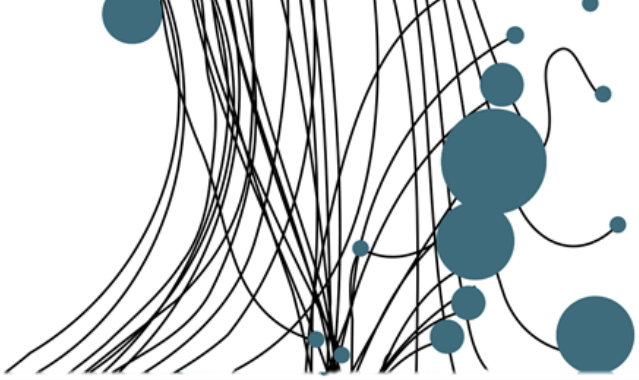

MASTER THESIS

The Dynamics of an Offender's Gaze Behavior During an Apology Within Victim-Offender Mediation

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January 2021

UNIVERSITY OF TWENTE.

Acknowledgements

First of all, I want to thank my supervisors, Sven Zebel and Florian Bonensteffen, for the interesting discussions during our meetings and especially for the useful feedback. I really appreciated your enthusiasm and expertise in victim-offender mediation, which clearly enhanced my thesis.

I also want to thank my second supervisor Florian for the collaboration on the eye tracking experiment: The technology has been quite a challenge, so your knowledge has helped me a lot throughout the data collection.

Finally, I would like to specially thank Janka Langhorst for taking the role of the confederate during the eye tracking experiment.

Abstract

Victim-offender mediation (VOM) is a restorative justice program that establishes communication between victim and offender, with a professional mediator being present (Hansen & Umbreit, 2018). Thereby, VOM can potentially, but not always, lead to positive outcomes for both parties, e.g. a reduction of anxiety in the victim (Zebel, 2012) and decreased offender recidivism (Nugent et al., 2001). The current research entailed 2 studies which investigated a) possible determinants of an offender's eye contact during an apology within VOM (Study 1) and b) the impact of this eye contact on the victim's evaluation of an apology (Study 2).

A VOM encounter can take place either directly (face-to-face), or indirectly (e.g. video messages). During both studies, we tested whether direct versus indirect VOM influenced the proposed main effects. Study 1 was related to the reintegrative shaming theory, which proposes that reintegrative shame can be a constructive emotion, whereas stigmatizing shame is suggested to be rather destructive and to affect an offender negatively (Braithwaite, 1989). Based on the theory, we hypothesized that the experience of reintegrative shame leads to more eye contact during an apology within (simulated) VOM, compared to stigmatizing shame. An eye tracking experiment was conducted to test the assumptions. The participants (N = 58) read a crime scenario and imagined being an offender that was offered to take part in VOM. Then, they were manipulated to experience either reintegrative or stigmatizing shame. This was done through a video by a confederate who took the role of the victim. During the fictional VOM session, the offender was asked to apologize either face-to-face (with the victim, i.e. the confederate from the manipulation being present), or through recording a video message (with the victim being absent). Participants were randomly allocated to the VOM medium. During the apology, eye tracking glasses recorded participants' gazes. Results did not yield substantial statistical evidence for the assumptions of study 1. Still, the outcomes very tentatively demonstrated that stigmatizing shame might lead to more gaze aversion. Also, there was somewhat more eye contact during indirect VOM via video message.

Regarding the second study, we expected that a high amount of eye contact leads to a more positive evaluation of the apology by the victim in terms of perceived responsibility-taking, suffering, sincerity, the intention to repair and prevent, satisfaction, insult, and forgiveness (see also Zebel et al., 2021). Within an online survey, the participants (N = 208) received the crime scenario from study 1, but from the victim's perspective. Participants were asked to imagine being the victim who got the opportunity to participate in VOM. During the survey, the participants viewed a recorded apology of the offender (i.e. a confederate who played the offender) who apologized with either high or low eye contact. This video also manipulated the perceived medium. Results could find no significant support the hypotheses. However, we did observe a weak, but significant positive relationship between offender's eye contact and perceived sincerity.

In sum, the outcomes of experiment 1 and 2 yielded some patterns which indicated that the experience of stigmatizing shame during VOM might decrease eye contact during an apology and thereby, lead to less perceived sincerity. Importantly, due to the lack of convincing evidence, these conclusions need to be viewed with caution.

Keywords: victim-offender mediation, restorative justice, eye tracking, apology, shame, eye contact, reintegrative shaming theory

The Dynamics of an Offender's Gaze Behavior During an Apology Within Victim-Offender Mediation

Since nearly fifty years, restorative justice (RJ) has been serving as an extension of the traditional justice system (Umbreit, 1998). Courts often fail to sufficiently incorporate the parties of concern in the process, which can cause negative emotions in the victim and even lead to secondary victimization[1] (Sank & Caplan, 2013; Parsons & Bergin, 2010; Umbreit, 1998). In contrast, RJ is more sensitive and aims at including the people related to the offense and especially consider the victim's needs (Parsons & Bergin, 2010; Umbreit, 1998; Zehr, 2015). Thus, RJ programs attend to the parties who were involved in the crime: victim, offender, and other possible stakeholders (Díaz Gude & Navarro Papic, 2020; Umbreit, 1998; Zehr, 2015). For instance, Family Group Conferencing involves not only victim and offender, but also the offender's or victim's parents, and other affected people (Blecher, 2011; Kiefer et al., 2020).

Typically, the main goal of traditional trials is to detect a guilty person and punish them, whereas a central characteristic of RJ is the emphasis on the positive prospects and rehabilitation of victim and offender, instead of focusing their deficits (Umbreit, 1998; Parsons & Bergin, 2010). For instance, RJ entails a respectful treatment of the offender and attention to victim's mental health (Umbreit, 1998; Parsons & Bergin, 2010). Commonly, an offender gets the possibility to apologize and offer reparations towards the victim, which can have a positive impact on the victim's forgiveness and in turn, reduce negative feelings and potentially stressful thoughts (Carlisle et al., 2012; Kiefer et al., 2020). As such, RJ is an alternate approach that can complement the court in a positive way, through considering the

[1] Secondary victimization is the revictimization of claimants throughout the process of prosecution (Parsons & Bergin, 2010; Natarajan, 2010).). E.g., victims are at risk to experience additional discomfort in court, through the pressure to re-narrate certain aspects of the criminal incident or feel blamed by the law enforcement, for instance, through a lack of sensitivity concerning the victim's desires (Parsons & Bergin, 2010).

needs of the parties that are involved, particularly those of the victim (Parsons & Bergin, 2010; Stewart et al., 2018; Zehr, 2015).

Objectives of the Current Study

The current paper is focused on a common RJ program: victim-offender mediation (VOM). VOM enables the victim and offender to voluntary meet each other under the supervision of a mediator (Hansen & Umbreit, 2018; Stewart et al., 2018). Doing so, the program involves the victim and offender in the justice process and enables safe communication between the two parties. VOM can lead to a number of positive outcomes for the victim (e.g. reduced fear and / or anger towards the offender, Winkel et al., 2010; Stewart et al., 2018; Zebel, 2012) and offender (e.g. less recidivism, Bouffard et al., 2017; Hansen & Umbreit, 2018; Nugent et al., 2001; Stewart et al., 2018). A sincere apology of the offender is often a crucial part of VOM (Choi & Severson, 2009; Dhami, 2012; Hansen & Umbreit, 2018; O'Hara & Yarn, 2002). Regarding this, it was indicated that eye contact with the interlocutor might convey sincerity (Basford, 2013; Phutela, 2015; Richardson & Spivey, 2008). In relation to VOM, this means that an apology without eye contact could be perceived as insincere and thereby decrease positive outcomes, such as satisfaction and forgiveness of the recipient. Hence, we decided to conduct two studies, which explore possible determinants of an offender's eye contact with a victim (study 1), and the impact of this eye contact on the victim during a fictional VOM encounter (study 2). Eye tracking glasses will be used in study 1 to measure offenders' eye contact during an apology within a simulation of VOM.

Currently, there is only a limited amount of literature available that relies on an objective measurement of gaze behavior within the context of VOM, although the validity of conclusions based on objective eye tracking data is superior to subjective measurements. Essentially, the technology is more resistant to bias due to, for instance, distorted observations or wanting to confirm the goal of the study (Heppner et al., 2016). Likewise, eye tracking is suggested to be more accurate compared to other measurements, especially to detect gazes on

specific areas, such as the eyes (Jongerius et al., 2020). Wearing the glasses is also relatively unobtrusive during an experiment (Hu et al., 2020; Jongerius et al., 2020).

In fact, the method has already proven useful during several psychological studies (e.g. Hu et al., 2020; Vazquez et al. 2017) and for studies concerning eye contact in particular (e.g. Rogers et al., 2018; Stephani et al., 2020; Ye et al., 2012). Furthermore, Bonensteffen et al. (2020) successfully used eye tracking to analyze victim's gaze behavior during a fictional VOM meeting. As far as we know, the current study is the first that uses eye tracking to investigate the gaze behavior of respondents who take the role of an *offender* during a simulation of victim-offender mediation.

In order to further expand the scope of this research, the impact of an offender's eye contact on the victim's perception of an apology will be the focus of the second study. With respect to the proposed importance of sincerity, we aim to analyze whether more or less offender eye contact might influence a victim's rating of the apology. Thereby, the assumption that a lack of eye contact can negatively impact the outcomes of an apology will be tested. The outcomes of the two studies can eventually provide an insight into the perspectives of both parties, i.e. victim and offender. A clear advantage of integrating the findings is thus the ability to yield a coherent overview of the dynamics of eye contact during an apology, with the overarching goal of explaining more versus less favorable apology and VOM outcomes.

Victim-Offender Mediation

VOM is one of the most common and growing RJ programs. Through building communication between those who were affected, VOM aims at supporting the perpetrator and the victim in dealing with the aftermaths of a misdeed (Hansen & Umbreit, 2018; Umbreit, 1998). An important premise of VOM is that both parties have to be willing to take part voluntarily (Hansen & Umbreit, 2018). Typically, the process begins with a request of either the victim or the offender, which will be delivered to the other party by the mediator

(Hansen & Umbreit, 2018). If both parties agree, mediation can take place.

During VOM, the mediator has to ensure that the process is sensitive to the needs of the participants, through establishing a safe environment and carefully monitoring the conversation (Choi et al., 2010; Choi et al., 2012; Hansen & Umbreit, 2018). Commonly, preparation before participation is a crucial component of VOM (Choi & Severson, 2009; Hansen & Umbreit, 2018). The actual meeting can be direct or indirect (Umbreit et al., 2000; Hissel et al., 2006; Zebel, 2012). During direct VOM, victim and offender meet face-to-face with a mediator being present. In contrast, indirect mediation does not comprise a meeting. Instead, the two conflicting parties can, for instance, participate in letter or shuttle mediation, where messages will be forwarded via the mediator (Bouffard et al., 2017; Umbreit et al., 2000). A form with mutual agreements concerning the future is often, but not always, a desired outcome of VOM (Hansen & Umbreit, 2018; Perspectief Herstelbemiddeling, n.d.). For example, an offender could promise to not repeat the criminal actions or to campaign for the prevention of similar incidents. Also aftercare to ensure the parties' well-being and agreements can be part of the process in some organizations (Hansen & Umbreit, 2018).

Research demonstrated several benefits and opportunities victim and offender can potentially gain through VOM (e.g. Hansen & Umbreit, 2018; Stewart et al., 2018). In many cases, the participants are overall satisfied with the process and outcomes of VOM, and also perceive the process as fairer than the court (Bouffard et al., 2017; Hansen & Umbreit, 2018; Stewart et al., 2018). Wemmers and Cyr (2006) argued that this is the case, because both parties have more control over what happens compared to the traditional court. Particularly the victim feels more respected and recognized, since VOM enables them to speak for themselves and comment on the narrative of the offender. Consequently, VOM can make victims feel empowered because it encourages their right to be heard (Choi et al., 2010).

Another crucial part of VOM is that the victim can ask unanswered questions and get explanations for the wrongdoing (Choi et al., 2010; Hansen & Umbreit, 2018). Thereby, the

victim gets the possibility to get to know the offender and possible reasons for the crime, to form a new, own impression, which can increase their understanding of the crime. Doing so, VOM can help victims coming to closure (Choi et al., 2010). VOM can also lower anxiety and / or anger towards the offender (Winkel et al., 2010; Zebel, 2012), and the general fear of being a victim of a crime again (Stewart et al., 2018).

Offenders are confronted with the outcomes of their undesirable behavior to understand the consequences of the crime and get the opportunity to apologize and exert actions of repair (Choi et al., 2010). In addition, the offender can narrate what happened from their point of view, express negative feelings they have with reference to the crime and show responsibility-taking for the wrongdoing (Choi & Severson, 2009; Hansen & Umbreit, 2018). Doing so, VOM is suggested to lead to more compliance and satisfaction of the offender (Bouffard et al., 2017). Also, research shows that a conversation with the victim within VOM can trigger more empathy (Choi et al., 2010; Hansen & Umbreit, 2018). In a study by Choi et al. (2010) offenders further reported proudness after noticing that their behavior or mindset changed in a positive way. Remarkably, VOM is suggested to lower the chance that an offender will repeat criminal actions in the future (e.g. Bouffard et al., 2017; Hansen & Umbreit, 2018; Nugent et al., 2001; Stewart et al., 2018).

But victims can also be less content with VOM due to several reasons. For example, Wemmers and Cyr (2006) mention that there is a risk of strengthening the victim's negative feelings (revictimization). Thus, it is important that the mediator is sensitive, through letting the victim express how they truly feel and providing room for their own decisions (Choi et al., 2010; Choi et al., 2012). If the victim feels pressurized or does not perceive the offender as genuine, satisfaction with VOM can be impaired (Choi & Severson, 2009; Hansen & Umbreit, 2018). Especially regarding an apology, perceived sincerity is crucial to ensure that it is satisfying for the recipient (Choi & Severson, 2009; Zebel et al., 2021).

Apologies within VOM

Generally speaking, apologizing is considered an important component of VOM (Choi & Severson, 2009; Dhami, 2012; Dhami, 2016; Hansen & Umbreit, 2018; O'Hara & Yarn, 2002). The victim's acceptance of an apology can heighten their satisfaction and also the chances that the offender will be forgiven, if the message is perceived as well-considered (Dhami, 2012). In turn, apologies that lead to forgiveness in the victim can empower them, decrease anger, and promote willingness to become reconciled (Dhami, 2016; Winkel et al., 2010). For the offender, an accepted apology is suggested to contribute to diminished recidivism (Wallace et al., 2008). Dhami (2016) further demonstrated that offenders were angrier towards victims that did not accept their apology, whereas after acceptance, offenders felt more ashamed but were also more satisfied.

As already indicated, the perceived sincerity is a prerequisite of a successful apology (e.g. Blecher, 2011; Choi & Severson, 2009; Hareli & Eisikovits, 2006; Lewicki et al., 2016; Pemberton et al., 2007; Zebel et al., 2021). Excuses that are not seen as genuine can even have negative consequences and lead to less satisfaction with VOM (Hansen & Umbreit, 2018; Pemberton et al., 2007).

In relation to this, eye contact is suggested to be one of the non-verbal signals that conveys sincere efforts during communication (Basford, 2013; Phutela, 2015; Richardson & Spivey, 2008). Likewise, failing to maintain eye contact within a conversation is proposed to result in perceived dishonesty and / or resistance (Blecher, 2011; Phutela, 2015). Regarding VOM and the objectives of the current research, we inferred that a victim might thus be dubious about the sincerity of an apology if an offender averts their gaze.

Additionally, several researchers explored the (verbal) content of a genuine apology (e.g. Lewicki et al., 2016, Zebel et al., 2021). Lewicki et al. (2016) stressed the importance of expressing regret, responsibility, remorse, intentions to repair, explanations for the wrongdoing, and to ask for forgiveness. Moreover, Zebel et al. (2021) found that positive

outcomes of an apology can be explained by the expression of suffering and responsibility-taking, which led to more perceived sincerity of an apology in their experiments. Also Bonensteffen et al. (2020) illustrated how inferences of responsibility-taking and suffering can influence the evaluation of an apology. In particular, results indicated that a person's attitude towards resocialization programs, such as VOM, can enhance the perception of an offender's suffering and responsibility-taking and thereby, result in more perceived sincerity of an apology. Interestingly, it was also suggested that the positive relationship between people's attitude and inferences of responsibility-taking depends on participants' gazes on the upper face of an offender. In contrast, a negative attitude towards resocialization decreased the perception of offender responsibility-taking if the fictional victim looked at this area during Bonensteffen et al.'s (2020) experiment.

Zebel et al. (2021) further demonstrated that the perception of suffering and responsibility-taking can be triggered by the expression of negative emotions, such as guilt and shame. The current paper is focused on shame, which is suggested to be able to convey both inferences (Zebel et al., 2021). This means, expressions shame within an apology can result in more perceived sincerity and in turn, increase victim satisfaction and forgiveness (see also Hareli & Eisikovits, 2006).

Shame

Shame is a so-called moral emotion, which develops throughout the childhood and adolescence (Herman, 2012; Svensson et al., 2013). The emotion shame is described as distressing, since shaming is self-critical and depends strongly on the opinion of others (e.g. Dickerson et al., 2004; Gausel & Leach, 2011; Herman, 2012; Pivetti et al., 2016; Tangney et al., 2011). Interestingly, it is proposed that people who feel ashamed do not primarily experience this emotion because they think their behavior concerning the misdeed was bad, but rather because the person feels bad about themself as an individual (Dickerson et al.,

2004; Harris & Maruna, 2005; Tangney et al., 2011). As such, feeling ashamed is suggested to be more related to peoples' desire to belong and less to morality itself.

However, the impact of shame is quite complex, as it can be associated with both, moral and immoral behavior as well as oneself and relations with others (e.g. Gausel & Leach, 2011; Hosser et al., 2008; Svensson et al., 2013; Tangney et al., 2014). For instance, it was demonstrated that feeling ashamed can increase recidivism among offenders, especially if they did not take responsibility for the crime (Hosser et al., 2008; Tangney et al., 2011; Tangney et al., 2014). Nevertheless, shame has also been shown to lead to a reduction of (re-) offense (Svensson et al., 2013; Tangney et al., 2014). This is suggested to be related to avoidance: people do not want to feel like this again and are therefore inclined to avoid comparable behavior in the future.

In line with this, Gausel and Leach (2011) introduced the assumption of shame as a two-sided concept (see also Gausel et al., 2016). Based on appraisal research by Lazarus (1991), Gausel and Leach (2011) distinguish between "specific" and "global self-defect" appraisals. The latter is suggested to be persistent, as it entails an overall negative self-image. The consequences of this kind of defect are similar to those of social-image harm, since global self-defect might lead to avoidant behaviors, due to perceived inferiority.

In contrast, appraisals of specific self-defects are most strongly related to shaming and indeed recoverable (Gausel & Leach, 2011; Gausel et al., 2016). A specific self-defect describes a perceived flaw of *one part* of one's self. For instance, a person might accept that it was wrong to cheat during a game (i.e. specific self-defect) rather than assuming that oneself is dishonest as a person (i.e. global self-defect). Therefore, people are reportedly more driven by the desire to do better if the defect is specific (Gausel & Leach, 2011; Gausel et al., 2016).

The current research will focus on the clearly bilateral impact of shame, particularly regarding Braithwaite's (1989) theory of reintegrative shaming.

Reintegrative Shaming Theory

Similar to Gausel and Leach (2011), Braithwaite (1989) introduced a theory that suggests two kinds of shaming: the Reintegrative Shaming Theory (RST). On the one hand, there is reintegrative shaming, which is assumed to be a constructive form of shame. One the other hand, stigmatizing shaming is suggested to be rather destructive and more painful (Braithwaite, 1989; Harris & Maruna, 2005). Reintegrative shame is characterized by approaching an individual respectfully. It is stressed that the undesired behavior was bad, but that the offender him- or herself is not. Instead, the focus is on the person's potential to develop in a positive way (Braithwaite, 1989; Harris & Maruna, 2005).

