and mostly indicated it as unrealistic. This research took place in the lab and participants had to enroll for participation. This caused suspicion, the participant is alert. This causes that the situation will be noticed as staged faster. As result, the research did not go smoothly for these people. So, it is recommended to make the scenario more realistic. An opportunity to do this is creating a more accidental situation for the participant. For example, using citizens on the streets as participants. When the fraudulent situation takes place here, participants are less suspicious.

A strength of this research is that this is one of the first studies which aimed to investigate the role of moral emotions on reporting and intervening behavior. A lot about the moral emotions of people who witness fraudulent behavior is unknown, and this research is the first step towards more proficiency. This can encourage researchers to further investigate the role of moral emotions in reporting and intervening behavior.

Additionally, this research contradict the findings of Slovic and Västfjäll (2010) which said that the experience of negative moral emotions (e.g. avoidance emotions) makes people less likely to report. Fortunately, our study also contradicts the findings of many other studies, which all conclude that self-efficacy is positively correlated with reporting behavior (Gecas & Schwalbe, 1983; Maddux & Gosselin, 2003; Owens, 1993; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). So, this can be investigated further and clearer in the upcoming studies.

## **Implications**

An implication for this research is that police have to be aware that the choice whether or not to intervene in a fraudulent situation possibly can be made by psychological drives such as moral emotions in the intuitive system of the witnesses.

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## Appendix

### Appendix 1: debrief

Thanks for participating in our experiment!

After the experiment we have given a short explanation about what the purpose of the research was. We investigate whether or not you have intervened or reported in situation where the other participant was using her mobile phone. The other participant, as told, was an actor. The experiment was staged. There were two conditions, in one condition the confederate looked at his mobile for a few seconds, and in the other condition for a few minutes. You were randomly assigned to one of these conditions.

While you kept an eye on the participant who was making the puzzle, we were interested in your behavior. We wanted to know if you would intervene or report the behavior. Intervening means that you said something to the other participant. For example, that her behavior wasn't right. Reporting means that you said to the researcher that the participant had used her mobile phone.

We are interested in the factors that cause the decision whether to intervene and/or report or not. Firstly, the research investigates your moral emotions, moral values, self-efficacy and social threat. This is measured by the surveys you have filled in.

Would you like to receive a summary of the results or do you have some questions about the experiment?

Contact one of us:

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### **Appendix 2: moral values questionnaire**

In the statements below, we ask you to indicate to what extent are the following values important in your life on a 7-point scale. One means it is not important to you at all and seven means that it is really important to you.

1. **Equality:** equal opportunity for all.
2. **Social power:** control over others, dominance.
3. **A world at peace:** free of war and conflict.
4. **Wealth:** material possessions, money.
5. **Authority:** the right to lead or command.
6. **Social justice:** correcting in justice, care for the weak.
7. **Influential:** having an impact on people and events.
8. **Helpful:** working for the welfare of others.
9. **Ambitious:** hard-working, aspiring.

### **Appendix 3: moral emotions questionnaire**

You will now see a number of words that reflect different emotions and feelings. For each word, indicate on a 7-point scale how often you have felt these emotions **during the experiment**.

1. Anger
2. Disgust
3. Contempt
4. Shame
5. Embarrassed
6. Guilty
7. Compassion
8. Grateful
9. Awe
10. Fear
11. Pride
12. Schadenfreude

#### **Appendix 4: self-efficacy questionnaire**

Indicate the extent to which you agree with the following statements on a 7-point scale.

1. I thought I was able to inform the researcher that the other participant was using a telephone.
2. I considered myself able to tell the participant that she was using her mobile.
3. I considered myself able to stop the participant from using her mobile.
4. I felt I had the opportunity to inform the researcher.
5. I felt I had the opportunity to stop the participant from using her mobile.

#### **Appendix 5: threat to social identity questionnaire**

Indicate the extent to which you agree with the following statements on a 7-point scale.

1. I felt socially connected with the other participant.
2. I cared about how the participant would react to what I said to her.
3. I was afraid what the other participant would think of me if I said something about using the mobile phone.
4. I thought about my reputation when deciding whether or not to say something to the participant about using the mobile phone.