This is comparable to the "specific self-defect", which was demonstrated by Gausel and Leach (2011), as this type of shame can result in similar (positive) outcomes. Namely, RST proposes that reintegrative shaming has the potential to positively influence offenders and contribute to decreasing recidivism (Barnes et al., 2015; Harris & Maruna, 2005; Murphy & Harris, 2007). This is the case, as this kind of shame can enable a person to overcome destructive feelings they may have and rather move to responsibility-taking and empathic feelings for others (Harris & Maruna, 2005). With respect to VOM, this means that offenders who experienced reintegrative, rather than stigmatizing shame should be motivated to do better and be inclined to apologize and make amends to the victim.

Stigmatizing shame comprises a strong negative attitude towards the individual (offender) as a person (Braithwaite, 1989). Regarding this, the theory stresses the negative impact of this shame type, which is suggested to rather increase the chances of committing a crime again (Braithwaite, 1989; Harris & Maruna, 2005; Murphy & Harris, 2007). Thus, stigmatizing shame is a feeling that should not be experienced by perpetrators.

This kind of shame is similar to a flawed social image, respectively, Gausel and Leach's (2011) "global self-defect". Hence, stigmatizing shame leads to less motivation to enhance one's self and behavior and is proposed to be rather characterized by avoidant

behavior, due to its painfulness. All in all, stigmatizing shaming is shown to be the more distressing than reintegrative shaming. Within the context of VOM, we speculate that these suggestions can possibly explain restrained and avoidant behavior of offenders during mediation sessions. Moreover, this might explain why some offenders do not feel the need to do better.

Can Shame Impair an Apology via Eye Contact?

In sum, there is contradictory evidence regarding the experience of shame and its consequences. Generally speaking, Gausel and Leach (2011) suggested that harm to one's social status that led to feelings of rejection can lead to defensive actions (see also Gausel et al., 2016). The desire to avoid confrontation in order to gain back a sense of control and to protect against the disapproval of others can potentially motivate people to exert repressive behavior. For instance, a reduction of speech or escape responses, such as avoiding the exposure to other's gazes (Dickerson et al., 2004; Herman, 2012; Pivetti et al., 2016).

Likewise, stigmatizing shame might lead to people looking at the ground or surroundings, rather than the eyes of people, because the individual tries to evade the situation and potential rejection by others (Blecher, 2011; Dickerson et al., 2004; Herman, 2012; Pivetti et al., 2016). Keeping in mind the role of eye contact for the perception of sincerity, this might impair the quality of an offender's apology and thus, the victim's satisfaction.

The experience of reintegrative shame is considerably less painful compared to stigmatizing shame (Braithwaite, 1989; Harris & Maruna, 2005). During so-called reintegration ceremonies for offenders, Braithwaite and Mugford (1994) observed that a reintegrative approach can possibly lead to a change in gaze behavior and hence, increase eye contact.

Based on these findings, the first part of the current study aims to answer the research question: "In which way do feelings of reintegrative versus stigmatizing shame influence the delivery of an offender's apology within VOM?". Doing so, existing literature can be

extended, with the goal of finding objective proof for the assumption that the two kinds of shame lead to differences in eye contact made with the victim during VOM.

Because of the suggested impact of eye contact on sincerity, we concluded that it is also meaningful to explore the impact of an apology made with low versus high eye contact on the recipient's perception. Thus, the second study considered the effect of an offender's gaze behavior during an apology within a simulated VOM meeting on the victim, i.e.: "How does the amount of an offender's eye contact influence a victim's evaluation of an apology?". Therefore, this research will not only deal with the impact of shame on eye contact, but also with the consequences of the offender's behavior with respect to the recipient's perception.

Direct Versus Indirect Victim-Offender Mediation

Generally speaking, victim and offender reported lower satisfaction rates after indirect versus direct VOM in several studies (McCold, 2003; Umbreit, 2002; Vanfraechem et al., 2018). Yet, Bouffard et al. (2017) demonstrated that indirect mediation can lead to less reoffending and consequently, they suggested that indirect VOM can be handy for "lower level" offenders[2] to ensure that there are more resources available that enable face-to-face mediation for offenders with more severe backgrounds and future perspectives.

A crucial advantage of indirect VOM is the fact that it is a suitable alternative for people who decline a direct meeting, as victim and offender might be interested in mediation, but not in face-to-face contact (Wemmers & Cyr, 2006; Zebel, 2012). It is for example possible that the victim is too afraid and / or angry, or assessed a physical meeting as potentially dangerous (Bolívar, 2013; Zebel et al., 2017). In turn, indirect VOM might facilitate participation and enable mediation for these individuals.

Moreover, indirect contact is suggested to be more convenient regarding costs and flexibility (Rifkin, 2001; Goodman, 2003). People also get the opportunity to reflect upon a

[2] "Lower level offenders" means offenders with a comparably lower risk to reoffend (Bouffard et al., 2017).

message before sharing it with the other party when exchanging letters or videos (Goodman, 2003). These findings demonstrated that it is useful to conduct additional research on the dynamics of indirect mediation programs.

Video Messages in VOM

In order to expand the scope of the current research, we chose to focus on one of the latest additions to indirect VOM encounters, i.e. the communication via video messages (Joudo-Larsen, 2014; Perspectief Herstelbemiddeling, 2019). This type of indirect mediation has not yet been researched frequently and therefore we concluded that there is a need of further investigating its impact on the outcomes of VOM. This was additionally supported by Perspectief Herstelbemiddeling (2019), who recently introduced the option of video contact and eventually concluded that more research is needed on the willingness to participate in – and the effect of – video messages. Due to the lack of VOM research regarding video messaging, we will refer to other literature that demonstrated the possible advantages and downsides of this communication channel in general (Rifkin, 2001; Fullwood, 2007; Goodman, 2003; Håkonsson et al., 2016; Swaab & Galinsky, 2007; Swaab, et al., 2012).

First, research indicated that privacy concerns can be an obstacle of video messaging because the recordings can be saved and shared (Rifkin, 2001; Goodman, 2003). With reference to VOM, this means that participants might communicate with more caution, as trustworthiness can be lower. Additionally, conversations via video messages are less intimate than face-to-face meetings (Goodman, 2003). Hence, the expression and perceptions of (non-) verbal prompts can be more difficult, due to the shortage of a personal setting (Rifkin, 2001; Fullwood, 2007; Goodman, 2003). Amongst others, the parties may be impaired in interpreting tone and gestures, because the interlocutor is solely perceived on a screen (Fullwood, 2007; Goodman, 2003).

Furthermore, the lack of synchronicity when exchanging video messages can impair the outcomes because asynchronous channels are suggested to have a negative impact on

communication flow (Håkonsson et al., 2016; Swaab & Galinsky, 2007; Swaab et al., 2012). According to Swaab et al. (2012) this is, for instance, caused by the lack of immediate feedback. Nonetheless, indirect VOM via video is one of the "richest" channels, because people can still exchange vocal as well as visual information (Bohannon et al., 2013; Swaab & Galinsky, 2007; Swaab et al., 2012). Compared to other indirect VOM mediums, video messaging is thus the closest to face-to-face contact (besides synchronous video-communication via webcam), as the conversation is more realistic and personal than, for instance, letter- or shuttle mediation.

Finally, we propose that another crucial benefit of indirect VOM is related to avoidant behavior that accompanies feelings of shame, particularly if it is stigmatizing (Blecher, 2011). Namely, when recording a video message, there is no victim present at the moment the apology is given. Drawing on the claim that shaming and its consequences depend on other people for a great deal (e.g. Gausel & Leach, 2011; Herman, 2012; Tangney et al., 2011), we assume that this type of contact might reduce the painfulness of the situation and thereby decrease offenders' avoidance. Consequently, this research aims to explore whether offender eye contact might be further facilitated if people record a video apology compared to a face-to-face encounter.

Hypotheses

Based on the insights that were reported throughout the theoretical framework, the following hypotheses were formulated:

Hypothesis 1a: Offenders that are exposed to reintegrative shaming will maintain more eye contact during an apology in a simulation of VOM (i.e. longer fixation duration on the victim's eyes / the camera lens) than offenders that are exposed to stigmatizing shaming.

Hypothesis 1b: This effect will be stronger for a video-taped apology than for a face-to-face apology, where the victim is physically present (i.e. an interaction effect between type of shame and medium).

Hypothesis 2a: Victims will evaluate apologies that are characterized by a high, rather than a low amount of eye contact, more positively in terms of less insult and more perceived responsibility-taking, suffering, sincerity, satisfaction, intention to repair and prevent, and forgiveness.

Hypothesis 2b: This effect will be stronger for a face-to-face apology than for a video apology (i.e. an interaction effect between amount of eye contact and medium).

Study I

Method

General Overview

The ethics committee of the faculty of behavioral, management and social sciences of the University of Twente has approved Study 1. In the following, we will provide a short overview of the experiment that was conducted. First, we aimed to measure participants' non-manipulated gaze behavior, through a measurement of the gazes in a conversation with the researcher prior to the experiment (i.e. baseline measurement). Then, the participants had to fill in two pre-measurements. This was followed by a crime scenario, which asked the participants to imagine being an offender that stole the cash register of a study association.

Subsequently, a video of the victim was displayed, and this comprised the manipulation of either reintegrative- or stigmatizing shame. After that, a simulated VOM meeting was taking place either directly or indirectly. In the direct condition, the offender (participant) met the victim (confederate) face-to-face. In the indirect condition, people recorded a video message for the victim who was absent. Based on these two mediums and the type of shame manipulations, there were four different conditions: reintegrative / direct, reintegrative / indirect, stigmatizing / direct, and stigmatizing / indirect. Participants were

asked to deliver an apology towards the victim or the camera. Meanwhile, the participants' gaze behavior was tracked with eye tracking glasses, which comprised the central dependent measure. Finally, multiple questions about the participants' VOM experience were included and administered.

Participants

Prior to the data collection, a power calculation was conducted with G*Power (Effect size = .25, α = .05, Power = .08). The outcomes have revealed a desired sample size of 128 participants. Eventually, 60 individuals took part, as we had to stop the data collection earlier than intended. This was caused by the Covid-19 outbreak and the measures to counteract the coronavirus. Most of the participants were recruited via Sona systems. This is a program which enables students to sign up for different studies whilst they get credits. 1 Sona credit could be earned for experiment 1. In line with this, the majority of the participants were students from the UT.

To be included in the analysis, a required minimum of 80% gaze samples was predefined. This value represented the percentage of successfully recorded gazes of all gaze samples that could have possibly be recorded by the eye tracking device during the experiment. For this reason, one participant with only 45% gaze samples was removed. Possible explanations for such a low percentage can be calibration errors, lighting, or individual differences (Tobii Pro, 2016). In addition, the data of the very first participant was deleted, because of startup errors during the first experimental session, which decreased the validity of the data. This resulted in a final number of 58 participants.

The mean age of participants was slightly higher than 21 years (M = 21.29, SD = 3.66). Moreover, 41 people were female (71%) and 17 were male (29%)[3]. Most participants were German (62%, n = 36), followed by Dutch (22%, n = 13) and other nationalities (16%, n = 9). Regarding prior experiences with delinquency, numerous participants indicated that they have already committed a minor crime (40%, n = 23), but only 1 participant reported a severe infringement. Moreover, 17% (n = 10) of the sample stated that they have already been victim of a minor offense, and even more have been victim of a rather severe crime (28%, n = 16).

Design

In this study, a 2 (reintegrative vs. stigmatizing shame) x 2 (direct vs. Indirect medium) between-subject design was used. Reintegrative and stigmatizing shame were manipulated through two different videos by the victim (confederate). Furthermore, the participants were randomly assigned to two different VOM mediums, i.e. direct (face-to-face) or indirect (video message). We aimed to explore whether the types of shame and medium have an impact on offenders' eye contact. Thus, the dependent variable was participants' eye contact with the victim (direct) or gazes at the camera lens (indirect). These were measured by tracking the duration of gazes (in seconds) that were directed at the eyes or lens.

Apparatus

Tobii Pro eye tracking glasses were used to collect information about participants' gaze behavior. These glasses were coupled with a Dell tablet and a main unit that contained a memory card to safe the gaze data of the participants. The tablet with the corresponding Tobii Pro Lab software was used to monitor the experiment and to gather data. The Tobii Pro Lab

[3] Because of the comparatively high number of female participants, Chi-Square tests with gender and the shame conditions, the medium conditions, and both conditions together were conducted, to control whether the distribution of the genders was similar in all conditions. The outcomes have shown that the proportion of males and females was equal among the two shaming conditions (X^2(1, N = 58) = .05, p = .83), the two mediums (X^2(1, N = 58) = .15, p = .70), and for the interaction effect of shame and medium (X^2(3, N = 58) = .75, p = .86). That means, the gender distribution was even, with an overall higher percentage of women within all conditions (around 70% women and 30% men).

software was also the tool to analyze the data. For further statistical testing, the metrics were downloaded and analyzed with SPSS.

Procedure and Scales

The Begin of the Experiment. Overall, it was tried to arrange the experimental situation as naturalistic as possible to ensure realistic gaze behavior. First, the participants were briefly introduced into the content, process, and goal of the experiment. At this point of time, we did not fully disclose the purpose of the study yet, to avoid that this knowledge influenced people's behavior. Then, the informed consent had to be signed via Qualtrics, which also contained a brief explanation of the study and a short introduction into VOM.

As soon as the participants gave their consent, the researchers could put on the eye tracking glasses, which were adjusted individually. Regarding this, we told the participants that these glasses are needed for the experiment. They knew that the glasses record their gazes and we also did not try to conceal this. However, the participants were instructed to wear the glasses during the whole session and not only during the apology, to disguise the fact that we will only analyze these gazes.

Then, the eye tracking glasses were calibrated. Each person had to look at a calibration circle on the tablet until the calibration was successful. During this process, the distance between the tablet and the participant was approximately one meter. After that, the eye tracking recording could be started. The glasses recorded the participants' eye movements until we stopped the recording after the apology. Importantly, the participants did not notice the termination of the recording, as this was done with the tablet, while the participants continued to wear the eye tracking glasses.

With reference to the apology in the direct (face-to-face) condition, people's gazes towards a confederate who played the victim were recorded. In the indirect (video message) condition, a camera (GoPro Hero 7) was used to track participants' gazes at this camera lens.

Baseline Measurement. The data collection began with a baseline measurement to assess the neutral, unmanipulated gaze behavior of the participants. Regarding this, we instructed the participants to tell something about their study or hobbies. We did not explicitly mention that this was a measurement, in favor of more naturalistic gaze behavior. Instead, it was said that this is part of the calibration procedure.

After the baseline measurement, the actual experiment began with the Qualtrics survey. A randomizer was used to assign the participants to one of four conditions, which were based on a combination of the two different shaming experiences (reintegrative vs stigmatizing) and the two different VOM mediums (face-to-face vs video message). The types of shame and medium were also the independent variables for testing hypothesis 1a and 1b.

Attitude Towards Resocialization Programs. Firstly, the participants' attitude towards resocialization programs was measured by seven items. Generally, all of the scales (except for prior crime experiences) were assessed with a five-point Likert scale (*Not at all*, *Slightly*, *Moderately*, *Very much*, *Extremely*).

The purpose of this scale was to measure people's attitude and use it as a covariate, in order to account for individual differences with regard to one's opinion about such programs. In particular, this variable has been shown to be important in explaining gaze behavior in the context of VOM (Bonensteffen et al., 2020). An example item is: "Resocialization of an offender is equally important as the punishment that an offender receives for a misdeed.". The reliability analysis has shown that the scale was reliable ($\alpha = .74$).

Scenario. Each person read the same scenario in which they were asked to imagine being a student that stole a cash register from a student association during an event on the campus (see Appendix A). It was described that the person runs away with the money and tried to hide from the other students. In the end, the offender in the scenario was caught by the police. Then, the participants learned about the victim's suffering, and it was implied that the offender in the scenario felt bad about this. Subsequently, the possibility to voluntarily

participate in VOM was introduced. Amongst other things, it was mentioned that the offender can improve their own, as well as the situation of the victim. Examples of positive outcomes that were included are reduced fear of the victim and the possibility for the offender to express their feelings, motivations, and thoughts. Moreover, the advantages of an apology and the opportunity to ask and answer questions were included as benefits of VOM.

Pre-Measurement of Willingness. The scenario was followed by five questions about the willingness to apologize and take part in VOM. The purpose of this scale was to measure people's (unmanipulated) willingness to participate in VOM, and to add this variable as a covariate to the hypothesis testing. Since the participants were instructed to take part in VOM, we also wanted to consider people's actual willingness to participate if they would have had the opportunity to choose themselves.

The questions were related to participation in general, willingness to apologize and the different mediums of VOM (e.g.: "If you could choose, to what extent would you prefer to meet the victim directly, that is, face-to-face?"). The computation of Cronbach's alpha has shown an unacceptable reliability for this scale ($\alpha = .26$). This can be explained by the fact that the items did not only measure overall willingness, but also the preference to take part in specific types of VOM, i.e. face-to-face, video message or letter exchange. After leaving out the fifth item about people's willingness to participate in letter mediation, Cronbach's alpha increased ($\alpha = .55$), but the reliability remained rather low. Also, a correlation analysis with all items of the scale was conducted, which revealed that the items were not strongly related to each other (see Appendix B). Therefore, we decided to use the (first four) willingness items separately.

Manipulations. The participants' emotional state was then manipulated in favor of feeling reintegrative versus stigmatizing shame. This was done by means of a video of the victim (i.e. confederate). A transcript of the victim's statements was displayed below the video (see Appendix A). Before the video was displayed, the participants were asked to

imagine that they gave their consent to take part in VOM. It was described that a video will be shown, which was recorded by the victim (and the mediator) within the frame of VOM.

In the recordings, the victim treated the offender in an either reintegrative- or stigmatizing way. For instance, in the reintegrative video the victim said things like: " I don't think that you are a criminal, I only think that what you did was wrong.". Amongst other things, it was stressed that the victim is open-minded towards the offender and willing to forgive. Contrary, in the stigmatizing condition statements such as: "[…] criminals like you deserve to be punished and nothing more." were delivered. In this video, the victim expressed a strongly negative attitude towards the offender and doubts that the person could indemnify what happened. After that, participants received questions to measure their actual experience of the two types of shame.

Manipulation Checks. For the manipulation check, two scales in relation to reintegrative shame, respectively stigmatizing shame were displayed. The items were based on studies that measured these or similar concepts (Watson et al., 1988; Murphy & Harris, 2007; Benson et al., 2011; Gausel et al., 2016). The scale for reintegrative shaming included 13 statements. The items were introduced with the question: "To what extent do the following statements reflect your thoughts when you think about the VOM experience you just had? ". This was followed by statements such as: "The victim treats me with dignity and respect.". Cronbach's alpha was computed, which has shown a good reliability of the scale ($\alpha = .86$).

Feelings of stigmatizing shame were also measured with 13 items. Again, the scale began with the question: "To what extent do the following statements reflect your thoughts when you think about the VOM experience you just had?". An example item for stigmatizing shame is: "I will be rejected by others because of what I have done.". Cronbach's alpha analysis has approved the reliability of the scale ($\alpha = .90$).

The Apology. In the following, the simulated VOM session continued. At this point, the participants were asked to deliver an apology towards the victim. To ensure some

standardization of the apologies, the participants were instructed to include the following components: saying sorry, an emotional component of remorse, and a statement about the offender's positive future intentions. Nevertheless, it was stressed it is not mandatory to incorporate these guidelines, to avoid that participants feel pressurized. Moreover, the apology could be delivered in the native language of each participant if they wanted to.

The offender apologized either face-to-face towards a confederate playing the victim (direct) or via video message, with the victim being absent (indirect). In the direct condition, the victim (i.e. confederate) entered the room as soon as the participant was ready for it. In pursuance of a standardized VOM simulation, the confederate was beforehand instructed to keep a neutral facial expression during all apologies and that she should nod from time to time to signalize active listening. Moreover, the confederate's body posture was congruent throughout all sessions and her arms were resting on the table.

In the indirect condition, the camera was placed on the table. Then, it was explained that the video will be shown to the victim and that the offender should act as if the victim was present. Likewise, it was mentioned that the camera (lens) can be seen as the victim's face and that gazes at the face and eyes could be simulated through looking at the camera.

The video apology was not actually recorded, but it was ensured that the participants thought that this was the case. Regarding this, the researcher pressed the power button of the camera, which made a short noise. We told the participants that this means that the recording began (although this was not the case) and that they could start talking as soon as they felt ready to. Still, the audio was recorded with the eye tracking glasses. Throughout the simulated VOM situation, the eye movements of the offender were recorded. After the apology, the confederate left the room, or the camera was removed.

Post-Measurement of Willingness. Again, five questions about people's willingness to participate were asked to get a post-measurement of these items. The purpose was to measure whether participation in (simulated) VOM might have changed people's attitude. The

items were identical to the pre-measurement, but the questions were formulated in the past tense. For example: “If you could have chosen, to what extent were you willing to apologize towards the victim?”. Computations of Cronbach’s alpha have shown a negative value (α = -.31), which does also not reach an acceptable value if any of the items would have been removed. The reason for this outcome is identical to the pre-willingness scale. Furthermore, a correlation analyses did not reveal strong relationships among the items (see Appendix C). Similar to the pre-measurement of willingness, the items were thus used apart.

Background Questions and Debriefing. Subsequently, a number of questions about demographic data, including age, gender and nationality were displayed. Moreover, we asked about their self-perceived attitude and behavior, as well as the intention to make eye contact.

Six questions were related to the participants’ own perception of offender sincerity, their own (naturalistic) behavior and their engagement in eye contact. The most relevant measures included the intention (“To what extent did you intend to look into the victim’s eyes?) and the easiness to make eye contact (“To what extent was it easy for you to look into the victim’s eyes?”). Correlation analyses have shown a significant positive relationship between these two items ($r(56) = .70$, $p < .001$). That means, people’s ease to look an interlocutor in the eyes is indicated to be related to the intention to do so (or the other way around). Hence, the two variables were transformed into one variable in order to add this measurement of participant’s own perceptions to the descriptive analyses (“self-perception”).

Then, a question concerning why it might have (not) been easy for the person to maintain eye contact was displayed. The item was formulated as an open question, so the participants could convey their own unique experience.

The last four questions of the survey were related to people’s (or family’s / friends’) prior experiences with being a victim of- or having committed a crime. An example item is: “Were you ever a victim of a crime in your life?”. These were the only questions in the survey that were not assessed with a 5-point Likert scale, but with the options *Yes, a rather minor*

crime (e.g. vandalism), *Yes, a rather severe crime (e.g. robbery*), *No, I don't want to answer this question.* The last option was explicitly mentioned, because people might feel uncomfortable to answer these questions and we wanted to minimize the risk that people end the survey if they see this question.

As soon as the participants were ready with filling out the study, the researcher took off the eye tracking glasses. Then, the debriefing took place, which disclosed the whole goal of the study. Regarding this, we described our hypotheses and the experiment with the manipulations. The participants could also ask further questions, which were answered by the researcher(s). After that, the participants received a small reward and could leave the experimental setting. Appendix D provides a detailed description of the experiment's procedure (Investigator script).

Dependent Variable: Gazes at the Eyes or Camera Lens

For testing the hypotheses, participants' gazes at the eyes or camera were the dependent variable. Per participant, the recorded gazes were summarized into the total fixation duration of all gazes on the camera lens or eyes (i.e. the total time participants gazed at the relevant areas during the apology). For this analysis, we used a variable that represented the fixation durations on both eyes (for participants in the direct condition), and the camera lens (for the indirect condition).

However, we decided to focus on *relative* durations (i.e. the time participants gazed at the relevant areas relative to the recording time), rather that total fixation durations, to compensate for the fact that the apologies were not of equal length. Consequently, the total fixation durations were divided by the total duration of the apology (Tobii Pro, 2016), which yielded the final dependent variable.

Pilot Study

In order to test whether our video manipulations could successfully evoke reintegrative or stigmatizing shame, a pilot test was conducted. There were two different

versions of the reintegrative shame video, and two versions of the stigmatizing video. Based on the data, the videos that were used in the final experiment could be chosen. While the content was identical, the two videos per shaming condition still differed slightly, as the message was partly read from a note. In the second versions, the confederate completely memorized the messages and recited them in the video. Also, the second videos differed from the first version because there were two "scenes" per video due to a cut after the first part of the victim's statement. This was, however, not strongly noticeable.

The pilot test was done with an online Qualtrics study. This questionnaire consisted of the introduction, informed consent, pre-measurements, and the manipulation checks of the final survey (see section "Procedure and Scales"). In total, 27 people participated in the study. After the participants gave their consent and answered the pre-measurements, one of the video recordings was randomly displayed.

This was followed by the manipulation checks for feelings of reintegrative and stigmatizing shame (for a description of the scales see section "Procedure and Scales"). Cronbach's alpha revealed that the stigmatizing ($\alpha = .95$), as well as the reintegrative shame scale ($\alpha = .93$) were a reliable measurement during the pilot test.

Finally, some background questions were asked, which included items with regard to gender, age, nationality, and prior experiences with crime.

In order to test whether and how the manipulations worked, four ANOVAs were conducted. Two with the scale for reintegrative shame, and two with the scale for stigmatizing shame as dependent variable. For the first ANOVA, the reintegrative shame scale was the dependent variable and the first version of the reintegrative video the independent variable. The means of the participants in the reintegrative condition ($M = 3.55$, $SD = .63$) were, as intended, significantly higher compared to the stigmatizing condition ($M = 2.82$, $SD = .90$, $F(1, 11) = 17.79$, $p < .01$). Then, the second video was used as independent variable. Again, the ANOVA has shown that the means of the reintegrative condition were significantly higher

(M = 3.51, SD = .74) compared to the stigmatizing condition (M = 1.96, SD = .27, $F(1, 12)$ = 27.25, $p < .001$). When comparing the outcomes of both ANOVAs, one can conclude that the second video manipulation worked better for reintegrative shame. This is the case, as the main effect that resulted from the ANOVA with the second video was considerably stronger compared to the first version.

Two more ANOVAs were conducted. Now, the scale for stigmatizing shame was the dependent variable. When including the first version of the videos as independent variable, the outcomes were in line with the expectations. That is, the stigmatizing shame condition mean was shown to be significantly higher (M = 3.52, SD = .40) compared to the reintegrative condition (M = 2.21, SD = .75, $F(1, 11)$ = 16.17, $p < .01$). The ANOVA regarding the second version of the videos (i.e. version two as independent variable) has also demonstrated that the mean of the stigmatizing condition was higher (M = 3.5, SD = .37) than the reintegrative condition mean (M = 2.19, SD = 1.19, $F(1, 12)$ = 13.95, $p < .01$). Here, the differences between the two versions were less clear, but when comparing the main effects, the results indicated that the first version worked slightly better for stigmatizing shame.

We concluded that the overall advantage of the second version was greater than the advantage of the first version, because the main effect for the second version, reintegrative shaming video was clearly stronger than version one, whereas the difference between the two stigmatizing videos was less pronounced. That means, the gain of using version two for reintegrative shaming outweighed the fact that version one worked slightly better for stigmatizing shame. Taking everything into account, we thus decided to use the second version of the videos as final manipulation.

Results

Manipulation Check

Two ANOVAs were conducted to check whether the manipulations for feelings of reintegrative and stigmatizing shame were successful. The independent variables were the

types of shame with the two levels reintegrative and stigmatizing shame, and the mediums, direct or indirect. The dependent variable per ANOVA was the manipulation check scale for feelings of reintegrative- or stigmatizing shame.

Indeed, the total mean of the reintegrative shaming condition for the reintegrative shaming scale (M = 3.35, SD = .36) was higher compared to the stigmatized condition (M = 2.21, SD = .51). The corresponding ANOVA has demonstrated a significant main effect of shame ($F(1, 54) = 85.65$, $p < .001$). As expected, this was not the case for the mediums ($F(1, 54) = .07$, $p = .80$). Finally, the interaction effect of the type of shame and medium was also not significant ($F(1, 54) = .12$, $p = .74$).

The ANOVA for the stigmatizing shame scale revealed a statistically significant main effect of the type of shame ($F(1, 54) = 47.42$, $p < .001$). That is, the total mean of the stigmatizing shame condition (M = 3.41, SD = .63) was significantly higher compared to the reintegrative condition (M = 2.30, SD = .59). Again, there was neither a significant main effect of the mediums ($F(1, 54) = .37$, $p = .54$), nor an interaction effect ($F(1, 54) = .85$, $p = .36$). Both ANOVAs demonstrated that the manipulations worked as intended. Furthermore, the different mediums did, as expected, not have an effect on the shame scales.

After that, it was tested whether the significant differences persist after controlling for the attitude towards resocialization programs and the first four pre-willingness items. For reintegrative shaming, the ANCOVA has shown that the differences between the two manipulations remain significant ($F(1, 49) = 79.39$, $p < .001$). Likewise, a second ANCOVA confirmed that the differences in the means for stigmatizing shame were significant when controlling for the variables ($F(1, 49) = 47.98$, $p < .001$). Also, both ANOVAS did not reveal a significant main and interaction effect concerning the mediums.

All in all, the results of the manipulation check confirmed the successfulness of the shame manipulations that were used during this study.

Preparation of the Eye Tracking Data

Snapshots. Before being able to analyze the eye tracking data, a few steps had to be done. First, two snapshots were chosen, which were the base for the visualization and mapping of data. These snapshots represented the average view of the participants. The images that were used during this analysis can be seen in Figure 1 and 2.

Relevant Recordings. Beyond this, relevant recordings were selected. For the eye tracking analysis, most of the recording until the begin of the apology could be ignored. In order to mark the relevant segments, so-called time of interests (TOIs) were created. The first TOI was chosen for the baseline measurement. A threshold of 30 seconds was determined for the length of each measurement. Thus, the TOI was selected from the begin of the participant's narrative until the end, respectively the maximum of 30 seconds.

To answer the hypotheses, the point of time where the apology was delivered was selected as TOI for each participant. The begin was defined as the moment when the participants were done thinking of an apology and started to talk. Accordingly, the apology's end was fixed as soon as the person stopped to speak. The length of the apology differed per participant, but mostly they took around one minute (M = 76.84 seconds, SD = 42.31). The shortest TOI (i.e. apology) had a length of 23.06 seconds and the longest TOI was nearly four minutes long (235.30 seconds).

Areas of Interest (AOIs). Also, so-called areas of interest (AOIs) were determined. This was done to select the gaze recordings that were relevant for this study. These AOI's differed per condition. For the direct condition, the eyes of the confederate (i.e. victim) were chosen as AOIs (see Figure 1). Regarding this, both eyes were separated because otherwise, parts of the nasal bridge would have had to be included. This was done to ensure an accurate measurement of eye contact in the direct condition.

For the indirect condition, the lens of the camera was selected as AOI (see Figure 2).

This decision was based on the fact that the researchers told the participants that the lens represents the victim's face, respectively eyes.

Figure 1

Areas of Interest for the Left and Right Eye of the Victim

Figure 2

Area of Interest for the Camera Lens

Mapping of the Data. Subsequently, the gaze data which was recorded during the TOIs was mapped onto the snapshots. This was done individually per participant, through manually allocating each gaze fixation that was recorded during the selected TOIs. The gaze fixations of participants in the direct condition were mapped onto an imagine of the confederate (see Figure 1). For the indirect condition, a snapshot of the camera was used (see Figure 2). All further visual analyses were executed on the basis of this mapped data.

Exploration of The Data

Eye Tracking Visualizations. To get a first overview of participants' gaze behavior, the Tobii Pro Lab visualizations tool was used to create four heatmaps, one per condition. The purpose of these heat maps was to show a summary of the whole set of recordings. As it can be seen in Figure 3 – 6, different colors illustrated the fixation durations of all gaze data taken together. Shades of red are interpreted as longer duration and yellow translates to medium. Green represents areas where the participants looked at for shorter amounts of time.

Heatmaps for the Direct Condition. The heat map for the reintegrative, direct condition (see Figure 3) has shown that people tended to gaze the longest at the area around the victim's left eye. Apparently, the participants did not spend much time looking at the environment, as there were only some subtle green shades. So, most of the time, people have seemed to gaze at the victim's face.

Figure 3

Heatmap Representing the Absolute Fixation Durations of the Reintegrative, Direct Condition

Figure 4

Heatmap Representing the Absolute Fixation Durations of the Stigmatizing, Direct Condition

For the stigmatized participants, the visualizations showed slightly different patterns. As illustrated in Figure 4, the red area was located in the middle of the victim's face. Also, the right eye was slightly more covered in red, implying a longer fixation duration, compared to the left eye. Overall, the heat map demonstrated that the participants spend most of the time gazing at the victim's face. Yet, this finding differed from the reintegrative condition, as the lower part of the face (the area around the chin) was not colored at all, which means that the participants did spend no or very little time gazing at this area. This was not the case on the reintegrative, direct heatmap (see Figure 3). That is, the stigmatized participants have seemed to tend to look at the center and upper face area for a longer time, compared to the reintegrative condition. Thus, there was slightly more variation in the fixation durations around the eyes within the stigmatizing condition.

Heatmaps for the Indirect Condition. In the reintegrative, indirect condition the camera lens was fixated the longest according to the visualization data (see Figure 5). People also spend some time looking above the camera and at the tripod. Additionally, an area on the left side of the GoPro was colored green, indicating that this was also a point where participants have looked at for a longer time, compared to the rest of the surroundings.

Figure 5

Heatmap Representing the Absolute Fixation Durations of the Reintegrative, Indirect Condition

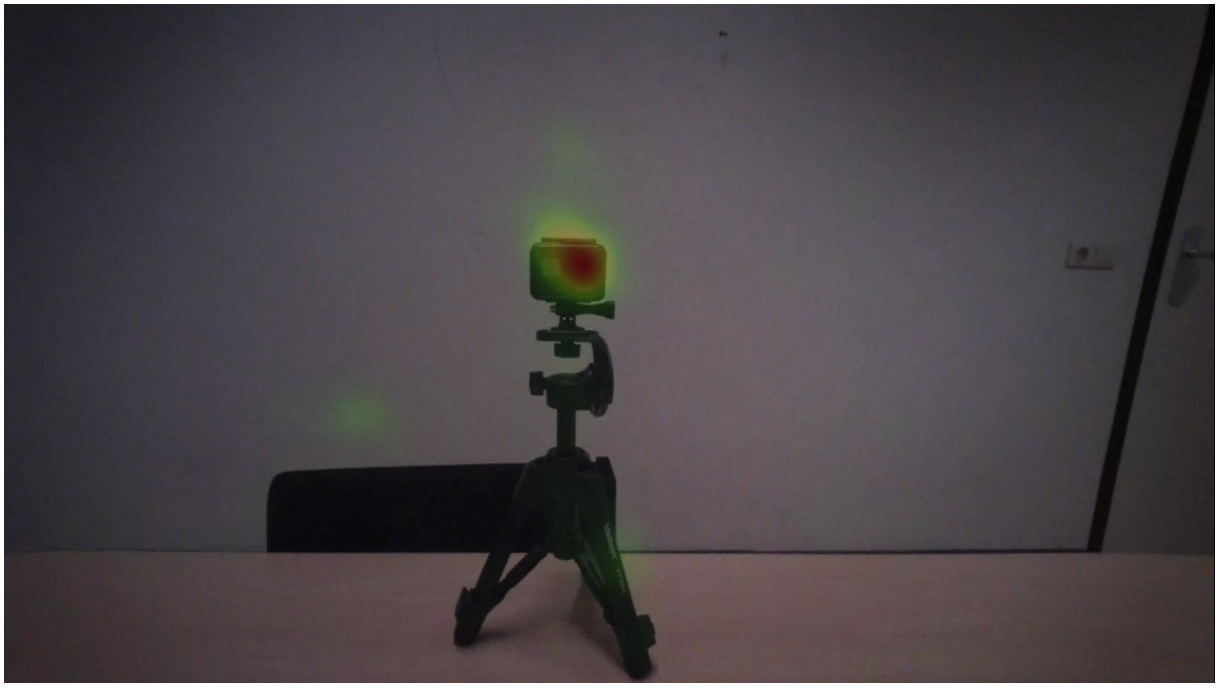
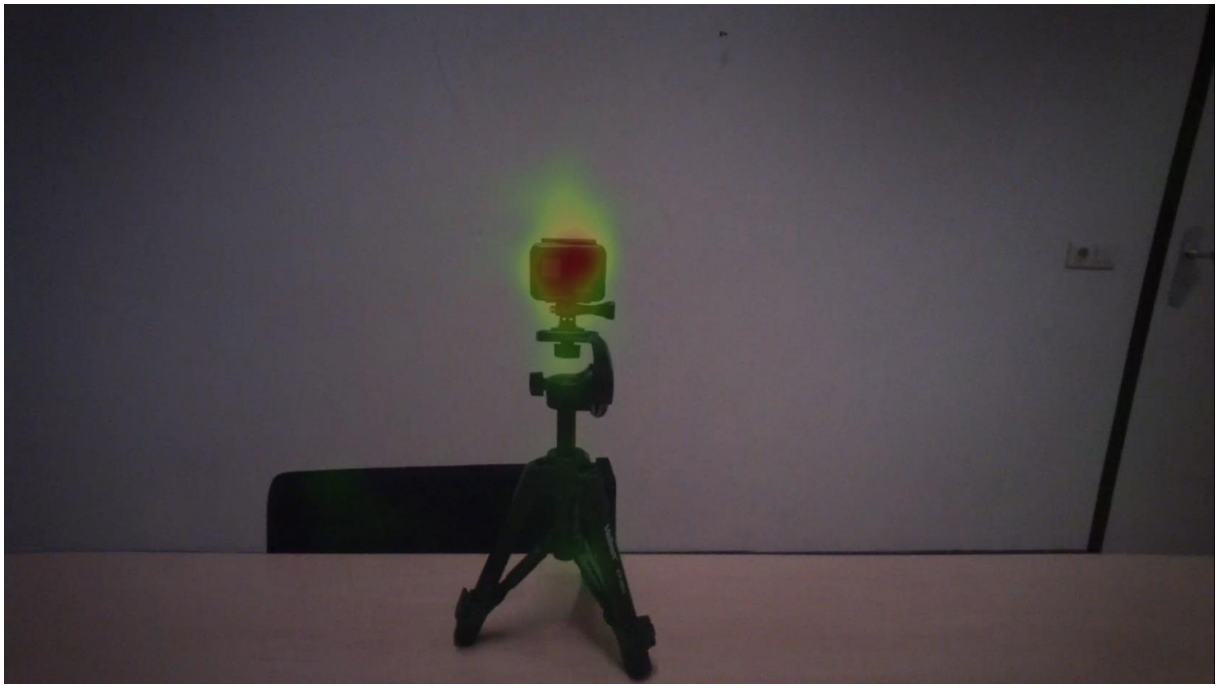


Figure 6

Heatmap Representing the Absolute Fixation Durations of the Stigmatizing, Indirect Condition



For the stigmatizing, indirect condition the visualization has shown that longer gazes were directed at the center of the camera and around it (Figure 6). This also included the camera lens to a great extent. Nevertheless, the gazes of the stigmatized participants did not seem to be as clearly directed at the lens as those of the reintegrative condition: the tricolored spot on the camera was more widespread compared to Figure 5. This means, people in the stigmatizing, indirect condition have tended to spend more time looking not only at the lens, but also around the area of the camera. In other words, the heatmap has indicated more variation in the fixations of the stigmatized participants' since they were less centered on the lens compared to the reintegrative condition.

Descriptive Statistics

A correlation analysis was conducted with SPSS to get an insight into the possible relationship patterns among the different variables (see Table 1). This firstly included the scales for reintegrative or stigmatizing shame and attitude towards resocialization. Additionally, a variable that represented the participants' self-perceived intention and easiness to make eye contact or look into the camera ("Self-perception") was added to get an insight into the relationship between self-perceived versus actual gaze behavior.

In order to yield variables for the relative durations, the total fixation durations were divided by the total time of the apology (TOI apology) per variable. Eventually, three variables that represented the relative fixation durations for the AOIs left eye, right eye and camera lens were added to the analysis ("AOI left eye", "AOI right eye", "AOI camera lens"). Finally, new variables for the relative fixation durations of both eyes, as well as eyes and camera together were included to get an insight into overall eye contact ("AOI both eyes", "All AOI fixations"). The results of this analysis were summarized in Table 1.

Table 1

Correlation Matrix with Descriptive Statistics for the Shame Scales, Attitude, Self-Perception and AOI Relative Fixation Durations

	N	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Reintegrative shame	58	2.72	.73		-.79**	.06	-.09	.14	-.12	.08	-.08	-.04
2. Stigmatizing shame	58	2.91	.83			-.04	.09	.02	.16	.08	.21	.17
3. Attitude	58	4.08	.54				-.29*	-.31	-.05	-.31	-.71**	-.62**
4. Self-perception	58	3.04	1.09					.28	.03	.27	.37*	.35**
5. AOI left eye	24	.05	.07									
6. AOI right eye	24	.02	.03									
7. AOI both eyes	24	.07	.08									
8. AOI camera lens	34	.11	.19									
9. All AOI fixations	58	.09	.15									

Notes. **($p < .01$). * ($p < .05$). Row 1-4 represent scales that were measured with a 5-point Likert scale. Attitude = Attitude towards resocialization. Self-perception = Self perceived eye contact. Row 5-9 represent AOI eye tracking data and their relative fixation duration means in seconds.

As expected, a strong negative correlation between the reintegrative, and the stigmatizing shame scale was found. Besides, no significant relationships between reintegrative shame and any of the other variables could be elicited, indicating that it was not associated with attitude, people's self-perception or AOI gaze fixations. This finding was not in line with our expectations, as we assumed that reintegrative shame would be rather positively, and stigmatizing shame rather negatively related to the AOI variables.

The results for attitude towards resocialization demonstrated negative correlations with self-perception, AOI camera lens, and the variable for all AOI fixations. This indicated that a more positive attitude was related to less self-perceived effort to look the interlocutor in the eyes (or into the camera) and less gazes at all AOIs for eye contact, particularly the camera lens.

With regard to the self-reported measurements, the results revealed a significant,

weakly positive correlation between the variable for all AOI fixations and self-perception. Moreover, there was a significant, rather weak positive relationship between the self-perception and fixations on the AOI camera lens. This implied a light tendency for people who exerted more eye contact to also report a similar estimation.

Noticeably, the means of the fixation durations for the AOI left eye were higher compared to the AOI right eye. This tendency to prefer the left eye was already observed within the heatmaps in the section "Eye Tracking Visualizations". Consequently, a paired T-test was conducted in order to explore whether these differences were statistically significant.

The outcomes revealed that the left eye means (M = .05, SD = .07) did not significantly differ from the right eye means (M = .02, SD = .03; $t(23) = 1.97$, p = .06). Nonetheless, the results were almost significant ($p < .1$), which indicated that (regardless of the manipulations) there still might be some difference between the two variables. After performing bootstrapping with 1000 replicates, zero was not included in the confidence interval (95% CI [.003, .06]), which indicated that the chance to possibly find statistically significant evidence if the experiment was repeated.

Two more T-test were performed, to analyze whether there were differences in left- and right eye contact between the reintegrative versus stigmatizing condition. The outcomes of both tests have revealed that the left- ($t(22) = -.09$, p = .93) and right eye ($t(22) = -.28$, p = .78) fixation durations did not significantly differ between the conditions. Also, zero was included in the confidence intervals after bootstrapping.

Altogether, the analysis yielded marginally significant results, which indicated that regardless of the shaming condition, participants preferred to look at the left eye rather than the right eye.

Testing of Hypotheses

Hypothesis 1a. To answer hypothesis 1a: "Offenders that are exposed to reintegrative shaming will maintain more eye contact during an apology in a simulation of VOM (i.e.

longer fixation duration on the victim's eyes / the camera lens) than offenders that are exposed to stigmatizing shaming.", a two-way ANOVA was run with SPSS. The dependent variable was the relative fixation duration variable that summarized all AOIs (left eye, right eye & camera lens). The independent variables were the different types of shame, with the two levels reintegrative- or stigmatizing shaming, and the two mediums, face-to-face or video message. The means were summarized in Table 2.

Table 2

Comparison of the Relative Fixation Duration Mean Scores per Condition

Type of Shame	Medium	*N*	*M*	*SD*
Reintegrative	Direct	10	.06	.06
	Indirect	16	.13	.24
	Total	26	.11	.19
Stigmatizing	Direct	14	.07	.09
	Indirect	18	.09	.13
	Total	32	.08	.12
Total	Direct	24	.07	.08
	Indirect	34	.11	.19

Notes. Mean in seconds.

The outcomes of the ANOVA revealed no significant main effect of the different shame experiences ($F(1, 54) = .24$, $p = .63$). Moreover, bootstrapping did not yield any further support, as zero was included in the confidence interval (95% CI [-.06, .19]). The outcomes of the analysis have shown that relative fixation durations regarding the eyes or the lens did not significantly differ between the shaming conditions. Hence, hypothesis 1a could not be confirmed.

Hypothesis 1b. In order to test hypothesis 1b: "This effect will be stronger for a video-taped apology than for a face-to-face apology, where the victim is physically present

(i.e. an interaction effect between type of shame and medium).", the same two-way ANOVA as for hypothesis 1a was used. Results revealed that there was no significant main effect of the mediums ($F(1, 54) = 1.01$, $p = .32$). Also, no significant evidence for the predicted interaction effect was elicited ($F(1, 54) = .42$, $p = .52$). Likewise, zero was comprised in the confidence intervals for the effect the mediums (95% CI [-.10, .06]) and the interaction effect (95% CI [-.20, .07]). Overall, no support for the assumption that eye contact with the victim depended on an interaction between the experienced type of shame and the medium could be found. Consequently, hypothesis 1b could not be confirmed.

Hypothesis Testing with Covariates. In the following, five covariates were added to the previous model. The dependent variable was the variable for the relative AOI fixation durations, and the independent variables were the two mediums and the two types of shame. More precisely, we controlled for participants' attitude and pre-willingness, gender, and the baseline measurement.

To control for willingness, the last item of the scale was not included as covariate, because the variable was not related to the current analysis. The ANCOVA has, again, shown no significant main effects for the type of shame ($F(1, 49) = .01$, $p = .92$) or medium ($F(1, 49) = 2.91$, $p = .09$). The main effect of the medium has become considerably stronger, though. Keeping in mind the means (see Table 2), this indicated that there was a marginally significant trend for higher relative fixation duration means in the indirect (compared to the direct) condition, when controlling for attitude and willingness. Beyond this, no significant interaction effect of shame and medium was found ($F(1, 49) = .22$, $p = .64$). Additionally, bootstrapping with 1000 replicates revealed that zero was included in the CIs for the main effects of shame (95% CI [-.10, .11]) and medium (95% CI [-.14, .04]). This was also the case for the interaction effect (95% CI [-.14, .11]).

Furthermore, the ANCOVA revealed that attitude towards resocialization programs was significantly associated with the eye contact variable ($F(1, 49) = 27.85$, $p < .001$). This

indicated that people's attitude was a significant predictor of the dependent variable. Similar to this, the correlation matrix (see Table 1) already indicated that a rather positive attitude towards resocialization programs was related to less eye contact or gazes at the camera, and vice versa. To further explore this unexpected relationship, the conditions were analyzed separately. The results have shown that there was a particularly stronger negative correlation between the two variables in the reintegrative ($r(24) = -.77$, $p < .001$) and in the indirect condition ($r(32) = -.71$, $p < .001$). The correlations in the stigmatizing ($r(30) = -.27$, $p = .13$) or direct condition ($r(22) = -.31$, $p = .15$) turned out to be insignificant after splitting the file.

That means, the negative relationship between attitude and the amount of eye contact during the apology was especially pronounced for people who experienced reintegrative shaming and participated in indirect VOM, as opposed to stigmatizing shaming and direct VOM. Altogether, the outcomes of the ANCOVA and correlation analyses demonstrated that willingness and particularly the attitude towards resocialization programs had an impact during the experiment.

Beyond this, it was demonstrated that none of the other covariates had an impact on the outcomes of experiment 1 (see Appendix E).

Explorative Analyses

With the motivation of finding more meaningful patterns within the data, it was chosen to explore it from another viewpoint. Two new variables were created, which represent the relative duration of fixations that were *not* directed at the eyes or camera, which is hence referred to as "gaze aversion". Regarding this, the relative fixation durations based on predetermined AOIs for gaze aversion were used. For the face-to-face condition, it was chosen to only include a variable for both eyes, as focusing on both eyes together was more convenient for the selection of an appropriate AOI for gaze aversion. Therefore, the whole area around the eyes of the confederate was selected, resulting in the "AOI Aversion Direct".

For the indirect condition, a variable for the relative gaze aversion of the AOI camera

lens was used. This AOI ("AOI Aversion Indirect") was created through marking the whole snapshot, while leaving out the camera lens, respectively eyes. Moreover, a variable that summarized gaze aversion for the AOIs of both mediums was created ("AOI Aversion Both").

Correlation Analysis with Gaze Aversion. First, a correlation analysis with the shame scales, attitude towards resocialization, the self-perception and the AOIs for gaze aversion was conducted (see Table 3).

Table 3

Correlation Matrix with the Descriptive Statistics for the Shame Scales, Self-Perception and AOI Aversion Relative Fixation Durations

	N	*M*	*SD*	1	2	3	4	5	6	7
1. Reintegrative shame	58	2.72	.73		-.79**	.06	-.09	-.25	-.02	-.09
2. Stigmatizing shame	58	2.91	.83			-.04	.09	.26	-.07	.02
3. Attitude	58	4.08	.83				-.29*	-.10	.57**	.39**
4. Self-perception	58	3.04	1.09					.11	-.36*	-.23^
5. AOI Aversion Direct	24	.67	.13							
6. AOI Aversion Indirect	34	.62	.19							
7. AOI Aversion Both	58	.64	.17							

Notes. **($p < .01$). *($p < .05$). ^($p < .1$). Row 1-4 represent scales that were measured with a 5-point Likert scale. Row 5-6 represent AOI eye tracking data and their relative fixation duration in seconds. Attitude = Attitude towards resocialization. Self-perception = Self perceived eye contact. Gaze Aversion = Gazes that were not directed at the eyes / camera.

Regarding attitude, new correlations were found that were in line with the outcomes of the first correlation analysis (see Table 1 and Table 3). That is, we found a moderately positive relationship between attitude towards resocialization and aversion in the indirect condition, as well as overall gaze aversion. This indicated that a more favorable attitude was associated with more gaze aversion during our experiment (and vice versa).

Besides this, the outcomes revealed a significant (at the .05 level) weak negative

correlation between participants' self-perception and gaze aversion in the indirect condition. This means, that participants with less aversion in the video messaging condition tendentially reported that they actually intended to look into the camera and that it was rather easy than hard. In the direct condition, the actual gaze behavior and people's self-perception were not shown to be related. Additionally, there was a nearly significant ($p < .1$) weak negative correlation between the self-reported eye contact and total gaze aversion. This slightly indicated that lower exertion of gaze aversion in total was slightly related to a comparatively higher self-rating on easiness and intention to maintain eye contact.

Beyond this, the outcomes have shown no additional correlations that were significant or nearly significant. Altogether, the explorative correlation analysis did not reveal any further support for the assumption of hypothesis 1a and 1b.

ANOVA with Gaze Aversion. In the following, another ANOVA was conducted. The variable for AOI relative gaze aversion regarding both mediums was the dependent variable, and the shame and medium conditions were the factors. The results have shown differences in the means that were in line with the first hypothesis. Namely, the total mean for all participants in the stigmatizing condition seemed to be slightly higher ($M = .67$, $SD = .16$) compared to the reintegrative condition ($M = .60$, $SD = .16$). However, these differences were not significant ($F(1, 54) = 2.48$, $p = .12$). Regarding hypothesis 1b, no significant effect of the mediums could be demonstrated ($F(1, 54) = 1.23$, $p = .27$). The results have also revealed no significant interaction effect of shame and medium ($F(1, 54) = .01$, $p = .94$). Also, bootstrapping could not demonstrate any additional (significant) findings. That is, zero was included in the confidence intervals for the main effects of shame (95% CI [-.19, .05]) and medium (95% CI [-.05, .16]), as well as the interaction effect (95% CI [-.17, .16]).

Hence, no statistical support was found for both hypotheses. Yet, the gaze aversion outcomes for the main effect of shame have shown a trend that would be reversely in line with the expectations of hypothesis 1a, as it implied that stigmatized participants exerted more

avoidance of eye contact.

We also controlled for several covariates. Four ANCOVAs were conducted to check the impact of participants' attitude towards resocialization programs and pre-willingness, the gaze aversion baseline measurement, and gender. None of these analyses of covariance has revealed new support for the hypotheses since the outcomes remained insignificant (see Appendix F).

Discussion

The goal of study 1 was to examine the possible impact of feelings of reintegrative or stigmatizing shame on the gaze behavior of a fictional offender while they delivered an apology towards a victim that was played by a confederate during a simulated VOM session. This assumption was based on the Reintegrative Shaming Theory (RST, Braithwaite, 1989) and the suggested impact of these shaming experience on people's behavior. More precisely, this study set out to extend previous research which already indicated that (stigmatizing) shame can increase avoidant behavior, such as looking away from the interlocutor (e.g. Blecher, 2011; Herman, 2012; Schibalski et al., 2017). Within VOM, this can be problematic, if this avoidance of eye contact leads to less perceived sincerity of the offender. In turn, this can have a negative impact on the quality of an apology (e.g. Choi & Severson, 2009; Lewicki et al., 2016; Zebel et al., 2021). Based on this, we concluded that it would have great added value if these assumptions could be confirmed through objective eye tracking measurements, in order to substantiate and complement previous research. In fact, (as far as we know now) there currently exists no literature that used eye tracking to analyze these objectives yet.

Most importantly, the results of our analyses have shown that, based on the data that was used, there was no statistically significant evidence for the assumption that eye contact is influenced by the experience of reintegrative versus stigmatizing shame. This was also not the case for gazes at the camera when recording a video apology. Particularly, the first

hypothesis: “Offenders that are exposed to reintegrative shaming will maintain more eye contact during an apology in a simulation of VOM (i.e. longer fixation duration on the victim’s eyes / the camera lens) than offenders that are exposed to stigmatizing shaming.” could not be confirmed.

These outcomes were not in line with our expectations, which were based on research that indicated a relationship between shame and eye contact (Braithwaite & Mugford, 1994; Herman, 2012; Schibalski et al., 2017; Pivetti et al., 2016). Thus, although reintegrative shame is suggested to be less painful compared to stigmatizing shame (e.g. Braithwaite, 1989), it did not lead to more eye contact during our experiment, which contradicts the ideas of other studies (Braithwaite & Mugford, 1994; Herman, 2012; Pivetti et al., 2016). But contrary to the current experiment, these researchers did not assess gaze behavior with an objective eye tracking measurement. Instead, Pivetti et al. (2016) conducted an experiment whereby gaze aversion was measured with questions regarding participants’ own evaluation of their behavior. Alternatively, the conclusions relied on observations of people’s behavior when they experienced shame (Herman, 2012), respectively, behavior during a reintegrative ceremony for offenders (Braithwaite & Mugford, 1994).

With reference to this, we propose that the usage of eye tracking technology rather than a subjective measurement may explain why we could not support the prior assumptions about shame and eye contact. On a related note, it can be argued that it is possible that the subjective measurements used in previous research might have been biased, for instance, by confirming beliefs (Heppner et al., 2016). Also, eye tracking is supposed to yield more precise data (Jongerius et al., 2020) and can thereby provide gaze recordings which should be closer to reality than, for instance, pure observations. Certainly, this does not automatically mean that the validity of these studies’ findings (e.g. Pivetti et al., 2016) are inferior compared to our results, as there are many other factors (see also “General Discussion”) that can explain the inability of the current study to find support for the expectations.

The analysis for testing this hypothesis was complemented with explorative analyses in relation to gaze aversion. Again, no significant associations could be demonstrated. Still, we found a light tendency for people who were treated in a stigmatizing, rather than reintegrative way to exert slightly more gaze aversion. This is one of our most important findings, as it tentatively suggested that there might be a role for stigmatizing or reintegrative shame in prompting gaze aversion (direct and indirect).

The analyses for testing hypothesis 1b: "This effect will be stronger for a video-taped apology than for a face-to-face apology, where the victim is physically present (i.e. an interaction effect between type of shame and medium).", could not yield any statistical support. Put differently, the assumption that the possible impact of the different shame experiences is greater for a video apology could not be verified by the results. Also, the explorative analyses with gaze aversion could not elicit any additional statistical support for this hypothesis.

Possibly, we could not find significant evidence for an impact of the mediums because there was no need for the alternative of indirect VOM. That is, maybe the scenario was not serious enough (irrespective of the two shaming experiences) with regard to fear, anger, and / or perceived dangerousness of a potential face-to-face meeting with the offender (Bolívar, 2013; Zebel et al., 2017). As a consequence, this might explain why we could not prove that the strength of the proposed impact of shame depends on the medium, because face-to-face was already feasible. However, this is rather unlikely because the explanation does not affect the proposed negative versus positive impact of stigmatizing versus reintegrative shame on the victim.

But still, there was a nearly significant tendency for people in the indirect condition to gaze longer at the lens than people in the direct condition looked into the victim's eyes (particularly after we controlled for willingness and the attitude towards resocialization programs). As we assumed that VOM via video will be less "painful" for the offender

compared to a direct meeting, which should in turn result in rather more eye contact, this was partly in line with some of our expectations.

With respect to people's attitude towards resocialization programs, we further found that this attitude was related to participants' eye contact in a (moderately) negative way. Thus, a more positive attitude towards such programs was related to a rather low amount of eye contact or gazes at the camera lens during the VOM experiment, and vice versa. The correlation analysis further demonstrated that this negative association was particularly present for participants who experienced reintegrative shame and indirect VOM. Interestingly, a study by Bonensteffen et al. (2020) demonstrated that victim's attitude towards resocialization programs is related to the assessment of an offender's apology within VOM, especially with regard to perceived responsibility-taking, suffering, and sincerity. Based on the content of the scale and Bonensteffen et al.'s (2020) outcomes, one would anticipate that a positive attitude leads to more eye contact, which was not confirmed by our results. A possible explanation for this discrepancy will be addressed in the general discussion.

Now that the hypotheses were discussed, the research question: "In which way do feelings of reintegrative versus stigmatizing shame influence the delivery of an offender's apology within VOM?" can be answered. Based on the outcomes, one can conclude that the current study has demonstrated no convincing support for any impact of the two types of shame on eye contact during an apology. However, a more promising, but very tentative finding was the tendency for stigmatized participants to exert longer gaze aversion. Besides, we could also find some light evidence for the assumption that it was easier to maintain eye contact (or to look at the camera lens) in the indirect, compared to the direct condition, when controlling for attitude towards resocialization programs and pre-willingness. Thus, despite the study's limitations, two trends that were somewhat in line with our initial expectations could be yielded.

Study II

The aim of the second study, was to analyze the impact of high versus low offender eye contact during direct versus indirect VOM on the victim. In accordance with hypothesis 2a and 2b, we expected that an apology with a high amount of eye contact will lead to more positive outcomes of the apology (compared to the low eye contact condition). Additionally, we assumed that this impact of eye contact will be more pronounced for a face-to-face meeting compared to VOM via video messages.

Method

Participants

Study 2 was approved by the ethics committee of the faculty of behavioral, management and social sciences of the University of Twente. 213 people participated. Similar to the first study, numerous participants signed up via Sona systems (n = 76) and got a reward of 0.25 credits. Additionally, a platform called Survey Circle was used[4]. Eventually, 64 people filled out our questionnaire via this platform. All of the other participants (n = 73) were recruited via social networks. The link to the online study was shared by researcher, friends, and acquaintances via Facebook, Instagram, and WhatsApp (social media snowball sampling).

After checking the questions about the participants' behavior during the study, some participants were excluded. These were people with a score of 1 (*Not at all*) regarding three questions. That is, whether they carefully looked at the offender, read the scenario thoroughly and/or answered the questions seriously. Furthermore, sufficient English skills were crucial to participate in the study. For this reason, participants who assessed their own skills with a 1 were also excluded. Eventually, there were 3 people who reported that they did not carefully

[4] Researchers can upload their survey and participate in other studies to receive credits. There is a survey ranking and the more credits a researcher collected, the higher the survey is in the ranking. In turn, people will get more credits for participation in studies that are high in the ranking. Therefore, researchers can promote their own study through taking part in others.

watch the offender, and 2 people with an insufficient ability to understand English. This resulted in a final number of 208 participants.

The mean age of participants was 24.76 years (*SD* = 6.21). 69% (*n* = 144) of these participants indicated that their gender was female, 30% (*n* = 62) were male and 1% (*n* = 2) diverse / other. Additionally, the majority of the participants were German (84%, *n* = 175). Besides, 14 people (7%) were Dutch and 19 (9%) had another nationality. Regarding prior experiences with crime, roughly one quarter of the sample reported that they have already committed a minor (22%, *n* = 46) or major (4%, *n* = 8) crime. Moreover, barely half of the participants have already been victim of a minor (22%, *n* = 44) or major (25%, *n* = 51) incident.

The participants were randomly allocated to the conditions of the experiment, which differed in eye contact (high vs. low) and the medium (direct, face-to-face vs. indirect, video message). There were 52 (25%) participants in the direct condition with high eye contact and 48 (23%) in the direct, low eye contact condition. Furthermore, 56 (27%) participants were allocated to the indirect condition with high eye contact and 52 (25%) to the indirect, low eye contact condition.

Design

The design of this study was a 2 (high versus low eye contact) x 2 (direct versus indirect VOM medium) between-subjects design. The different conditions were manipulated with two different videos of the offender's (i.e. confederate) apology. These videos were either framed in a face-to-face or video VOM context. In addition, there was one video with high, and one video with low eye contact with the victim (see also section "Manipulations"). The dependent variables were six measures about the perceived quality of the apology. That is, responsibility-taking, suffering, sincerity, the intention to repair and prevent, satisfaction and insult, and forgiveness (based on Zebel et al., 2021, see also section "Dependent Measures").

Materials and Procedure

Data was collected by means of a Qualtrics online survey. In total, there were 84 questions, and it took around 15-20 minutes to finish the study. All items were answered on a 5-point Likert scale (*Not at all, Slightly, Moderately, Very much, Extremely*). The survey started with a short introduction into VOM and the study itself, as well as an informed consent. Only if the participants agreed with the informed consent, they could continue.

Attitude Towards Resocialization Programs. First, a scale with seven items concerning people's attitude toward resocialization programs was displayed. This scale was added as a control variable for testing the hypotheses. One example item is: "The most effective and human approach to fight crime is done through resocialization.". Reliability was assessed through computing Cronbach's alpha. The outcomes have shown that the scale was reliable ($\alpha = .81$).

Vignette. In the following, the participants had to read a scenario. The story was the same as in the first study, but now from the perspective of the victim (see Appendix G). We also mentioned that the events happened in real-life (although in reality they did not) in order to strengthen the realness of the scenario. Furthermore, the participants were explicitly prompted to imagine being the victim and to imagine the thoughts and feelings as well as possible. More precisely, we asked them to imagine being the person that held the cash register when it was stolen and also witnessed when the offender locked himself up in a room while carrying a gun. Eventually participants read that the offender in the scenario was caught by the police and they were offered the opportunity to participate in VOM. This included a short description of the process and advantages of VOM. For instance, the possibility for the victim to narrate the crime from their point of view and also dealing with negative feelings.

Willingness to Participate. Directly after the scenario, the participants received four questions that were related to overall willingness to participate in VOM, the willingness to receive an apology by an offender, the preference for direct (face-to-face) VOM, and the

preference for indirect (video message) VOM. Similar to the first study, the function of these items was to add them as a covariate to the main analyses in order to control for prior differences in their willingness to take part. One of the willingness items was: “To what extent would you be willing to receive an apology from the offender?”. Based on the first study, which suggested that the items cannot be summarized into one scale, we decided to include the items separately.

Regardless of people’s answer to the willingness items, the questionnaire continued with a statement that told the participants to imagine that they agreed to take part in VOM and that a mediator helped them to prepare for the meeting. Again, the possibilities that the parties gain through VOM were shortly mentioned. Moreover, it was indicated that the environment is safe, and that the victim will receive an apology (see Appendix G).

Expected Sincerity of the Offender. Before the simulated VOM meeting began, a scale that measured the expected sincerity of the offender was displayed. The purpose of this scale was to function as a control variable. The expected sincerity was measured with six items, such as: “When I participate in VOM, I think the offender will mean what he says.”. Computations of Cronbach’s alpha have demonstrated a good reliability ($\alpha = .85$). The overall mean on this scale was 3.09 ($SD = .70$). This means that the participants expected the offender’s apology to be moderately sincere.

Manipulations. Subsequently, the video manipulation was displayed. These were four different videos that were recorded by a confederate who played the offender. The confederate was the second supervisor of the current thesis and recorded the videos together with a colleague. Both recordings were approximately one minute long. Our goal was to manipulate the perceived medium of the VOM session (direct, face-to-face versus indirect, video message), and the amount of eye contact of the offender (high versus low). The first trial of videos was evaluated by the researchers and supervisors. Based on these first versions,

we concluded that some changes were needed[5], which led to the final videos.

As the survey was online, it was not possible to include a real face-to-face meeting. Instead, we incorporated slight camera movements and a pan shot in the video, so the participants could see the "mediator" sitting next to the offender in the direct VOM manipulation. Additionally, it was mentioned beforehand that the video was recorded during a face-to-face meeting ("The extract is part of a face-to-face VOM session that was recorded. Therefore, the victim was facing the offender and a mediator was present.").

For the manipulation of the indirect VOM meeting, only the offender was visible, and it was mentioned that the recording was part of a VOM encounter via video messages ("The extract is part of an indirect VOM session via video messages. Therefore, victim, offender and mediator were not in the same room, but communicated through exchanging recordings.").

Secondly, the degree of eye contact was manipulated. In two of the videos, the offender maintained much eye contact with the victim while delivering the apology (indirect / direct, high eye contact). In the other videos, the offender averted his gaze and actively avoided eye contact (indirect / direct, low eye contact). More precisely, the confederate examined the environment and mainly looked to the left / right or at the ground, rather than straight into the camera.

The content of both messages was the same, but some words varied because the apology was recited by the confederate (e.g. "and" instead of "because"). As all messages were carefully compared, it was concluded that these subtle differences did not noticeably alter the overall message and relevant content of the apology (a consolidated transcript can be seen in Appendix G). The offender expressed that he felt bad about the negative feelings the

[5] Drawing on the first versions of the manipulations, we decided that it would be more realistic to look into several directions and not only at the ground in order to simulate gaze aversion. Moreover, we chose to strengthen the manipulation of the medium through also showing the mediator sitting "between" the offender and the victim.

victim experienced and also explained why he committed the crime. Additionally, the offender mentioned that he will not act like this again and he apologized several times.

Dependent Measures. The dependent variables in this study were six different scales, originally used in a study concerning the dynamics of the expression of negative feelings within an apology by Zebel et al. (2021). These scales were used to evaluate the perceived quality of the offender's apology based on the participants' answers.

Responsibility-Taking. The first scale was related to the measurement of inferences of responsibility-taking. There were eight questions, for instance: "How much did the apology show that the offender feels accountable for the harmful consequences?". Cronbach's alpha has shown that this scale was reliable ($\alpha = .84$).

Suffering. Perceived suffering of the offender was measured with four items. One example is: "How much did the apology indicate that the offender suffers emotionally when thinking about your harm?". Again, the reliability of this scale was assessed with Cronbach's alpha, which has demonstrated an acceptable alpha value ($\alpha = .77$).

Sincerity. Three items were displayed to measure perceived sincerity. For example, it was asked: "To what extent do you think the offender was sincere?". Cronbach's alpha analysis has revealed a good reliability of the scale ($\alpha = .81$).

Intention to Repair and Prevent. The victim-perceived intention of the offender to repair and prevent was measured with six items. An example of a question is: "How much will the offender be careful to not repeat actions that may inflict further harm upon you and / or other people?". Computations of Cronbach's alpha have shown that the scale was reliable ($\alpha = .82$).

Satisfaction and Insult. Three questions were displayed to assess satisfaction of the victim with the apology, for instance: "To what extent has the apology satisfied you?". In relation to this, it was demonstrated that this scale was reliable ($\alpha = .85$).

Further, insult was measured with three items. One example item is "To what extent

has the apology irritated you?". Again, Cronbach's alpha has demonstrated an acceptable reliability (α = .71).

Forgiveness. The inclination of the victim to forgive the offender after the apology was measured with two questions. For example, "To what extent would the apology make you willing to forgive the offender for the harm that he has caused?". According to Cronbach's alpha analysis the scale's reliability was questionable (α = .61).

Manipulation Checks. Two scales were used in order to perform the manipulation checks for the manipulations of the offender's eye contact and the mediums.

Perceived Eye Contact. To check whether the eye contact manipulation has worked as intended, four items regarding the perceived eye contact were displayed. For instance: "To what extent did you think that the offender attempted to have eye contact with you?". Cronbach's alpha has shown that it is questionable to use these items for measuring an overall perception of the offender's effort to look into the victim's eyes (α = .66). Without the second item ("To what extent did you think that the offender was concerned about looking into your eyes?"), the outcomes demonstrated a good reliability (α = .88). Therefore, item 1, 3 and 4 could form a reliable scale to check whether participants in the high eye contact conditions also perceived this and vice versa.

Moreover, an additional question about the apology was asked: "To what extent did you consider the apology as effective?". The function of this question was to get an overall review of the participants' impression of the apology.

Perceived Medium. Subsequently, five questions about the experience of a face-to-face or video VOM session were asked. The items were coded in a way that a high score could be translated to the perception of direct VOM. In line with this, a rather low score meant that the participant did experience the encounter as a VOM meeting via video message. For instance: "When you were looking at the apology, to what extent did you have the feeling that you were sitting in one room with the offender and the mediator?" or "[…], to what

extent did you perceive the extract as a video message?" (reverse coded). Cronbach's alpha was computed, and the results have shown that the items make up a reliable scale to check whether the framing of the mediums has worked ($\alpha = .80$).

Demographic Data and Background Questions. In the last part of the survey, the participants were asked about their gender, age, and nationality. In addition, ten items regarding the process of filling out the survey itself were displayed, such as: "To what extent did you answer the questions seriously?" or "To what extent do you think your English skills were sufficient to complete this survey?". These questions were asked in order to get an insight into the quality of participants' answers, based on their own estimation.

Finally, the survey continued with four questions about the participants' prior experiences with crime. For example: "Has one of your relatives and / or friends ever committed a crime?". Similar to study 1, these items were not assessed with a Likert scale but with the possible answers *Yes, a rather minor crime (e.g. vandalism*), *Yes, a rather severe crime (e.g. robbery*), *No*, *I don't want to answer this question*.

Debriefing. In the end, the answers of the participants were automatically saved, and a short debriefing was displayed. During the debriefing, the content and goals of the study were explained. Moreover, it was undeceived that the events in the scenario were not actually real and that the offender was a confederate. The participants also got the opportunity to ask further questions via the mails of the researchers that were displayed on the final screen.

Results

Manipulation Check

A two-way ANOVA was conducted to check whether the manipulations concerning the offender's eye contact and medium were successful. The first dependent variable was the eye contact manipulation check scale, and the independent variables were the eye contact (high vs. low) and the medium (direct vs indirect) conditions. The perceived eye contact mean was higher for the high eye contact condition ($M = 3.82$, $SD = .97$) compared to the low eye

contact condition (M = 2.04, SD = .81), as indicated by a strong and significant main effect of the eye contact manipulation (F(1, 204) = 208.26, p < .001). Therefore, the outcomes have shown that this manipulation worked. Beyond this, no significant main effect of the mediums (F(1, 204) = 1.59, p = .21) or significant interaction effect (F(1, 204) = .50, p = .48) was revealed.

For the manipulation check regarding the mediums, another two-way ANOVA was conducted, with the perceived medium scale as dependent variable. Again, the eye contact and medium conditions were the independent variables. The results have shown a significant main effect of the mediums (F(1, 204) = 10.58, p < .01). In relation to this, the mean of people in the direct condition was, as intended, significantly higher (M = 2.62, SD = .85) compared to the indirect condition (M = 2.25, SD = .78). Furthermore, neither the main effect of eye contact (F(1, 204) = 1.39, p = .24), nor the interaction effect (F(1, 204) = .09, p = .77) were significant. Altogether, these outcomes suggested that also the manipulation of the mediums was successful.

In conclusion, the video manipulations that were recorded for the second experiment could successfully manipulate the perceived eye contact of the offender and the perceived medium.

Descriptive Statistics

In order to get a first impression of the data and to check whether and how the scales were related, a correlation analysis was conducted. Variables for the pre-measurements for attitude towards resocialization programs, expected sincerity, willingness, face-to-face preference, and video message preference were included. Additionally, the dependent variables of the current study were included. That is, perceived responsibility-taking, suffering, sincerity, satisfaction, insult, intention to repair and prevent, and forgiveness. Further, the two scale variables for the manipulation checks of the offender's eye contact and the medium were added to the analysis. Table 4 provides an overview of the outcomes.

Table 4

Correlation Matrix with the Pre-Measurements, Manipulation Check Scales and the Dependent Variables

Variable Type	Label	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Pre-Measures	1. Attitude	4.01	.66		.50**	.25**	.07	.48**	.51**	.39**	.44**	.34**	.29**	-.51**	.39**	.11	-.13^
	2. Willingness	2.42	.83			.47**	.06	.48**	.53**	.38**	.38**	.46**	.40**	-.42**	.39**	-.02	-.07
	3. Face-to-face	3.74	.92				-.36**	.26**	.17*	.13^	.14*	.23**	.20**	-.26**	.24**	.02	< .01
	4. Video message	3.59	1.13					.15*	.08	.08	.12^	.10	.20**	-.09	.06	-.08	.09
	5. Expected sincerity	3.09	.70						.51**	.52**	.54**	.53**	.53**	-.41**	.52**	.08	.14^
Dependent Variables	6. Responsibility-Taking	3.83	.84							.69**	.69**	.63**	.52**	-.57**	.58**	.10	-.02
	7. Suffering	3.65	.77								.81**	.60**	.54**	-.52**	.60**	.12^	.05
	8. Sincerity	3.60	.86									.66**	.62**	-.55**	.61**	.15*	.05
	9. Repair & Prevent	3.29	.72										.60**	-.35**	.60**	.01	.07
	10. Satisfaction	2.90	.91											-.35**	.64**	.05	.15*
	11. Insult	1.84	.81												-.37**	-.08	-.02
	12. Forgiveness	3.11	.84													.01	.14^
Manipulation Checks	13. Perceived eye contact	2.96	1.26														.06
	14. Perceived medium	2.42	.83														

Notes. $N = 208$. *($p < .05$); **($p < .001$); ^($p < .1$). The means are based on values that were measured with a 5-point Likert scale. For perceived medium, a high score implies the perception of face-to-face VOM and vice versa. Attitude = Attitude towards resocialization programs. Willingness = Overall willingness to participate in VOM. Face-to-face = Preference for direct, face-to-face VOM. Video message = Preference for indirect, video VOM.

The results demonstrated that attitude towards resocialization programs, expected sincerity of the offender, the overall willingness to participate in VOM, and the preference for direct VOM correlated moderately among each other, which indicated that these pre-measurements were related (see Table 4). The outcomes for attitude, expected sincerity and overall willingness have further shown that these variables weak to moderately positively correlated with all dependent measures, except insult. This means that a more positive attitude, more expected sincerity, and a stronger will to participate were shown to be related to higher perceptions of these inferences, as well as less insult.

In addition, we found that the preference for face-to-face VOM was weak positively associated with the dependent variables (and negatively with insult, see Table 4), but the correlation with suffering was only marginally significant. Regarding the preference for VOM via video message, we found a weak positive significant correlation with the dependent measure of satisfaction and a nearly significant correlation with sincerity. That means, the willingness to take part in indirect VOM was slightly related to more favorable satisfaction (and sincerity) ratings. Lastly, the preference for video messaging and face-to-face mediation were shown to be significantly negatively correlated. Thus, people who preferred direct VOM during the experiment tended to be in turn less inclined to indicate that they were willing to take part in indirect VOM, and vice versa.

As expected, we found moderate to (very) strongly positive correlations amongst all other dependent measurements, while all of the scales correlated negatively with the insult scale (see Table 4). These outcomes supported the collective usage of the scales, to the extent that they were shown to be associated.

In addition, the results revealed some (nearly) significant correlations that were in line with the assumptions of study 2. First, the weak positive and significant correlation that was found between perceived eye contact and perceived sincerity of the offender was in line with hypothesis 2a. Likewise, there was a nearly significant ($p < .1$) and slightly positive

correlation between perceived eye contact and suffering.

Moreover, there was a light positive correlation between perceived medium and satisfaction. As a high score on the perceived medium scale translates to the perception of direct VOM, this means that face-to-face contact might have been positively related to more satisfaction compared to indirect VOM. Finally, the outcomes revealed a marginally significant and weak positive correlation between the medium scale and forgiveness. This tentatively suggested that the experience of direct VOM has led to slightly more forgiveness, and vice versa.

Testing the Hypotheses

Hypothesis 2a. In order to test the first hypothesis of study 2: "Victims will evaluate apologies that are characterized by a high, rather than a low amount of eye contact, more positively in terms of less insult and more perceived responsibility-taking, suffering, sincerity, satisfaction, intention to repair and prevent, and forgiveness. ", a MANOVA was conducted with all dependent variables (as stated in hypothesis 2a). The independent variables were the offender's eye contact during the apology, and the mediums. The outcomes of this analysis demonstrated no significant main effect of the amount of eye contact among all dependent variables ($F(7, 198) = .77$, $p = .61$).

Additionally, seven ANOVAs were conducted (i.e. one ANOVA per dependent variable). Again, the independent variables were offender eye contact and the medium. Contrary to the predictions of hypothesis 2a, the outcomes revealed no significant main effect of the offender's amount of eye contact during an apology for any of the dependent variables, i.e. perceived responsibility-taking ($F(1, 204) = 2.27$, $p = .13$), suffering ($F(1, 204) = .78$, $p = .38$), sincerity ($F(1, 204) = 1.01$, $p = .32$), the intention to repair and prevent ($F(1, 204) = .05$, $p = .82$), satisfaction ($F(1, 204) = .01$, $p = .94$), insult ($F(1, 204) = 1.60$, $p = .21$), and forgiveness ($F(1, 204) = .02$, $p = .88$). Therefore, hypothesis 2a could not be confirmed

Hypothesis 2b. For the analysis of the second hypothesis of study 2: "This effect will be stronger for a face-to-face apology than for a video apology (i.e. an interaction effect between amount of eye contact and medium)." we used the same MANOVA as for hypothesis 2a. Regarding this, there was no significant main effect of the VOM medium ($F(7, 198) = .66$, $p = .70$). With respect to the prediction of hypothesis 2b, the results further demonstrated no significant interaction effect of eye contact and the mediums ($F(7, 198) = .33$, $p = .94$).

Moreover, separate ANOVAs were conducted per dependent variable. Again, the results revealed no statistically significant evidence for the last hypothesis. That is, the mediums did not have a significant main effect on the dependent variables (Responsibility-taking: $F(1, 204) = .53$, $p = .47$; Suffering: $F(1, 204) = .001$, $p = .97$; Sincerity: $F(1, 204) = .01$, $p = .93$; Intention to repair and prevent: $F(1, 204) = .45$, $p = .50$; Satisfaction: $F(1, 204) = .14$, $p = .71$; Insult: $F(1, 204) = 2.03$, $p = .16$; Forgiveness: $F(1, 204) = .05$, $p = .82$).

More importantly, the ANOVAs did also not reveal a significant interaction effect (Responsibility-taking: $F(1, 204) = .02$, $p = .88$; Suffering: $F(1, 204) = .05$, $p = .83$; Sincerity: $F(1, 204) = .01$, $p = .91$; Intention to repair and prevent: $F(1, 204) = .23$, $p = .63$; Satisfaction: $F(1, 204) = .10$, $p = .75$; Insult: $F(1, 204) = .61$, $p = .44$; Forgiveness: $F(1, 204) = .15$, $p = .70$). As a consequence, the results could not confirm hypothesis 2b.

Discussion

Within a simulated encounter, the second study aimed to explore whether the perceived eye contact of an offender during an apology within VOM has an impact on the victim's estimation of the apology's quality. We proposed that a high (versus low) amount of eye contact leads to a rather positive rating and this was expected to be even more pronounced for direct, face-to-face VOM, as opposed to indirect VOM via video messages. These assumptions were based on prior studies which indicated a negative impact of lacking eye contact on perceptions of sincerity (Basford, 2013; Phutela, 2015; Larsen & Shackelford, 1996). The proposed interaction effect was based on the fact that prior research suggested

some downsides of video messages (in general), compared to a face-to-face meeting, such as the lack of instant feedback and / or intimacy (Goodman, 2003; Swaab et al. (2012).

Eventually, our analyses for testing hypothesis 2a and 2b could not yield any substantial statistical evidence and could thus not complement the existing literature. That means, the current study could not statistically prove that there was a direct impact of the offender's gaze behavior, particularly eye contact, on the victim's assessment of an apology within VOM. Moreover, we could not demonstrate differences in the impact of the VOM mediums on this hypothesized relationship.

With respect to the correlation analysis, we could still find two (marginally) significant correlations which indicated a weak positive relationship between the amount of offender eye contact and perceived suffering and sincerity in relation to the offender's apology. This provided some very tentative support for the assumption that a greater amount of offender eye contact might be related to more perceived sincerity (and suffering).

Based on these insights, the second research question: "How does the amount of an offender's eye contact influence a victim's evaluation of an apology?", can be answered. During the analyses, we could not substantially prove any direct effect of eye contact on the victim's perception of an apology. Still, the (marginally) significant associations between a rather high amount of offender eye contact and more inferences of sincerity and suffering indicated that after all, eye contact might somewhat be related to the perceived quality of an apology.

One explanation for the inability to find convincing statistical evidence for the hypotheses of study 2 is the fact that the majority of participants stated a positive attitude towards resocialization programs. Pertaining to this attitude, there was thus little variation in our sample. As demonstrated by Bonensteffen et al. (2020), a more positive attitude can lead to an increase in the perceived sincerity of an apology, through heightening the victim's inferences of suffering and responsibility-taking of the offender. Beyond this, the correlation

analysis (see Table 4) demonstrated a (weak to moderately) positive relationship between attitude towards resocialization and all dependent measures (except insult, which correlated negatively). Based on these insights, we conclude that the overall positive view of restorative justice among the participants might have inherently led to rather positive ratings of the apologies in general and thereby possibly diminished the proposed negative impact of a lack of eye contact by the offender.

General Discussion

Beyond some weak indications, the current studies could not elicit substantial statistical support for our expectations that a) the experience of reintegrative rather than stigmatizing shame positively affects the engagement in eye contact of offenders towards victims and that b) high rather than low eye contact of an offender positively influences the victim's judgement of the apology's quality. Moreover, we could not distinctly demonstrate an impact of the medium (i.e. communication channel) during both studies. The following paragraphs will provide some additional explanations which can possibly clarify why the results were not in line with our literature-based assumptions.

Potential Explanations for Finding Little Support for the Hypotheses

Left-Eye Bias and Differences Between Females and Males

One interesting insight of study 1 is the finding that the heatmap for people who experienced reintegrative shame has implied a tendency of the participants to look at the left rather than the right eye. The results of our analyses have also shown that the overall durations of people's gaze fixations tended to be higher for the left, compared to the right eye. In line with this, Coutrot et al. (2016) suggested a so-called "left-eye bias". According to these researchers, the left-eye bias is a phenomenon that occurs especially when women communicate with – and look at – women. In fact, more than two-thirds of the VOM sessions during our first study were women-to-women meetings.

Coutrot et al. (2016) also included a heatmap, which is remarkably similar to the outcomes of our study (see Appendix H). That is, the heatmap that summarized the gaze data of females who were gazing at another female (the bottom right figure) is nearly identical to the face-to-face heatmap for people who were prompted to feel reintegrative (and not stigmatizing) shame. Based on the visualizations, we could thus apparently observe a tendency to prefer the left eye, but only for the reintegrative shame group. However, this was not further supported by the results, which suggested an overall left-eye preference, whereas the left and right eye fixation durations did not differ among participants who experienced reintegrative versus stigmatizing shame. The fact that people seemed to look longer at the left eye, regardless of the condition, could in turn be explained by the overall large proportion of female participants.

But why is there a tendency of people to prefer looking at the left eye? One example explanation (regardless of gender) is the fact that research suggested a "right hemispheric dominance for face perception" (Yovel et al., 2008, as cited in Coutrot et al., 2016) which entails that information in the left-visual-field is preferred because it can be processed more easily[6]. Beyond these explanations and to our current knowledge, the existing literature cannot provide a solid reason for the fact that this effect was indicated to be stronger for females. Based the outcomes of the studies, we conclude that it would be useful to carefully monitor the number of males and females among the participants to minimize the presumed impact of gender differences in an eye tracking experiment.

Cognitive Load

Another alternative explanation for the rather unexpected outcomes of study 1 can be the fact that the participants had to spontaneously come up with an apology during the experiment. With respect to this, also the scenario in the begin had to be retrieved, because most

[6] More precisely, it is explained that "Because information from the left-visual-field is directly projected to the right hemisphere, the left-visual-field superiority for faces has been attributed to the well-established right hemispheric dominance for face perception." (Yovel et al., 2008, p. 3061).

participants based their apology on this information. Although the participants had time to think about what they want to say, they had to speak without notes. This creative process can be cognitively demanding (Lee & Therriault, 2013; Sowden et al., 2015). That means, it is possible that thinking of an apology interfered with the participants' gaze behavior during this study. For instance, one participant of the stigmatizing condition reported in the open question that it was difficult to maintain eye contact because they were busy thinking of the apology ("While apologizing, I wasn't thinking of the eye contact of the video but more about the content of the apology.").

The amount of research with regard to eye contact and cognition is limited. Nonetheless, there are a number of studies, which demonstrated a negative impact of eye contact on the performance of (difficult) tasks (e.g. Doherty-Sneddon et al., 2002; Kajimura & Nomura, 2016; Senju & Johnson, 2009). For instance, Kajimura and Nomura (2016) found that watching a video which shows a human who maintains eye contact, rather than gaze aversion, can disrupt performance on a rather hard mental task that requires retrieval and selection. Also, Markson and Paterson (2009) found more gaze aversion during a cognitively demanding task and suggested that this enhanced people's performance because they could ignore redundant information and inhibit social interaction.

Furthermore, literature suggested a so-called "eye contact effect", which describes that perceived eye contact with another person can affect subsequent cognitive processes (Hietanen et al., 2016; Senju & Johnson, 2009; Stein et al., 2011). Further, Senju and Johnson (2009) proposed that eye contact has an impact on the "social brain", which can in turn influence people's performance through, for example, having a negative impact on attention.

In relation to study 1, the results have shown that the amount of eye contact throughout the apology was rather low among all participants. Drawing on the findings of several studies (Doherty-Sneddon et al., 2002; Doherty-Sneddon & Phelps, 2005; Markson & Paterson, 2009; Tiselius & Sneed, 2020), we thus suggest that people's tendency to avert their

gaze during the first experiment was possibly caused by cognitive load. That means, it might have been easier for people to think of an apology with averted gaze.

Doherty-Sneddon and Phelps (2005) further explained that people may experience negative feelings while maintaining eye contact. For example, insecurity or being afraid to fail. With reference to this, it is possible that the "intimidating" nature of the stigmatizing treatment led to an increase in such negative feelings and contributed to gaze aversion. The experience of stigmatizing shame might thereby have further increased cognitive load (Doherty-Sneddon & Phelps, 2005) through its suggested painfulness (Braithwaite, 1989; Schibalski et al., 2017). Concerning study 1, this could in turn explain the (slight) tendency for the stigmatized participants to show more aversive gaze behavior compared to people who were treated in a reintegrative way.

Moreover, the impact of cognitive load can also account for the unexpected negative relationship that was found between people's attitude towards resocialization programs and eye contact. We conjecture that a more positive attitude towards programs like VOM might have increased the fictional offenders' motivation to concentrate on the delivery of a good and full apology. As such, it is possible that people with a positive attitude who imagined being an offender wanted to act in a (positive) way that is in accordance with their beliefs about the potential of restorative justice. Thereby more mental effort was presumably put into the task of thinking about the apologizing statements. This could consequently have led to more cognitive load for participants with a positive view of resocialization and in turn, explain the negative association with eye contact. In sum, these findings implicated that a positive attitude towards resocialization might lead to more concern regarding the quality of one's apology, which could in turn decrease eye contact with the recipient due to cognitive load.

Reducing Cognitive Load. Altogether, the insights about the potential impact of cognitive load were remarkable and suggested that it might be useful to reduce this load in possible future research. In terms of ecological validity, it is still not realistic to remove all of

the cognitive load during a VOM experiment, because also real-life offenders have to put effort into thinking of an apology. Yet, preparation for the meeting is often a component of VOM in practice (Hansen & Umbreit, 2018). Therefore, a possible apology towards the victim is already anticipated before the meeting, which provides the offender time to elaborate on what they want to say. This is probably less demanding than the completely spontaneous prompt to think of an apology during our experiment. Needless to say, these offenders still need cognitive resources to come up with an apology during actual VOM and thus, a VOM experiment should not fully eliminate cognitive load, because this would be unrealistic. Nonetheless, it would be interesting to explore whether and how internalizing a scenario and thinking of an apology can possibly lead to differences in gaze behavior (via cognitive load) compared to a real offender, who truly experienced the crime and its consequences.

One further implication concerning cognitive load is to guide the participants in order to lower the effort needed for the production of an apology, and its possible impact on the outcomes of an eye tracking experiment. In the current study, the participants already received some guidelines with regard to the content of the apology. Another improvement could be to ensure that the participants internalized the scenario and the context of the experiment. Similar to VOM in real life, this could be done through including preparation of the participants prior to the experiment, by asking them to read the scenario and to memorize – or at least – engage themselves in attentively reading a short apology one or two days beforehand. Moreover, a brief "training" with a fictional mediator could be implemented. Doing so, the participant could already empathize with the offender's situation and also prepare to apologize. We assume that such improvements should already be sufficient to reduce cognitive load to an acceptable level that is comparable to an actual VOM encounter.

The "Strength" of the Apology

Regarding study 2, the content of the offender's apology can possibly explain why we could not find statistically significant support for a direct impact of the amount of eye contact

on victim's evaluation of an apology's quality. That is, the characteristics of the apology itself already formed a "full" apology (e.g. Zebel et al., 2021; Lewicki et al., 2016). More precisely, the offender in the video clearly conveyed his negative feelings in relation to the crime and explained what went wrong. Moreover, the offender mentioned future intentions ("I will not do something like this again, and I really would like to make this unhappen […]", see transcripts, Appendix G) and expressed that he feels very sorry. But particularly, the offender said that he felt ashamed towards the victim.

With regard to this, Zebel et al. (2021) suggested that the expression of "feeling ashamed" within an apology conveys a high amount of responsibility-taking and suffering, which leads to a higher rating of the apologizing person's sincere effort. This results in the apology being evaluated more positively in terms of satisfaction, (less) insult, the perceived intention to repair and prevent, and forgiveness (Zebel et al., 2021).

Results have shown that the ratings on perceived responsibility-taking, suffering and sincerity were indeed moderately high, irrespective of the medium or the amount of offender eye contact (Likert Scale mean scores of 3 – 4, i.e. moderately to very much). Likewise, also the direct ratings of the quality (satisfaction, (low) insult, intention to repair and prevent, forgiveness) were moderate to moderately high among all groups. That means, the four different recordings of the apology were consistently rated in a rather positive way. Drawing on the findings of Zebel et al. (2021), it is hence possible that this was caused by the content of the apology and especially by the fact that the offender expressed feelings of shame. As such, this could have consequently diminished the impact of the manipulations.

Strengths and Limitations

Strengths

The procedure of the first experiment (in particular) is considered a strength of this research because it is characterized by a high ecological validity. That is, after the participants have seen the fictional victim's message to provoke reintegrative versus stigmatizing shame,

the face-to-face group could actually encounter and apologize towards this victim. For the same reason, the process for people who took part in indirect VOM was comparable to real-life, since the participants first received a video message by the victim (confederate) and could subsequently record their answer, i.e. the apology. In sum, the well-considered procedure presumably enhanced the generalizability of our findings.

Also the video manipulations themselves were a key strength of both studies. This is the case as the functionality of the recordings for study 1 was elaborated through a pilot test to ensure that they could successfully manipulate feelings of reintegrative or stigmatizing shaming. In fact, this was confirmed by the outcomes of these analyses. Regarding this, also the manipulation checks for the final survey confirmed that the videos indeed evoked feelings of reintegrative or stigmatizing shame. This demonstrated that the impact of the statements on the emotional state of the participants was remarkable. Hence, one can conclude that the video manipulations which were recorded for study 1 were an effective tool to manipulate these kinds of shaming experiences. We also suggest that these or similar videos could also be used for further research.

Regarding Study 2, we performed pilot testing as well. That is, the first versions of the videos were reviewed and discussed together with the supervisors. Based on this evaluation, the final videos were planned and recorded. Additionally, the manipulation checks have shown that the video manipulations eventually worked as intended in terms of perceived eye contact and VOM medium. Especially regarding the manipulation of face-to-face VOM, this was remarkable. Although, the manipulation of the VOM medium was not very strong (as compared to the manipulation of perceived eye contact), we suggest including small camera movements and a pan shot on the mediator for similar manipulations, because this possibly strengthened our videos. In practice, this can be useful for studies where a real face-to-face meeting is not feasible.

Limitations

There were also some limitations of the current study that need to be acknowledged. Although this is a point that is often discussed, the sample size of study 1 is considered as weakness of the experiment. After 58 participants took part in the study, the data collection had to be stopped due to corona measures coming into effect in the Netherlands. For an experiment with four conditions, this is a quite low number of participants.

The "optimal" sample size for eye tracking research in general is still a topic of discussion. For instance, research implies that twenty participants are already enough to create meaningful visualizations based on the gaze data, but also, that no concrete (overall) recommendation can be provided (Zhang & Liu, 2017). Moreover, Bojko and Adamczyk (2010) argued that the design is determinative and indicated that more respondents are needed if the data will be statistically tested. Regarding this, we actually calculated the appropriate sample size (128 participants, see section "Participants"). A sample size of 58 was therefore quite low and hence, our outcomes were less convincing due to the rather low statistical power. As a consequence, the results of the current study have to be interpreted with caution.

The fact that we could not incorporate real face-to-face meetings is considered a limitation of study 2. Although we demonstrated that the manipulation of the communication channel was successful, the groups did not greatly differ. Therefore, it is possible that we could simulate the VOM sessions in a way that people in the direct condition were less aware of the fact that it was a video message but still, did not perceive it as an actual face-to-face meeting. In line with this, the means have shown that the participants of direct VOM still had a rather low to medium score, which implied that the people slightly to moderately experienced the video as a face-to-face meeting.

Consequently, it is recommended to improve the manipulation of the mediums even further for similar experiments. To enhance the realness of the scenario one could argue that a direct meeting with a confederate who takes the role of the offender should be implemented.

However, the general feasibility and ability to standardize the confederate's non-verbal (especially, gaze behavior) is questionable. Instead, one suggestion is to use virtual reality (VR) headsets. The participants could sit at a table and receive the "face-to-face" apology through watching a VR video of the mediator and the offender. Syrjämäki et al. (2020) observed comparable psychophysiological responses to a VR versus a face-to-face encounter. The reactions during VR were less pronounced, though. This study also demonstrated that participants' subjective perceptions of their reaction to the counterpart's gaze behavior was similar to a direct meeting. As such, VR can be advantageous through enhancing the extent to which a participant can imagine being in the simulated scenario (Van Gelder et al., 2019; Wieser et al., 2010). Hence, we assume that this could improve the manipulation of direct versus indirect contact.

Conclusion

Overall, some of our findings could tentatively support 1) the expected negative impact of stigmatizing (versus reintegrative) shame on an offender's amount of eye contact and 2) the expected positive relation between much (versus less) eye contact during an apology and perceived suffering and sincerity of the offender. Combined, these outcomes indicated that a stigmatizing attitude towards an offender during VOM can diminish eye contact during an apology and in turn, explain less favorable outcomes concerning sincerity. Importantly, these interpretations have to be viewed with caution because of the lack of substantiating statistical evidence that was found.

In addition, this research illustrated strongly how eye tracking technology can be used to study people's behavior within VOM, as already demonstrated for victim's gaze behavior by Bonensteffen et al. (2020). In fact, we could elicit some interesting patterns and it would be valuable to expand existing knowledge about the offender's perspective and possible determinants of behavior, as well as the impact on the victim.

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Appendix

Appendix A

Study I – Qualtrics questionnaire with introduction, all scales, offender vignette and manipulations

Introduction

Dear participant,

Welcome to our study dealing with victim-offender mediation (VOM)! VOM is a voluntary restorative justice program, which focuses on the needs and emotions of victims and offenders of a crime. During this study, you have the possibility to experience a part of a VOM session.

Procedure

During your participation, you will answer a series of questions, read and envision yourself in a crime scenario, and then offer an apology within VOM. For the duration of your participation, you will wear eye tracking glasses. These glasses will record your gaze behavior throughout the experiment. Your participation will take approximately 30 minutes and you will receive 1 SONA point. To ensure confidentiality, your answers will be anonymized. Besides this, you have the opportunity to win a prize, which will be further explained during the study.

Risks

Participation in this study is associated with minimal risk. That is, it is possible for participants to feel stressed out when reading the scenario that is used, because you will be asked to imagine being in a stressful situation. However, there will be no direct and/or severe risk to your well-being or safety.

Participants Rights

Your participation is fully voluntary. Moreover, you can stop your participation at any point of time, for whatever reason and without negative consequences.

Further information on the study can be obtained via e-mail:

j.czerny@student.utwente.nl (Researcher)

f.bonensteffen@utwente.nl (Researcher / 2nd Supervisor)

s.zebel@utwente.nl (1st Supervisor)

If you have any more questions up to this point, please don't hesitate to ask the researcher now. Otherwise, you can finish reading this document and indicate your consent.

Informed Consent

By clicking on "I agree", you indicate that you voluntarily participate in this study. You also confirm that you have been informed about the content of the study and that you have had sufficient time to read this document as well as ask and get an answer to any further questions.

I agree *I don't agree*

Attitude towards resocialization programs (based on Bonensteffen (2018))

Before we can go on, we would like to know what you think about resocialization programs that are offered to offenders.

Resocialization describes the process of offenders' reintegration into society, regarding for instance norms, values, knowledge. The goal is to enable offenders to live a "normal" life again and reduce the risk of reoffending. This includes, for instance, finding a job and simultaneously being accepted by the society. Please indicate to what extent you agree with the following statements:

1. Resocialization of an offender is equally important to the punishment that an offender receives for a misdeed.

   not at all 1 2 3 4 5 *extremely*

2. I am not in favor of resocialization programs that are organized for offenders who are jailed for a misdeed.

   not at all 1 2 3 4 5 *extremely*

3. The most effective and human approach to fight crime is done through resocialization

   not at all 1 2 3 4 5 *extremely*

4. Offenders should be punished for a misdeed without exception.

   not at all 1 2 3 4 5 *extremely*

5. Resocialization programs are a waste of time and money.

   not at all 1 2 3 4 5 *extremely*

6. Resocialization of an offender will have no effect.

   not at all 1 2 3 4 5 *extremely*

7. The only option to decrease the crime rate is the application of (prison) sentence and cannot be made through resocialization.

   not at all 1 2 3 4 5 *extremely*

Offender vignette (based on a scenario by Giebels, Oostinga, Taylor and Curtis (2017) and altered to focus on an individual victim)

In the following, you will read a scenario with which we ask you to empathize. Please try to imagine being the offender in the following situation as good as possible. Ask yourself: As the offender, what thoughts do I have? What feelings do I experience? For the goal of this study, it is important that you sympathize with the offender's situation as good as possible. There will also be questions regarding this scenario afterwards.

Please imagine being the offender in the following situation:

Your family circumstances are very difficult. Your father is violent, and your mother regularly drinks alcohol. If things don't work out the way your father wants, you are often the scapegoat. Violence has been high on the agenda since you were young. Your mother does not intervene but looks away and washes away her worries with alcohol. Usually, you were on your own, without support of your parents. They are mainly concerned with their own interests. For example, you often had to cook for yourself and it didn't matter at what time you came home. Given your home situation, you often run away from home. That's why you've spent more time on the street than at home. Here you committed a number of minor thefts, stole a bicycle a couple of times and sometimes shopped without paying for it. You have to pay for your studies yourself, which is why you often run out of money. The academic year has just begun, and you had to pay the tuition fees. Now you don't have any money left for your books.

This morning you found a gun in your mother's nightstand. You are afraid that she wants to hurt herself, because she has often indicated that she does not want to live like this anymore. You put the gun in your bag to prevent worse situations and cycle to the UT. When you go to your bike after the lecture, you see that there is a tent on the O & O square. A study association has collected money for their study trip. You see a girl walking out of the tent who carries the cash register. Without thinking about it you approach the person, grab the cash register and run away. Immediately, you hear students shouting that you have stolen the money.

You panic, but you see that the door of the Rubix in the Cubicus is open. You walk in and hide in the room. You remember the weapon in your bag and call out that you have a gun with you and that you will shoot if someone comes in. Within a short time, all the people have fled to the outside and the police has been called in. When the police arrived, you become anxious

and think about your future. Also, you experience remorse when you think about what you have done. To prevent that the situation gets even worse, you surrender yourself to the police. During your trial, you hear that the victims, especially the person from whom you stole the cash register, suffered serious aftermaths because of the crime you committed. For instance, the victim, called Hanna, suffers from states of panic, especially in public places, and also severe nightmares. You feel bad about this because you know that this is a consequence of your behavior. However, you get to know about the opportunity to voluntarily take part in so-called victim-offender mediation (VOM). In VOM, you have the opportunity to talk to Hanna either directly (meeting each other face-to-face) or indirectly (through recording a video message).

You realize what has happened and want to apologize towards Hanna, who carried the cash register. An apology can help the victim and you, as an offender, in several different ways. Moreover, both parties have the opportunity to ask and answer questions during VOM. Thus, you can narrate what happened from your point of view. Also the victim can report how she felt and express their thoughts. That means, both parties can better comprehend the incident and its consequences. The possibilities both parties gain through the communication further lead to positive outcomes. For instance, VOM can reduce victim's anxiety evoked by the crime, including fear and anger regarding the offender. Moreover, offenders have the possibility to express their motivations and also negative feelings. Another positive outcome is a decreased probability of recidivism. VOM can enhance your and the victim’s situation as well as both of your future perspectives. Therefore, giving and receiving an apology for a misdeed through VOM can have a great impact.

Finally, you are offered the possibility to take part in victim-offender mediation...

Pre-willingness (before manipulation)

The following questions are about the motivations that you would have as the offender in the scenario.

If you could choose, to what extent...

1. …would you be willing to participate in VOM?

   not at all 1 2 3 4 5 *extremely*

2. …would you be willing to apologize towards the victim?

   not at all 1 2 3 4 5 *extremely*

3. …would you prefer to meet the victim directly, that is, face-to-face?

   not at all 1 2 3 4 5 *extremely*

4. …would you prefer to meet the victim indirectly, that is, via video message?

   not at all 1 2 3 4 5 *extremely*

5. …would you prefer to take part in indirect VOM through exchanging letters?

   not at all 1 2 3 4 5 *extremely*

Now, please imagine that you agreed to take part in VOM. The mediator contacted you and you were already prepared, as you were told what to expect during VOM. Namely, you and the victim can express your thoughts, opinions, share your feelings.

You will see a short part (appr. 1 minute) of a video message, which was recorded right after the start of the VOM session. The person you see is the victim. In the end of the video, you will also hear a comment by the mediator, who cannot be seen on the screen. If you would like to, you can watch the scene again or read the transcript.

Manipulation transcripts (based on a paper by Braithwaite and Mugford (1994) the following manipulations were formulated for the conditions ‘stigmatizing’ versus ‘reintegrative’ shame)

Reintegrative shame:

Victim: "…I don’t know your motives for the theft, but I believe you that you want to do better. Otherwise you wouldn’t be here, I think. I mean, everyone has done something wrong in their life. Unfortunately, I was the victim this time. And it really did affect me and lead to negative consequences in my life, especially concerning taking responsibility for my study association. But I want you to know that I don’t perceive you as being evil, because I know that there are reasons people might feel forced to do things that aren’t right. And thus, I hope that I am right when I tell you that I don’t think that you are a criminal, I only think that what you did was wrong. So, I am pleased to be able to meet you, so I can get to know the person behind the things that have happened. I want to tell you about my feelings and thoughts regarding the incident and also want to know yours. And I hope that we can both leave these things behind and get back to normal life…"

Mediator: "I think that this is a very mature and realistic view, and I strongly support that."

Stigmatizing shame:

Victim: "…For me, you don’t even deserve to be treated as a person, because normal people would not do things like that. I asked myself so many times, “How can someone be so selfish?”. I think you don’t even realize what you’ve done. Because of unscrupulous robbers like you, innocent people experience so much stress. I mean, you must be so lonely. Because, who would be friends with such a mean person? So maybe it’s your hobby to steal things from people, because you don’t have other activities and goals in life. You have not only ruined my day, but also my anticipation of the holiday with my study association. But, you’ll probably not even care. Luckily, I believe that everyone gets what they deserve, and criminals like you deserve to be punished and nothing more. People like you are rubbish to me. Nevertheless, I’m glad to meet you here so you get to know my thoughts personally, although

it will probably not change anything because of who you are. Now, I'm curious what you have to say, but I doubt that it will be anything productive…"

Mediator: "Yes, I can understand your feelings and thoughts, but let us go on."

Manipulation checks for the types shame

Based on insights about reintegrative and stigmatizing shame and literature measuring these concepts and/or negative feelings (Watson et al., 1988; Murphy & Harris, 2007; Benson et al., 2011; Gausel et al., 2016) 26 items were formulated (13 for reintegrative- and 13 for stigmatizing shame).

Stigmatizing shame (based on Benson et al., 2011; Gausel et al., 2016; Murphy & Harris, 2007):

To what extent do the following statements reflect your thoughts when you think about the VOM experience you just had?

1. Once the victim and mediator branded me as a thief, they will never change their mind

   not at all 1 2 3 4 5 *extremely*

2. My family will turn their back on me

   not at all 1 2 3 4 5 *extremely*

3. I don't think anyone would hire me for a job anymore if this comes out

   not at all 1 2 3 4 5 *extremely*

4. At this point, I feel as though the world is against me

   not at all 1 2 3 4 5 *extremely*

5. I believe I'll be all alone in the world

   not at all 1 2 3 4 5 *extremely*

6. I think the only friends I'll have will be other offenders

   not at all 1 2 3 4 5 *extremely*

7. Others might not have the same respect for me because of the theft

   not at all 1 2 3 4 5 *extremely*

8. I will be rejected by others because of what I have done

   not at all 1 2 3 4 5 *extremely*

9. I think I will be isolated from others because of the theft

   not at all 1 2 3 4 5 *extremely*

10. I feel stigmatized by the victim

    not at all 1 2 3 4 5 *extremely*

11. I feel stigmatized by the mediator

    not at all 1 2 3 4 5 *extremely*

12. I feel rejected by the victim

    not at all 1 2 3 4 5 *extremely*

13. No matter what I do, I think the victim will not accept me

    not at all 1 2 3 4 5 *extremely*

Reintegrative shame:

To what extent do the following statements reflect your thoughts when you think about the VOM experience you just had?

1. Even if the victim thinks that I am doing something wrong, they will respect me in the long run, as long as I admit my mistakes

   not at all 1 2 3 4 5 *extremely*

2. The victim treats me with dignity and respect

   not at all 1 2 3 4 5 *extremely*

3. The victim treats me as if I can be trusted to do the right thing

   not at all 1 2 3 4 5 *extremely*

4. Even if my family is angry about the theft, I think they will still be supportive

not at all 1 2 3 4 5 *extremely*

5. Despite the shame of my conviction, my friends will still like me

   not at all 1 2 3 4 5 *extremely*

6. My friends will still help me get a job

   not at all 1 2 3 4 5 *extremely*

7. If I straighten up my life, I should not have a problem readjusting back into society

   not at all 1 2 3 4 5 *extremely*

8. I think I am defective in some way

   not at all 1 2 3 4 5 *extremely*

9. I think the crime expresses a moral failure in me

   not at all 1 2 3 4 5 *extremely*

10. I feel rehabilitated by the VOM experience

    not at all 1 2 3 4 5 *extremely*

11. I think that the victim has a rather positive image of me, regardless of the crime

    not at all 1 2 3 4 5 *extremely*

12. I think that the mediator has a rather positive image of me, regardless of the crime

    not at all 1 2 3 4 5 *extremely*

13. I think that the victim will forgive me

    not at all 1 2 3 4 5 *extremely*

The offender's apology

Direct Condition:

Now, you have the possibility to directly (i.e. face-to-face) apologize towards the victim you just saw, who will sit in front of you. Again, we ask you to imagine being the offender as good as possible. Please try to apologize in a way you personally would do if you were the

offender in real-life. However, we do ask you to at least integrate the following elements in your apology:

- you should say sorry,
- an emotional component to express remorse,
- a statement about your positive future intentions

You can deliver your apology in English, Dutch or German, depending on what you prefer. The victim can speak and understand all of the three languages. If you have any questions, feel free to ask the researcher. In order to motivate you to make an effort to offer a good apology we chose to introduce a prize. The most natural and authentic apology can win a 25 € voucher for one of UT's eating facilities after this study, so keep in mind the elements above. However, remember that there is no right or wrong apology. Rather, you should apologize as naturalistic as possible to make this VOM session as realistic as possible. So please don't pressurize yourself!

Please take a moment to think of your apology. After that, the victim will join.

Indirect Condition:

Now, you have the possibility to indirectly (i.e. via video message) apologize towards the victim, who will sit in front of you. Again, we ask you to imagine being the offender as good as possible. Please try to apologize in a way you personally would do if you were the offender in real-life. However, we do ask you to at least integrate the following elements in your apology:

- you should say sorry,
- an emotional component to express remorse,
- a statement about your positive future intentions

You can deliver your apology in English, Dutch or German, depending on what you prefer. The victim can speak and understand all of the three languages. If you have any questions,

feel free to ask the researcher. In order to motivate you to make an effort to offer a good apology we chose to introduce a prize. The most natural and authentic apology can win a 25 € voucher for one of UT's eating facilities after this study, so keep in mind the elements above. However, remember that there is no right or wrong apology. Rather, you should apologize as naturalistic as possible to make this VOM session as realistic as possible. So please don't pressurize yourself!

Please take a moment to think of your apology. After that, you can record the message for the victim.

Post-willingness (after manipulation)

The following questions are about the motivations that you had as the offender in the scenario.

If you could have chosen, to what extent...

1. … were you willing to participate in VOM?

   not at all 1 2 3 4 5 *extremely*

2. …were you motivated to apologize towards the victim?

   not at all 1 2 3 4 5 *extremely*

3. …did you prefer [indirect condition: would you have preferred] to meet the victim directly, that is, face-to-face?

   not at all 1 2 3 4 5 *extremely*

4. …did you prefer [direct condition: would you have preferred] to meet the victim indirectly, that is, via video message?

   not at all 1 2 3 4 5 *extremely*

5. ...would you prefer to take part in indirect VOM through exchanging letters?

   not at all 1 2 3 4 5 *extremely*

Post-measure: Perceived intention to make eye contact (and regarding sincerity and naturalness)

Indirect Condition

Finally, we would like to ask you some questions about your experience regarding participation in victim-offender mediation (VOM).

What do you think, to what extent...

1. ...did you deliver a naturalistic apology?

   not at all 1 2 3 4 5 *extremely*

2. ...did you want to make a sincere apology?

   not at all 1 2 3 4 5 *extremely*

3. ...did you overall make a sincere impression while apologizing?

   not at all 1 2 3 4 5 *extremely*

4. ...did you intend look into the victim's eyes [indirect condition: …into the camera in pursuance of eye contact with the victim]?

   not at all 1 2 3 4 5 *extremely*

5. ...was it easy for you to look into the victim's eyes [indirect condition: …into the camera in pursuance of eye contact]?

   not at all 1 2 3 4 5 *extremely*

Please indicate here why it was (not) easy for you to look into the camera:

(Open question)

Background information

Finally, we are interested in some background information about yourself and your experience.

Gender:

Male *Female* *Other*

Age:

How old are you?

(Open question)

Nationality:

Dutch *German* *Other*

If you chose "Other", please indicate your nationality here:

(Open question)

About filling out the study:

Please honestly answer the following questions regarding your experiences during this study.

To what extent...

1. ...could you empathize with the scenario you read in the begin?

   not at all 1 2 3 4 5 *extremely*

2. ...could you imagine being the offender?

   not at all 1 2 3 4 5 *extremely*

3. ...could you empathize with the feelings of the offender?

   not at all 1 2 3 4 5 *extremely*

4. ...could you empathize with the thoughts of the offender?

   not at all 1 2 3 4 5 *extremely*

5. ...were you concerned about the quality of your apology?

   not at all 1 2 3 4 5 *extremely*

6. ...was it feasible for you to apologize in a naturalistic way?

   not at all 1 2 3 4 5 *extremely*

7. ...did you answer the questions seriously?

   not at all 1 2 3 4 5 *extremely*

8. ...did you read the scenarios thorougly?

   not at all 1 2 3 4 5 *extremely*

9. ...did you feel that someone observed you?

   not at all 1 2 3 4 5 *extremely*

10. ...did you feel confident to act as naturalistic as you would in real-life?

    not at all 1 2 3 4 5 *extremely*

Prior crime experiences:

The following questions are related to your prior experiences regarding criminality. Remember that your answers are confidential!

1. Did you ever commit a crime yourself in your life?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

2. Has one of your relatives and/or friends ever committed a crime?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

3. Were you ever a victim of a crime in your life?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

4. Has one of your relatives and/or friends ever been a victim of a crime?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

Appendix B

Table that represents the correlation analysis for the pre-willingness items of study 1

Table B

Correlation Matrix with all Pre-Willingness Items of Study 1

	N	*M*	*SD*	1	2	3	4	5
1. Willingness to participate in VOM	58	4.17	.73		.59**	.40**	.30*	-.24
2. Willingness to apologize	58	4.47	.71			.47**	.26	-.15
3. Preference for face-to-face	58	3.36	1.18				-.19	-.46**
4. Preference for video messaging	58	2.83	1.03					.28*
5. Preference for letter exchange	58	2.88	1.09					

Notes. **($p < .01$). *($p < .05$). The means are based on values that were measured with a 5-point Likert scale.

Appendix C

Table that represents the correlation analysis for the post-willingness items of study 1

Table C

Correlation Matrix with all Post-Willingness Items of Study 1

	N	*M*	*SD*	1	2	3	4	5
1. Willingness to participate in VOM	58	4.16	.7		.55**	.20	.12	.01
2. Willingness to apologize	58	4.55	.5			.18	-.03	-.21
3. Preference for face-to-face	58	3.24	1.38				-.46**	-.18
4. Preference for video messaging	58	3.16	1.36					.05
5. Preference for letter exchange	58	2.86	1.28					

Notes. **($p < .01$). The means are based on values that were measured with a 5-point Likert scale.

Appendix D

Investigator-Script for Study I

The experiment will take place in rooms of the BMS Lab of the University of Twente and will be conducted by two researchers. During the experiment, the participant will receive an

offender scenario s/he has to acquaint oneself with. Also, numerous questions will be asked, and the participant is asked to apologize towards a confederate playing a victim. The researcher will instruct the participants in German, Dutch or English, depending on their preferred language.

It is planned that the introduction into the experiment will take approximately three minutes. This includes the informed consent and calibration of the Eye Tracking glasses. After that, baseline data will be measured which will take circa 1 minute. Then the participants will receive the scenario and manipulation as well as the request to apologize. It is planned that the apology will take 1-2 minutes. Also, the participant has to answer the questions of the survey, which will all in all take 20 minutes. Finally, participants will be debriefed and thanked, which will take about three minutes. In total the experiment will take approximately 30 minutes.

First, the researcher will welcome the participant and shortly introduce him/her into the topic of the current study. Moreover, the researcher hands out the informed consent via Qualtrics. The participant has to agree before the experiment can start.

> "Welcome to our experiment! The goal of this session is to get an insight into the process of victim-offender mediation. Regarding this, we want to explore people's gaze behavior during VOM. Please read the informed consent before we can start."

If the person agrees:

> "You will now get a pair of eye tracking glasses before the experiment can begin. Do you have any questions so far?"

Subsequently, the eye tracking glasses will be put on by the researcher. These need to be adjusted and calibrated individually. That is, the participant is told to look at a circle on a tablet. After this, the session can begin.

The experiment begins with a baseline measurement. The participant is instructed to tell something about his/her study or any other information, for instance, if the person does not study. This will be done in front of the researcher, respectively camera.

> "Before we can start, we need a so-called baseline measurement. Please tell something about the study you are following or something different you feel comfortable with."

After that, the actual experiment can begin. The researcher tells the participant to follow the instructions on the PC. First, each person will answer some questions, for instance about their attitude, followed by the scenario. After that, the participant is manipulated to experience feelings of reintegrative or stigmatizing shame. The researcher will turn on the video manipulation for each participant. After that, s/he will sit down in another corner of the room, to minimize, for instance, distraction or pressure because of their presence. Regarding the video itself, there is no more explanation needed, as everything the participant needs to know is already in the questionnaire.

> "So, now you will see the video that was recorded by the victim. When you are ready, you can re-watch the video or read the transcript if you want to. Then, you can go on with filling in the questionnaire."

After manipulation check questions, the participant is told to apologize towards the confederate, i.e. victim or via video message, depending on the condition. Before doing so, the participant will get a bit time to think about the apology, which should comprise saying sorry, an emotional component and a statement about future intentions.

For direct:

> "So, now the victim from the scenario you read will join us and you have the opportunity to apologize towards her."

For indirect:

> "So, now you will apologize through recording a video message for the victim. While recording the video, you cannot see the victim. But, please keep in mind that the

victim will see this video, so try to act as if she was present. **If you want to convey that you want to maintain eye contact with the victim, you should look into the camera**."

Finally, the last part of the questionnaire will be filled out. Amongst other things, to explore other feelings of the offender as well as background information.

"Now, please fill in this last part of the questionnaire. After that, we are done with the experiment."

After the apology, the experiment is over, and the participant is thanked and debriefed.

"Thank you very much for your participation! The purpose of this study was to explore if and how different types of shame can influence the amount of eye contact of an offender. Namely, we manipulate our participants to experience feelings of so-called stigmatizing versus reintegrative shaming. Do you know what that means? [If not: short explanation]. You were in the [stigmatizing / reintegrative] condition. Moreover, we want to analyze whether a direct versus indirect form of communication can further influence this assumed relationship. Regarding this, we suggest that it is easier for people to maintain eye contact if they record a video message than when they meet the victim face-to-face. You were in the [direct / indirect] condition. If you would like to receive the results of this study, you can write down your email on this paper, if you have not already indicated it in the survey. Also, if you have any more questions, feel free to ask them now or write a mail."

Timetable

Introduction: 3 minutes incl. informed consent and calibration of glasses

Baseline measurement: 1 minute

Watching video manipulation: 1 minute

Apology: 1-2 minutes

Questionnaire: 20 minutes

Ending: 3 minutes incl. debriefing

Necessities

- Qualtrics Survey
- Eye tracking glasses
- Tablet with Tobii Pro Eye Tracking software for recording and calibration
- Tobii Pro prescription lenses (for participants who need to wear glasses)
- List with participants with a possibility to add comments
- PC to fill in the questionnaire
- PC & tablet to record apology in the video message condition
- Confederate is present for half of the sessions

Appendix E

Description of Analyses of Covariance regarding hypotheses 1a and 1b (Study I)

The Impact of Gender

Because of the fact that more women have participated in this study (70.7% female, 29.3% male), it was also chosen to control for gender. The outcomes concerning this ANCOVA have shown that controlling for gender did not noticeably change the outcomes compared to the ANOVA without any covariates. There were no significant main effects of the shame manipulations ($F(1, 53) = .23$, $p = .64$) or the medium that was used ($F(1, 53) = 1.08$, $p = .30$). Also, the ANCOVA did not reveal a significant interaction effect ($F(1, 53) = .36$, $p = .55$). Bootstrapping (1000 replicates) revealed no further support. That is, zero was included in confidence intervals for shame (95% CI [-.07, .19]), medium (95% CI [-.11, .06]) and the interaction effect (95% CI [-.19, .07]).

The Impact of the Baseline Measurement

Differences Between Participants

For the further analyses, a variable for each individual's relative fixation durations on the eyes during the baseline measurement was created. The total fixation durations were divided by the duration of the baseline measurement per participant and the resulting variable represented the participants' pre-measured, (i.e. non-manipulated) gaze behavior. A two-way ANOVA with the relative fixation duration variable as dependent variable was conducted. The independent variables were the different conditions regarding the two types of shame (reintegrative vs. stigmatizing) and the two mediums (direct vs. indirect). This was done to check whether there are significant differences in the natural (or pre-manipulated) gaze behavior between the participants.

The ANOVA has shown that there were no significant differences in the relative fixation duration means (see Table 3) between the conditions. That is, no significant main effect of the two shaming experiences ($F(1, 54) = .57$, $p = .46$) or the VOM medium ($F(1, 54) = .16$, $p = .69$) was revealed. Also, there was not significant interaction effect between the two independent variables ($F(1, 54) = 1.05$, $p = .31$). Bootstrapping with 1000 samples did also not demonstrate any significant outcomes, to the extent that zero was included in the CIs (Main effect shame: 95% CI [-.002, .06]; main effect medium: 95% CI [-.02, .07]; interaction effect: 95% CI [-.10, .03]). These results indicated that the random allocation concerning individual differences in seeking eye contact has been successful.

Controlling for the Baseline Measurement

An ANCOVA was run with SPSS in order to control for the baseline measurement. The independent variables were the two types of shame and the mediums, and the dependent variable was the variable that was created to test the hypotheses (i.e. the relative fixation durations concerning gazes at the eyes or lens). The results of this ANCOVA did not strongly deviate from the ANOVA in the begin. Again, no significant main effects for shame ($F(1, 53) = .26$, $p = .62$) or medium ($F(1, 53) = .97$, $p = .33$) could be found. Also, the results have

shown no significant interaction effect ($F(1, 53) = .45$, $p = .51$). Moreover, bootstrapping did not indicate that any of the effects is (nearly) significant (main effect shame: 95% CI [-.08, .21]; main effect medium 95% CI [-.10, .07]; interaction effect: 95% CI [-.23, .09]). Together, these outcomes further imply that there were no differences in the baseline measurement that affected the hypothesis testing.

Appendix F

Description of Analyses of Covariance regarding gaze aversion of Study I

Controlling for Attitude and Willingness

Another ANCOVA was conducted, again, with the same design but this time it was controlled for attitude towards resocialization programs and willingness. Controlling for these variables did not have a great impact on the main effect of shame ($F(1, 49) = 1.77$, $p = .19$) or the mediums ($F(1, 49) = 1.19$, $p = .28$). Moreover, the addition of this covariates did not noticeably alter the significance or strength of the interaction effect ($F(1, 49) = .02$, $p = .89$). Additionally, bootstrapping with 1000 samples could not reveal any further support.

Controlling for the Gaze Aversion Baseline

Then, an ANCOVA was conducted, with the relative AOI aversion of the baseline measurement as covariate. The dependent and independent variables were identical with the prior ANOVA for Gaze Aversion, while it was controlled for the baseline. Regarding this, the outcomes for the main effect of shame ($F(1, 54) = 2.45$, $p = .12$) and medium ($F(1, 54) = 1.18$, $p = .28$) remained insignificant, with only small changes. With reference to hypothesis 1b, the outcomes for the interaction effect have also revealed no great differences when controlling for the baseline measurement ($F(1, 54) = .001$, $p = .98$). Again, bootstrapping with 10000 replicates was performed, which did not lead to any further relevant findings.

Controlling for Gender

Adding gender as a covariate, another ANCOVA concerning gaze aversion was conducted. Regarding this, the results have revealed no considerable changes in the main effect of the two types of shame ($F(1, 53) = 2.42$, $p = .13$) or the mediums ($F(1, 53) = 1.27$, $p = .27$). This was also not the case for the interaction effect between the two factors ($F(1, 53) = .01$, $p = .92$). That means, gender differences did not have an impact here. This was also not indicated after bootstrapping.

Appendix G

Study II – Qualtrics Questionnaire with Introduction, All Scales, Victim vignette and Manipulations

Introduction

Dear participant,

Welcome to our study dealing with victim-offender mediation (VOM)! The study is part of my master's thesis within the department of Psychology of Conflict, Risk and Safety, at the University of Twente. VOM is a voluntary restorative justice program, which focuses on the needs and demands of a victim as well as the offender of a crime. Regarding this, you will be asked to imagine that you are a victim and you have the possibility to experience part of a VOM session.

Procedure

During your participation, you will answer a series of questions, read a scenario you are asked to empathize with, and receive an apology from the offender within VOM. Your participation will take approximately 15 - 20 minutes and, if applicable, you will receive 0,25 SONA points. To ensure confidentiality, your answers will be anonymized.

Risks

Participation in this study is associated with minimal risk. That is, it is possible for participants to feel stressed out when reading the crime scenario that is used, because you will be asked to imagine being in a stressful situation. However, there will be no direct and/or severe risk to your well-being or safety.

Participant Rights

Your participation is fully voluntary. Moreover, you can stop your participation at any point of time, for whatever reason and without negative consequences. Thus, you can cancel the study and your data will be deleted if you want to.

Further information on the study can be obtained via email:

j.czerny@student.utwente.nl (Researcher)

f.bonensteffen@utwente.nl (Researcher and 2nd Supervisor)

s.zebel@utwente.nl (1st Supervisor)

Informed Consent

By clicking on "I agree", you indicate that you voluntarily participate in this study. You also confirm that you have been informed about the content of the study, that you had sufficient time to read this document, and that you had the possibility to ask further questions via email.

I agree *I don't agree*

Attitude towards resocialization programs (based on Bonensteffen (2018))

Before we can go on, we are firstly interested in your attitude towards resocialization programs that are offered to offenders.

Resocialization of offenders describes the process of offenders' reintegration into society. The goal is to enable offenders to live a "normal" life again and reduce reoffending. This includes,

for instance, finding a job and simultaneously being accepted by the society. Please indicate to what extent you agree with the following statements:

1. Resocialization of an offender is equally important to the punishment that an offender receives for a misdeed.

   not at all 1 2 3 4 5 *extremely*

2. I am not in favor of resocialization programs that are organized for offenders who are jailed for a misdeed.

   not at all 1 2 3 4 5 *extremely*

3. The most effective and human approach to fight crime is done through resocialization

   not at all 1 2 3 4 5 *extremely*

4. Offenders should be punished for a misdeed without exception.

   not at all 1 2 3 4 5 *extremely*

5. Resocialization programs are a waste of time and money.

   not at all 1 2 3 4 5 *extremely*

6. Resocialization of an offender will have no effect.

   not at all 1 2 3 4 5 *extremely*

7. The only option to decrease the crime rate is the application of (prison) sentence and cannot be made through resocialization.

   not at all 1 2 3 4 5 *extremely*

Vignette victim:

Dear participant, on the following pages you will read a scenario we ask you to empathize with. Note that the events really happened a few years ago, as reported by a Dutch newspaper in 2005.

Please try to imagine being the victim in the situation as much as you can. Ask yourself: As the victim, what thoughts would I have? What feelings would I experience? For the purpose

of this study, it is important that you sympathize with the victim's situation as much as you can. Also, we will ask questions that are related to this scenario afterwards.

Imagine that you are a member of a study association of the University of Twente. Together, you have planned a small festival on the campus to collect some money. You do this, because you want to make a trip with your fellow students of the association, and you are really looking forward to it. The collection of money itself is mainly your task, because you are the treasurer of your group. Thus, you have to organize the income and expenses and keep an eye on your earnings. During the festival, you are located in a tent on the O & O square of the campus where you coordinate the incomes and collect it in one cash register.

The festival was well-attended and you managed to earn quite a high amount of money. However, you don't know the exact amount yet, because until now, you have only made a rough estimate. Therefore, you decide to go to your study association's room to count it. You take the cash register and leave the tent. Suddenly, a person violently bumps into you and steals all the money. You and a number of other students immediately shout at the person and follow him. But you are not fast enough. The thief locks himself up in a room inside the Cubicus. The person shouts that he carries a weapon and that he will shoot if someone comes in. You become very frightened and thus you and the others run out of the building. Then you immediately call the police to get help. Luckily, the officers arrive fastly and the thief surrenders himself to the police.

At the police station in Enschede, where you have to testify, you also get some more information about the offender. Amongst other things, you learn that his name is Stephan and that he is a student at your university. You hear from a police officer that Stephan would like to talk to you and that you could meet him in a guided setting, which is called victim-offender mediation (VOM). VOM offers you the possibility to voluntarily meet the offender in order to support you in coping with potential negative feelings caused by the crime.

VOM can take place either directly (meeting each other face-to-face) or indirectly (through exchanging e.g. letters or video messages). An important part of VOM is an apology by the offender, which can help you, but also Stephan, in several different ways. Moreover, both parties have the opportunity to ask and answer questions during VOM. You can openly tell Stephan how you experienced the incident and report your thoughts and emotions. But also the offender can narrate what happened from his point of view to disclose his motivations and feelings. Consequently, both of you can comprehend the incident and its consequences in a better way.

The process of VOM and the possibilities both parties gain through the communication can eventually lead to various positive outcomes. This includes reduced feelings of fear and anger for you as the victim. One possible positive outcome for the offender is a decreased probability of committing a crime again. All in all, VOM can enhance your, but also the offender's situation and future perspectives. Thus, giving and receiving an apology through VOM can have a great impact.

Willingness to participate in VOM

Now, we would like to ask you some questions regarding your motivations as the victim in the scenario.

If you could choose, to what extent...

1. …would you be willing to participate in VOM?

   not at all 1 2 3 4 5 *extremely*

2. ...would you be willing to receive an apology from the offender?

   not at all 1 2 3 4 5 *extremely*

3. …would you prefer to meet the victim directly, that is, face-to-face?

   not at all 1 2 3 4 5 *extremely*

4. …would you prefer to meet the victim indirectly, that is, via video message?

not at all 1 2 3 4 5 *extremely*

Please imagine that you agreed to take part in the mediation with the offender. A professional mediator has contacted you about this and prepared you for the mediation, taking into account your motivations and explaining what to expect during VOM. Namely, you and the offender can express your thoughts, opinions, feelings, and questions, while the mediator is present to monitor the process and ensure that both parties behave appropriately. Also, the mediator stressed that your safety is guaranteed. Therefore, you are ready to see the offender, who would like to start with offering his apology to you.

Expected sincerity

Before your victim-offender mediation (VOM) experience can begin, please indicate to what extent you agree with the following statements regarding your expectations:

When I participate in VOM...

1. …I think the apology of the offender will be sincere

   not at all 1 2 3 4 5 *extremely*

2. …I think the offender will mean what he says

   not at all 1 2 3 4 5 *extremely*

3. …I think the offender will be really sorry for what he did

   not at all 1 2 3 4 5 *extremely*

4. …I doubt if the apology will be sincere

   not at all 1 2 3 4 5 *extremely*

5. …I have the feeling that the offender will not mean what he says

   not at all 1 2 3 4 5 *extremely*

6. …I think the offender is not trustworthy

   not at all 1 2 3 4 5 *extremely*

Video manipulations

Direct condition:

You are about to see a video of the real offender from the scenario in the beginning, who permitted that we may use it for our study. The extract is part of a face-to-face VOM session that was recorded. Therefore, the victim was facing the offender and a mediator was present. Again, please imagine being in the position of the victim as well as possible!

Indirect condition:

You are about to see a video of the real offender from the scenario in the beginning, who permitted that we may use it for our study. The extract is part of an indirect VOM session via video messages. Therefore, victim, offender and mediator were not in the same room, but communicated through exchanging recordings. Again, please imagine being in the position of the victim as well as possible!

Transcript:

Hello, I appreciate that you want to have contact with me. I can imagine the past days must have been very difficult for you and for me they were difficult too, because I caused a lot of pain and you must feel terrible. But this was clearly not my intention. You know, I needed money to pay my study fees because my parents do not support me in any way and I… I did not think about all these consequences. I mean… Of course, this is not an excuse and I feel very ashamed towards you. Because, you did not deserve this and I… I will not do something like this again, and I really would like to make this unhappen, but I can't, and… All I can do and all I want to do is to apologize to you. I am very sorry for what I did, and I hope that my apology might help you to overcome this difficult situation. I am very sorry!

Responsibility-Taking

The following questions are related to the apology you have seen. Please indicate your honest opinion.

How much did...

1. …the apology show that the offender takes responsibility for the harmful consequences of the crime for you?

   not at all 1 2 3 4 5 *extremely*

2. …the apology show that the offender takes on the harmful consequences?

   not at all 1 2 3 4 5 *extremely*

3. …the apology show that the offender feels accountable for the harmful consequences?

   not at all 1 2 3 4 5 *extremely*

4. …the apology indicate that the offender feels that he takes responsibility for the harmful consequences?

   not at all 1 2 3 4 5 *extremely*

5. …the offender admit that he caused harm to you through the crime?

   not at all 1 2 3 4 5 *extremely*

6. …the offender acknowledge his role in the damage inflicted on you due to the crime?

   not at all 1 2 3 4 5 *extremely*

7. …the offender try to avoid being held responsible for your harm?

   not at all 1 2 3 4 5 *extremely*

8. …the offender deny that criminal actions are bad for you and other people?

   not at all 1 2 3 4 5 *extremely*

Suffering:

How much...

1. ...did the apology indicate that the offender suffers emotionally when thinking about your harm?

   not at all 1 2 3 4 5 *extremely*

2. ...was the offender absorbed emotionally about the harmful consequences of the crime for you?

   not at all 1 2 3 4 5 *extremely*

3. ...did the offender appear unconcerned about the harmful consequences?

   not at all 1 2 3 4 5 *extremely*

4. ...did the offender seem unaffected when thinking about your harm?

   not at all 1 2 3 4 5 *extremely*

Sincerity:

To what extent...

1. ...do you think the offender was sincere?

   not at all 1 2 3 4 5 *extremely*

2. ...do you think that the offender truly expressed what he feels?

   not at all 1 2 3 4 5 *extremely*

3. ...did the offender try to fake his feelings?

   not at all 1 2 3 4 5 *extremely*

Intention to repair & prevent:

How much...

1. ...would the offender be willing to offer compensation for the harmful consequences of the crime for you?

   not at all 1 2 3 4 5 *extremely*

2. ...is the offender inclined to apologize for the harm caused to you?

   not at all 1 2 3 4 5 *extremely*

3. ...would the offender be willing to participate in actions aimed to repair your harm?

   not at all 1 2 3 4 5 *extremely*

4. ...is the offender motivated to take steps to prevent inflicting further harm upon you and/or other people in the future?

   not at all 1 2 3 4 5 *extremely*

5. ...will the offender be careful to not repeat actions that may inflict further harm upon you and/or other people?

   not at all 1 2 3 4 5 *extremely*

6. ...would the offender be willing to prevent other people from performing actions that may cause further harm to you and/or other people?

   not at all 1 2 3 4 5 *extremely*

Satisfaction and Insult:

Now, we are interested in your feelings after receiving the offender's apology as the victim of the crime:

As the victim, to what extent has the apology...

1. …satisfied you

   not at all 1 2 3 4 5 *extremely*

2. …insulted you?

   not at all 1 2 3 4 5 *extremely*

3. …made you happy?

   not at all 1 2 3 4 5 *extremely*

4. …irritated you?

   not at all 1 2 3 4 5 *extremely*

5. …pleased you?

   not at all 1 2 3 4 5 *extremely*

6. …made you feel frustration?

   not at all 1 2 3 4 5 *extremely*

Other Emotions:

As the victim, to what extent has the apology...

1. …scared you

   not at all 1 2 3 4 5 *extremely*

2. …distressed you?

   not at all 1 2 3 4 5 *extremely*

3. …offended you?

   not at all 1 2 3 4 5 *extremely*

4. …made you feel afraid?

   not at all 1 2 3 4 5 *extremely*

5. … made you feel mad?

   not at all 1 2 3 4 5 *extremely*

6. …made you feel sad?

   not at all 1 2 3 4 5 *extremely*

7. … made you feel angry?

not at all 1 2 3 4 5 *extremely*

8. …made you feel unhappy?

not at all 1 2 3 4 5 *extremely*

Forgiveness:

To what extent would the apology...

1. …make you willing to forgive the offender for the harm that he has caused?

not at all 1 2 3 4 5 *extremely*

2. …make you blame the offender less for inflicting harm on you?

not at all 1 2 3 4 5 *extremely*

Post-Measure: Perceived eye contact and perception of the offender

Finally, we would like to ask you some questions about your experience regarding participation in victim-offender mediation (VOM).

After watching the video, to what extent...

1. ...did you perceive that the offender attempted to have eye contact with you?

not at all 1 2 3 4 5 *extremely*

2. ...did you think that the offender was concerned about looking into your eyes?

not at all 1 2 3 4 5 *extremely*

3. ...did you think that the offender avoided eye contact with you?

not at all 1 2 3 4 5 *extremely*

4. ...did you think that the offender was too ashamed to look into your eyes?

not at all 1 2 3 4 5 *extremely*

5. ...did you consider the apology as effective?

not at all 1 2 3 4 5 *extremely*

6. ...did you perceive that the offender is in a position to commit a crime?

not at all 1 2 3 4 5 *extremely*

7. ...did you tie the offender to the theft?

   not at all 1 2 3 4 5 *extremely*

8. ...did you perceive the offender as a typical criminal?

   not at all 1 2 3 4 5 *extremely*

Manipulation check for the mediums

When you were looking at the apology, to what extent...

1. ...did you perceive it as a face-to-face meeting between you and the offender, guided by the mediator?

   not at all 1 2 3 4 5 *extremely*

2. ...did you have the feeling that you were sitting in one room with the offender and the mediator?

   not at all 1 2 3 4 5 *extremely*

3. ...did you think that the offender was sitting right in front of you?

   not at all 1 2 3 4 5 *extremely*

4. ...did you perceive the extract as a video message?

   not at all 1 2 3 4 5 *extremely*

5. ...did you have in mind that your encounter with the offender was taking place digitally?

   not at all 1 2 3 4 5 *extremely*

Background information

Finally, we are interested in some background information about yourself and your experience. After these questions, you are done!

Gender:

What is your gender?

Male *Female* *Other*

Age:

How old are you?

(Open Question)

Nationality:

What is your nationality?

Dutch *German* *Other*

If you chose "Other", please indicate your nationality here:

(Open Question)

About filling out the study:

To what extent...

1. ...was the scenario realistic to you?

   not at all 1 2 3 4 5 *extremely*

2. ...could you imagine being the victim?

   not at all 1 2 3 4 5 *extremely*

3. ...could you empathize with the feelings of the victim?

   not at all 1 2 3 4 5 *extremely*

4. ...could you empathize with the thoughts of the victim?

   not at all 1 2 3 4 5 *extremely*

5. ...did you carefully look at the offender?

not at all 1 2 3 4 5 *extremely*

6. ...did you read the scenario thoroughly?

   not at all 1 2 3 4 5 *extremely*

7. ...did you answer the questions seriously?

   not at all 1 2 3 4 5 *extremely*

8. ...did you react to the apology as naturalistic as you would in real-life?

   not at all 1 2 3 4 5 *extremely*

9. ...do you think your English skills were sufficient to complete this survey?

   not at all 1 2 3 4 5 *extremely*

10. ...did you understand all of the questions?

    not at all 1 2 3 4 5 *extremely*

Prior crime experiences:

The following questions are related to your prior experiences regarding criminality. Remember that your answers are confidential!

1. Did you ever commit a crime yourself in your life?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

2. Has one of your relatives and/or friends ever committed a crime?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

3. Were you ever a victim of a crime in your life?

   Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

   No *I don't want to answer this question*

4. Has one of your relatives and/or friends ever been a victim of a crime?

Yes, a rather minor crime (e.g. vandalism) *Yes, a rather severe crime (e.g. robbery)*

No *I don't want to answer this question*

Appendix H

Heatmaps: the left eye bias (Coutrot et al., 2016)